E-Government services in Iran: Looking at citizen satisfaction

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Abstract. one of the most important expectations of the Iranian citizens from successive e-government is an improvement in services at state organizations. It needs to satisfy the prerequisites for its success in Iran through the citizen satisfaction. This research intends to explore some satisfaction factors (efficiency, reliability, accessibility, completeness, customization and usability) to assess the citizens' satisfaction of using an e-government service, specifically the service related to Electronic Value Added Tax (EVAT) in Iran. Descriptive statistics used and correlational study is applied to determine the relationship among variables. The sample of this study was made up of 386 participants and nonprobability sample technique is used. The result shows that those participants perceived completeness as low while it had high relationship with the perceived overall satisfaction.

Keywords- e-Government , e-services, e-value added tax ,satisfaction , citizen satisfaction.

1. Introduction

E-Government is the use of information and communication technologies (ICTs) to transform relations with citizens, businesses and government [1]. West outlines e-government as the delivery of government information and services online through the Internet or other digital means [2]. West notes that the individual characteristic of such advantages that makes it so distinctive is that it allows citizens to pursue public services at their own expediency and independently of office work time. These technologies let citizens access the accurate information that they need in an aggregated manner. This will guide toward the transparency surge, greater convenience, revenue growth, and/or cost reductions.

Government of Iran and the authorities are now more eager to further focus on and achieve the ICT applications and technologies to establish as efficient interaction between government and citizen as possible [3]. It is worth to mention that according to [4].

This research tackles the issue of assessing the citizen Satisfaction with the E-Government services. We focus on a service which is provided electronically by government for citizens in Iran, namely Electronic Value Added Tax (EVAT). Hence, the problem in this study consists in evaluating the Citizens' Satisfaction with an e-government service in Iran. Following research questions are used to achieve the objective of this study.

1- What are the citizens' perceptions towards the selected variables including Reliability, Accessibility, Completeness, Customization, Usability and Efficiency?

2-What are the perceptions towards the overall citizen satisfaction?

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3-Is there a significant relationship between Reliability, Accessibility, Completeness, Customization, Usability and Efficiency and citizen satisfaction within the e-government services (e- value added tax)?

2. Literature Review

Some existing models in the literature were considered, including ATIS, ACSI, EGOVSAT, E-SERVQUAL, WEBQUAL and E-S-QUAL. Some of these models briefly explained: American Customer Satisfaction Index for e-government (ACSI), ADVANCED TRAVELER INFORMATION SYSTEM (ATIS), and EGOVSAT MODEL.

To assess the satisfaction of e-government services quality, ACSI is a standard metric in United States in both private and public sectors. It allows government entities to track user satisfaction with the quality of their services over time. As it is shown in Fig.2, there is a cause and effect relationship between various items of the model represented as customer attitudes. In this multi items scales inputs considered as causes of customer satisfaction level such as customer expectation, perceived service quality, and outputs as effects included customer complaints and customer loyalty [5].

The ranking of government portal in the ASCI government scores calculation depends on the data gathering through the online surveys, with casual selected site visitors on several components of overall satisfaction. The satisfaction key drivers and their relationship are being identified by ACSI methodology. The satisfaction raising is a result of slight optimization across all satisfaction website elements included content, functionality, navigation, site performance, look & feel and search. This interaction can predict the attitude of costumers in the future as much as possible and it shows the impact of government website improvements on citizen satisfaction and customer behavior
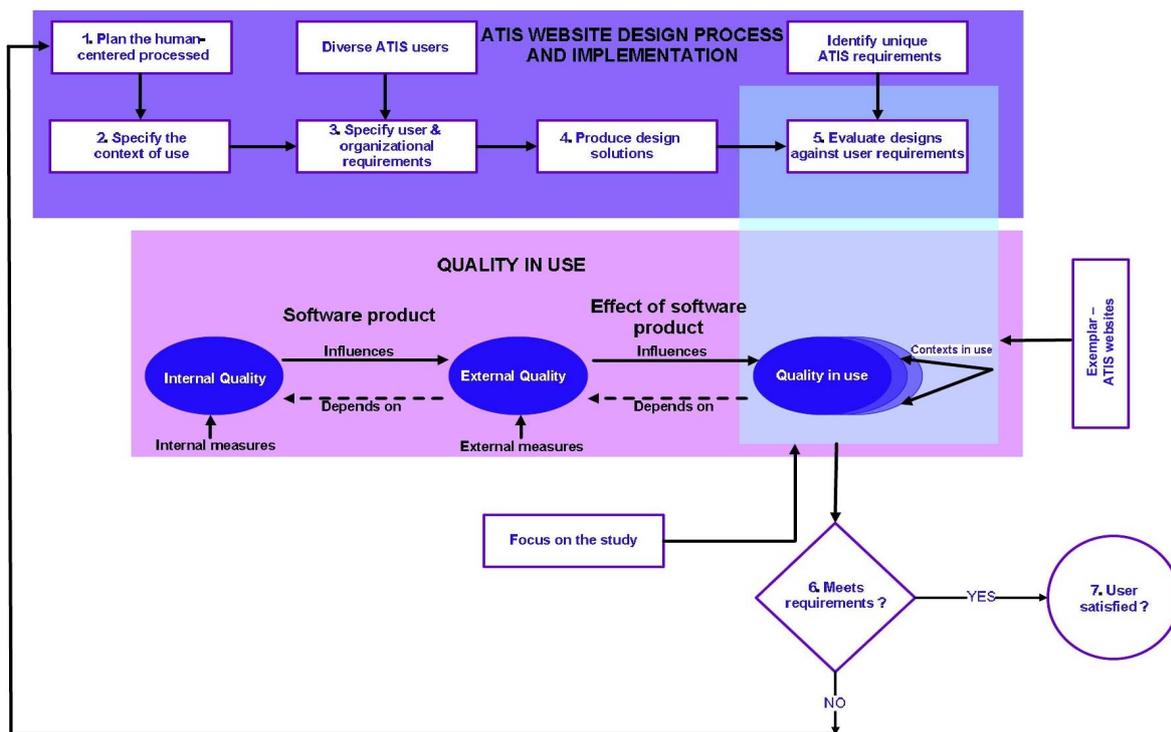

Figure 1. Flowchart of ATIS website design and implementation with causes and dependencies in internal & external measures. Quality in use describes the different methods to assess product quality which measures the level of effectiveness of a software product, productivity, safety and user's Satisfaction. The whole design includes 7 steps, from planning the human-centered process to user satisfaction assurance.

as well as the social issues with other website user's problem in many countries like Iran [5].

ATIS provides real-time network information, whether traffic or transit, and traveler information, such as route guidance or destination information, provided on advanced technologies. ATIS also delivers data directly to travelers or citizens, empowering them to make better choices about alternate routes or modes of transportation.

By growing the citizen's expectations towards government information delivery, quality in use Satisfaction is developed and Tested by Advanced Traveler Information Systems (ATIS). It recognizes that how many different categories of users are satisfied with various E-government Services including government-to-government, government-to-business and government-to-citizens services [6]. Fig.1 represents the ATIS website design process and implementation. The quality in use describes the different approaches to evaluate product quality included Internal quality , external quality and quality in use which measures the level of effectiveness of a software product, productivity of product, safety in use and user's satisfaction [6]. The evaluation after considering user requirements during system can be used as a feedback to service providers and agencies to improve their online travel information services. ATIS website design process and implementation; shows the user-centered design activities that happen during all stages of information system implementation [7].
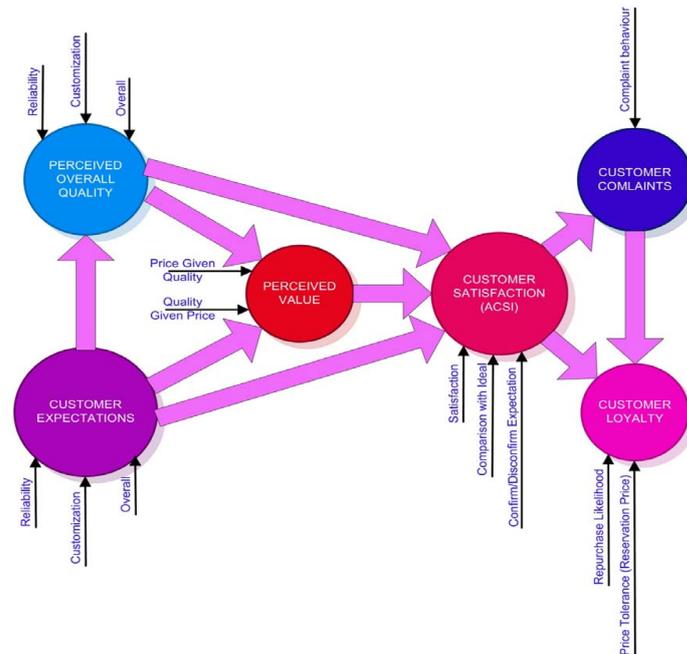

Figure 2.   ACSI (American Customer Satisfaction Index) model includes customer expectations, perceived overall quality, Perceived value, customer satisfaction and customer loyalty.
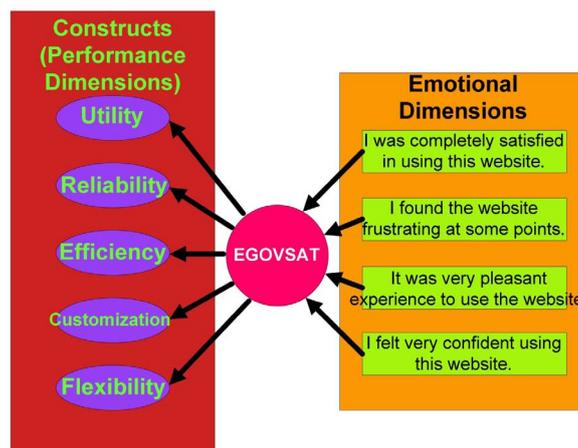

Figure 3.   EGOVSAT model with five performance and four emotional dimensions for people satisfaction which indicates utility, reliability, efficiency, customization and flexibility are essential.

EGOVSAT has been formulated with an aim to provide a scale using which government-to-citizen web-based initiatives can be evaluated in terms of satisfaction derived by citizens [8]. This quantitative model includes various performance and emotional measures. Using structural equation modeling, a highly statistically significant goodness-of-fit for this model, which included measures capturing constructs such as

utility, efficiency, customization; as affecting emotional dimensions included confidence, pleasantness, frustration, satisfaction [6].

Fig.3 shows the satisfaction model of EGOVSAT as a causal construct comprised of features that promote confidence, trust, openness and citizen-centric delivery in applying e-government initiatives. This model has been devised for testing in the domain of ATIS. Furthermore, the emotional response of the users is being considered as a dependent factor on performance features of e- government service delivery [9].

In this study, the researcher has studied some Satisfaction Factors within the e-Government service such as reliability, accessibility, completeness, customization, usability and efficiency. Each one means as follows:

-Efficiency: Better servicing to the citizen and the frequency of interaction between citizens and government as well as improving the quality of the e-government services and trust.

-Reliability: The ability of performing the e-service dependably and accurately at the right way

-Accessibility: The use of e-services and its information are fully accessible to the citizens in its much secured way, anytime and anywhere.

-Completeness: Citizens handle a complete transaction through e-Government services in safety and firmly.

-Customization: Let the citizens customize the e-services used via their own profiles and make it friendlier.

-Usability: Perform necessary tasks quickly, efficiently and with a minimum of mental effort.

To measure efficiency, reliability, accessibility, completeness, customization and usability in this study considered some items for each factor: 8, 11, 5, 8, 4, and 7 respectively that were rated by citizens as respondents. The conceptual framework of this study was formed according to the findings of different studies and the researcher's assumptions as shown in Fig.4.
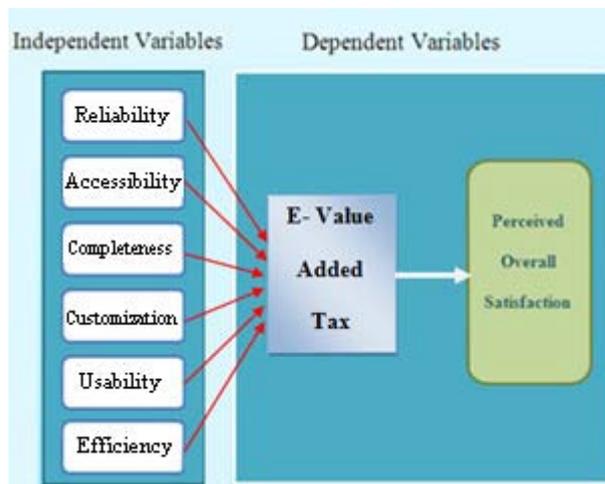

Figure 4. Research Conceptual framework for Citizen Satisfaction within the two of e-government services.

As explained there are different e-services provided by Iranian e-government through different governmental organizations. The main e-services of the economic affairs and finance organization are Tax declaration, Deposit of taxes and duties included tax e-payment, bank deposit tax, and value added tax etc. These services are available through economic and financial affairs portal of Iran (www.evat.ir). The EVAT portal aims to provide e-services to citizens and organizations via the Internet.

In Iran economy, according to the guidelines of the 3rd socio-economic and cultural development plan, and in order to decrease the government's budget dependence on the petroleum incomes, it was decided to increase the tax share in the composition of the government's revenues by expanding the basis of taxation and by using the value added tax model[10]. Among the duties of this organization towards reforming and computerizing the taxation system of the country, implementing the value added system is one of the main duties of the State Tax Organization. According to the Value Added Tax system, every seller, at the time of selling of goods and services, will add the relevant tax on the invoice and collects it together with the price of

goods and services from the buyer. The first seller pays the tax in whole to the government, but in the next stages, each seller pays to the State Tax Organization only an amount equal to difference (collected tax after deducting the tax that he has paid previously)[10]. In this study, the value added tax service is concerned among other e-government services.

3. Method

In this study, descriptive statistics was good due to organize and summarize data such as the perceptions of citizen as participants. Also, correlational study is applied to determine the relationship among variables. The population was the legal and real persons which are using e- value added tax service are more than 26400 according to economic affairs and finance organization in Mashhad-Iran. The sample of this study was made up of 386 participants and nonprobability sample technique is used. In this study, there a survey instrument used to obtain the required data. Data from the citizen were obtained by asking them to fill out a web questionnaire. The validity and Reliability tested and the reliability of overall perceived satisfaction factors by using Cronbach's Alpha Coefficient was 0.919.

4. Findings

Descriptive statistics (frequencies, percentages, means, and standard deviations) were used as a means to describing the respondents' perceptions towards independent and dependent variables. Pearson's Product Moment coefficient was used to determine the relationship between each of the independent variables and overall perceived satisfaction factors.

The majority of citizens in the sample (71.8%) perceived efficiency as high .Secondly, (59.1%) perceived reliability as high. Thirdly, (51.3%) perceived accessibility as moderate. Fourthly, (45.1%) perceived completeness as moderate. Fifthly, (51.0%) perceived customization as moderate. Lastly, (52.1%) perceived usability as high.

The perceptions towards the overall citizen satisfaction shows in Table 1. 72.8% of participants perceived the overall satisfaction as high.

Table 1: Distribution of Respondents towards perceived overall satisfaction

Level	f	% (n=386)	Mean	SD
Low (1-2.33)	20	5.2	3.647	0.699
Moderate (2.34-3.66)	83	21.5		
High (3.67- 5)	281	72.8		

The relationship between (efficiency, reliability, accessibility, completeness, customization and usability) and the perceived satisfaction were examined through Pearson product-moment correlation coefficients. Preliminary analyses were performed to ensure no violation of the assumptions of normality and linearity.

Table 2 shows that the relationship among these factors and perceived overall satisfaction. The correlation coefficients for factors were 0.595, 0.252, 0.387, 0.458, 0.098 and 0.733 respectively. It indicates that there were a moderate, low, low, moderate, slight and very high positive linear relationship between factors and the perceived overall satisfaction respectively.

Table 2: Pearson's Correlation Coefficients of the Independent Variables and the perceived overall satisfaction

Variables	r	P-value
Efficiency	0.595	0.0001
Reliability	0.252	0.0001

Accessibility	0.387	0.0001
Completeness	0.458	0.0001
Customization	0.098	0.055
Usability	0.733	0.0001

Notes: Figures in parentheses are the number of items measuring each construct. All considered relationship was with Alpha equal to 0.01 among variables.

5. Conclusion

Based on the findings of this study, it concluded that customization, reliability and accessibility of the e-value added tax service in Iran influenced slightly and low on perceived overall satisfaction but the other three factors had moderate and very high influence. While the collected data shows that participants perceived completeness as low and efficiency and usability as high. Therefore it suggested that this factor should be in the first level of attention for the improvement of e-value added tax service.

6. Recommendation

It recommends to the e-government authorities to improve the proper infrastructure for e-services to let citizens handle a complete transaction through e-Government services in safety and firmly. Also to the researchers from Iran and other developing countries to study on the sub factors which can also influence on the citizen satisfaction within the various e-government services to find out which factor has the most influence .

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