

CRITICALITY OF TIME AND COST FACTORS TO THE USE OF CITIZEN SERVICES – A STUDY ON ESEVA

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ABSTRACT

Availing citizen services from the Government departmental counters is very time consuming and also prone to quality of services. The Government of Andhra Pradesh started electronic citizen services called eSeva in 1999 to provide a transparent, quality and single window services to the citizens. This paper is part of research study of the first author to assess the perception of citizens' services of eSeva. In this paper presents the criticality of the time and cost factors to the use of citizen services and whether these two dimensions are creating any impact on the quality of services offered by the eSeva centers. The data on these two dimensions was collected from 512 citizens visiting eSeva centers in the Hyderabad, analysed using SPSS 20 and presented the results in the table and graphical format.

Keywords: Citizen Services, eGovernance, eSeva, SMART, TWINS

1. INTRODUCTION

ESeva is an initiative of the Government of Andhra Pradesh started to promote Government to Citizen (G2C) and Business to Citizen (B2C) transactions. It made a modest beginning in 1999 in Hyderabad and Secunderabad as Twin Cities Integrated Network Services (TWINS) at location called Banzara Hills. It was later renamed as eSeva when the government desired to extend services to major towns and municipalities of the state. ESeva began as a government-funded pilot project called the "Twin Cities Network Systems". The Government of Andhra Pradesh was provided the funding support for installation of the IT infrastructure necessary for launch e-government initiatives. According to AP Government's E-Governance document, the government vision is "to provide better services to citizens by establishing Simple, Moral, Actionable, Responsive and Transparent (SMART) government and transforming itself into a leading knowledge driven economy".

After TWINS initiative and successful implementation, the state government decided to extend the project to cover the twin cities of Hyderabad and Secunderabad through a chain of 24 eSeva

centers In June 2000. The success of TWINS project opens the doors of e-Governance in the state to offer citizen services from eSeva centers. Currently, there are 46 eSeva centers spread across the twin cities of Hyderabad and Secunderabad, operating from 8:00 am to 8:00 pm every day and between 9:30 am and 3:30 pm on holidays. The centers are run by a private sector IT service provider (Kochhar & Dhanjal, 2005). These centers provide over 130 G2C and over a dozen B2C services from 16 state government departments and 10 private businesses (Syal, 2005).

ESeva centers offer services like payment of utility bill, taxes, registration of births and deaths, registration of applications for passport, issue of births and deaths certificates, filing of sales tax returns, trade licenses of MCH, B2C services like payments of Tata Teleservices, Reliance, and sale of Airtel Magic cards. The urban centers serve about 20,000 citizens on an average per day. All service counters are facilitated with an electronic queuing system. It is a one-stop-shop for citizen services. There are no jurisdiction limits, any citizen in the twin cities can avail the services at any of the eSeva service centers. The online services include e-forms, e-filing and e-payments. Services can be availed on holidays and bill payments can also be made over the Internet. Citizens are not charged for any utility payments.

2. OBJECTIVES

The overall objective of this study is to know the perception of eSeva centers in serving the citizen services to the community in Hyderabad, in terms of Time and Cost of availing services. The two important dimensions such as Time and Cost was studied to know whether the citizens are saving time and cost of availing service at eSeva centers. The specific objectives of the study are:

1. To study the convenience of eSeva centers and time required to access eSeva services.
2. To study the cost of availing services by citizens at eSeva centers.
3. To study the level of satisfaction of citizens on quality of services delivered by eSeva centers.

Accordingly the following Hypotheses are set for the study;

Ho1: Respondents' perceptions on Time, and Cost are not associated with their Age category.

Ho2: Respondents' perceptions on Time, and Cost are not associated with Education category.

Ho3: Time and Cost do not cause the respondent's perceptions on Quality.

3. METHODOLOGY

In Hyderabad jurisdiction, there are about 46 eSeva centers were established to deliver the citizen services, run by private entrepreneurs under public private partnership model. Each eSeva center was set up within 5-6 kilometres of every household, to cater the requirements of families in this jurisdiction, to make available the citizen services to the common man. A representative sample was drawn from 50 percent of eSeva centers where the citizens accessing the services. Cochran's sample size formula was used to estimate the sample size n_1 , calculated as 384. However, the study analysis done with 512 responses, which is > 384 , considered as statistically valid sample.

To study the objectives of the research problem, primary data was collected through questionnaire method. The method of investigation through a survey on citizens visited to eSeva centers in Hyderabad. The perception of citizens on eSeva centers and the data was collected using this instrument from selected citizens ($n=512$) accessing the services of eSeva, randomly. The secondary data is gathered from various sources to support the analysis of primary data.

4. LITERATURE REVIEW

The review of literature gives an idea about the research carried out in the area eGovernance and citizen services in the past by different researcher in the India and also internationally. To assess the complete picture of eGovernance and citizen services implemented across the world by various Governments, the review of literature in terms of the published literature on various aspects of eGovernance, citizen services and its implementation, issues, challenges has been carried out. This will be useful as the background material to the proposed research study. The review of literature was carried out keeping in view the various dimensions such as time, cost, quality of services etc.

Siva Rama Prasad R., Veera Raghava Rao Atukuri (2012) describes that eGovernance also aims to reduce cost of governance by cutting down on expenditure on physical delivery of information and services. It aims to do this by cutting down on stationary, which amounts to the most of the government's expenditure. It also does away with the physical communication thereby reducing the time required for communication while reducing cost. It is evident that the use of IT in governance, as has been the case in world of business, puts great pressure on the very structures of the government as they have traditionally functioned. Pressures are built for structure or process re-engineering to enhance performance of government (Anita, Parminder, Kasinathan; 2005). The digital revolution, e-government, has created the potential to transform and a need to redefine the processes and systems of governance by altogether eliminating the concepts of time and distance (Prabhu; 2004).

5. DATA ANALYSIS AND RESEARCH FINDINGS

The demographic data of respondents on Age group, Level of education of citizens visiting eSeva are analysed and presented in the following tables and graphs.

5.1 Age Group: The citizen's age group was asked to know the classification of visitors to eSeva center by various age group. The responses are presented in the following table 1.

Table 1

	18-25 Years	26-45 Years	46-60 Years	Above 60 years	Total
Age Group	49	340	113	10	512
Total percentage	9.6	66.4	22.1	2.0	100

It is observed from the above table that the sample consists of 49 (9.6%) persons of age 18-25 years, 340 (66.4%) persons of age 26-45 years, 113 (22.1%) persons of age 46-60 years, 10 (2%) persons of age more than 60 years. It is revealed from the above table that sample is dominated by persons of age 26-45 years and followed by 46-60 years.

5.2 Level of Education: The citizen's education qualification was asked to know the classification of visitors to eSeva center by level of education.. The responses are presented in the following table 2.

Table 2

	Illeterate	Upto SSC	Intermediate/ Diploma	Degree	Post Graduate	Total
Level of Education of visitors	27	29	67	290	99	512
Total percentage	5.3	5.7	13.1	56.6	19.3	100

It is observed from the above table that the sample consists of 27 (5.3%) citizens are illiterate, 29 (5.7%) of citizens are studied up to SSC, 67 (13.1%) of citizens are having Intermediate/diploma qualifications, 290 (56.6%) of citizens are graduates and 99 (19.3%) of citizens are post graduates. It is revealed from the above table that sample is dominated by citizens having degree qualifications. However the sample represents illiterates to post graduates.

5.3 Testing of Hypothesis

The following is the presentation of results of the data analysis done to resolve each of the hypotheses, giving details of statistical tests used, the results of the analysis, and final status of the hypotheses formulated as above. To test the hypothesis, anova and regression tests were run on SPSS V20.

Hypothesis 1

Null Hypothesis: Respondents’ perceptions on Time and Cost are not associated with their Age category.

Alternative Hypothesis: Respondents’ perceptions on Time and Cost are associated with Age category.

To above hypothesis, anova tests were run on SPSS V20. The results are reproduced in the following table.

Table 4 - ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Time	Between Groups	19.616	3	6.539	3.008	.030
	Within Groups	1104.116	508	2.173		
	Total	1123.732	511			
Cost	Between Groups	23.087	3	7.696	4.137	.006
	Within Groups	944.913	508	1.860		
	Total	968.000	511			

The sig. values (p-values) of F-statistics relating to Time and Cost are less than 0.05. They are non-significant, meaning that Age is associated with the public’s perceptions on those variables. Hence null hypothesis is not accepted in respect of the aforesaid variables.

Status of Hypothesis 1 after Analysis

Variables	Which Hypothesis is accepted
Time and Cost	Null Hypothesis is rejected.

Hypothesis 2

Null Hypothesis: Respondents’ perceptions on Time and Cost are not associated with Education category.

Alternative Hypothesis: Respondents’ perceptions Time and Cost are associated with Education categories.

To resolve the above hypothesis, F-tests were run and the results of the same are presented below table. Time and Cost are taken as dependent variables and Education as independent variable (factor).

Table 5 – ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Time	Between Groups	6.215	4	1.554	.705	.589(ns)
	Within Groups	1117.517	507	2.204		
	Total	1123.732	511			
Cost	Between Groups	10.304	4	2.576	1.364	.245(ns)
	Within Groups	957.696	507	1.889		
	Total	968.000	511			

The sig.values (p-values) of F-statistics relating to Time and Cost are greater than 0.05. Hence the null hypothesis is accepted in respect of Time and Cost meaning that education category is not associated with the public’s perceptions on the foregoing variables.

Status of Hypothesis 2 after Analysis

Variables	Which Hypothesis is accepted
Time and Cost	Null Hypothesis is accepted

Hypothesis 3

Null Hypothesis: Time and Cost do not cause the respondent’s perceptions on Quality.

Alternative Hypothesis: Time and Cost cause the respondent’s perceptions on Quality.

To resolve the above hypothesis, multiple regression analysis was run with Quality as dependent variable and Time and Cost as independent variables.

The results of the analysis are presented in Model Summary, Anova, and Coefficients tables (Vide Table No. 6) Model summary gives the Adjusted Square as 0.316 which is not large enough for the model to consider to be a good fit but the following Anova table 7 with a p-value of 0.000 indicates that the model cannot be rejected as completely invalid; at least one causal variable is significantly causing the perceptions on Quality.

Table 6 - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.564 ^a	.318	.316	2.242

a. Predictors: (Constant), Cost, Time

Table 7 - ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1193.904	2	596.952	118.781	.000 ^b
	Residual	2558.062	509	5.026		
	Total	3751.967	511			

a. Dependent Variable: Quality

b. Predictors: (Constant), Cost, Time

Table 8 - Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.386	1.275		11.283	.000
	Time	.409	.112	.224	3.666	.000
	Cost	.726	.120	.369	6.037	.000

The Coefficients table (Table No. 8) shows that the unstandardized betas for Time and Cost are 0.409 (0.000), and 0.726(0.000), which are significant as attested by the t-values and the corresponding p-values. It means that Time and Cost perceptions are significantly causing the perceptions on Quality. Hence, null hypothesis is rejected in respect of both the independent variables.

Status of Hypothesis 3 after Analysis

Dependent Variables	Independent Variables	Hypothesis is accepted
Quality	Time and Cost	Null Hypothesis is rejected.

5.4 Frequency Analysis and Observations

The frequency analysis was carried out on the Time and Cost dimensions on a five point scale. The first dimension of the study is “Time Required for Availing services at eSeva”. In this dimension, the citizen’s responses are collected on five point scale in the form of Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree and Strongly Agree. The perception of citizens were captured on four statements in this dimension; a) Distance from your place to eSeva center is convenient b) The working hours of eSeva is very convenient to avail the services c) The waiting time is very less to avail the services, d) Multiple services at eSeva saves lot of time by avoiding more than one trip to different departments e) The service charges claimed by eSeva for various services is very less. The perception of citizens on the above statements was analysed and presented in the following tables and graphs.

Distance from your place to eSeva center is convenient: The citizens were asked about the distance from his/her place to eSeva center and whether it is convenient to reach. The responses are presented in the following table 9.

Table 9

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
Distance from your place to eSeva center is convenient	0	1	3	437	71	512
Total percentage	0	0.2	0.6	85.4	13.9	100

The above table shows that 437 citizens (85.4%) do agree to the statement, “Distance from your place to eSeva center is convenient”. Further, 71 citizens (13.9%) do strongly agree with the aforesaid statement. And, 0.6 percent of the citizens neither agree nor disagree, only less than 0.2 percent of citizens disagree with the statement. It revealed from the above table is that distance from home to eSeva is very convenient and they do not found any difficult in reaching the eSeva center.

The working hours of eSeva is very convenient to avail the services: The citizens were asked about the working hours of eSeva and whether the timings adopted by eSeva is very convenient to avail the services by them. The responses are presented in the following table 10.

Table 10

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
The working hours of eSeva is very convenient to avail the services	0	0	25	245	242	512
Total percentage	0	0	4.9	47.9	47.3	100

It is observed from the above table that the 242 citizens Strongly Agree (47.3%), 245 citizens Agree (47.9), Neither Agree nor Disagree by 25 citizens (4.9%) on the statement “The working hours of eSeva is very convenient to avail the services”. A no citizens disagree and strongly disagree on this statement. It is revealed from the above table that strongly agree and agree together shows 95.2% of citizens were happy with the working hours of eSeva and it is very convenient to avail the citizen services.

The waiting time is very less to avail the service: The citizens were asked about the waiting time is very less to avail the services at eSeva. The responses are presented in the following table 11.

Table 11

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
The waiting time is very less to avail the service	0	0	35	391	86	512
Total percentage	0	0	6.8	76.4	16.8	100

The above table shows that 391 citizens (76.4%) do agree to the statement, “The `waiting time is very less to avail the service”. Further, 86 citizens (16.8%) do strongly agree with the aforesaid statement. And 6.8 percent of the citizens neither agree nor disagree, only no citizens disagree or strongly disagree with the statement. It revealed from the above table is that the waiting time is very less to avail the services at eSeva, that shows the eSeva centers are implementing effective token system to manage the queue for providing citizen services at minimum time.

Multiple services at eSeva saves lot of time by avoiding more than one trip to different departments: The citizens were asked about whether multiple services at eSeva saves lot of time by avoiding more than one trip to different departments by citizens or not and their perception was captured. The responses are presented in the following table 12.

Table 12

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
Multiple services at eSeva saves lot of time by avoiding more than one trip to different departments	0	0	27	219	266	512
Total percentage	0	0	5.3	42.8	52.0	100

It is observed from the above table that the 266 citizens Strongly Agree (52%), 219 citizens Agree (42.8%), Neither Agree nor Disagree by 27 citizens (5.3%) on the statement “Multiple services at eSeva saves lot of time by avoiding more than one trip to different departments”. And no citizens disagree and strongly disagree on this statement. It is reveals from the above table that the perception of citizens on the statement strongly agree and agree together shows 94.8%, which shows that multiple services at eSeva saves lot of time to the citizens by avoiding more than one trip to different departments to avail the services.

The second dimension of the study is “Cost of availing services at eSeva”. In this dimension, the citizen’s responses are collected on five scale in the form of Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree and Strongly Agree. The perception of citizens were captured on four statements in this dimension; a) The service charges claimed by eSeva for various services are affordable b) Availing multiple services are at one place reduce the cost of travel c) The cost of middlemen involved in availing services is less d) No wage loss due to flexible functioning of eSeva centers. The perception of citizens on the above statements was analysed and presented in the following tables and graphs.

The service charges claimed by eSeva for various services is affordable: The citizens were asked about whether multiple services at eSeva saves lot of time by avoiding more than one trip to different departments by citizens or not and their perception was captured. The responses are presented in the following table 13.

Table 13

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
The service charges claimed by eSeva for various services is affordable	0	0	2	438	72	512
Total percentage	0	0	0.4	85.5	14.1	100

The above table shows that 438 citizens (85.5%) do agree to the statement, “The service charges claimed by eSeva for various services is affordable”. Further, 72 citizens (14.1%) do strongly agree with the aforesaid statement. And 0.4 percent of the citizens neither agree nor disagree, and no citizens disagree or strongly disagree with the statement. It revealed from the above table is that the service charges claimed by eSeva for various services are affordable. The citizens are ready to pay nominal charges for each service they avail because of the multiple services can be availed at single window of eSeva that saves lot of indirect cost incurred by the citizens.

Availing multiple services at one place reduce the cost of travel: The citizens were asked about whether availing multiple services at one place at eSeva reduces the cost of travel and their perception was captured. The responses are presented in the following table 14.

Table 14

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
Availing multiple services at one place reduce the cost of travel	0	0	16	227	269	512
Total percentage	0	0	3.1	44.4	52.5	100

It is observed from the above table that the 269 citizens Strongly Agree (52.5%), 227 citizens Agree (44.4%), Neither Agree nor Disagree by 16 citizens (3.1%) on the statement “Availing multiple services at one place reduce the cost of travel”. And no citizens disagree and strongly disagree on this statement. It is reveals from the above table that the perception of citizens on the statement strongly agree and agree together shows 96.9.8%, which indicates that availing multiple services at one place reduce the cost of travel because of single window system adopted at eSeva centers. In the absence of eSeva centers, the citizens are to visit various departments located at different places, which increases the travel cost.

The cost of middlemen involved in availing services is less: The citizens were asked about whether the cost of middlemen involved in availing services is less and their perception was captured. The responses are presented in the following table 15.

Table 15

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
The cost of middlemen involved in availing services is less	0	0	11	411	90	512
Total percentage	0	0	2.1	80.3	17.6	100

The above table shows that 411 citizens (80.3%) do agree to the statement, “The cost of middlemen involved in availing services is less”. Further, 90 citizens (17.6%) do strongly agree with the aforesaid statement. And 2.1 percent of the citizens neither agree nor disagree, and no citizens disagree or strongly disagree with the statement. It reveals from the above table is that the cost of middlemen involved in availing services is less. The citizens are paying some costs to middlemen to avail services from traditional department counters, but with eSeva the middlemen concept is eliminated, which improved the transparency in the delivery of citizen services.

No wage loss due to flexible functioning of eSeva center: The citizens were asked about any wage loss due to flexible functioning of eSeva centers their perception was captured. The responses are presented in the following table 16.

Table 16

STATEMENT	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
No wage loss due to flexible functioning of eSeva centers	0	0	11	220	281	512
Total percentage	0	0	2.1	43.0	54.9	100

It is observed from the above table that the 281 citizens Strongly Agree (54.9%), 220 citizens Agree (43%), Neither Agree nor Disagree by 11 citizens (2.1%) on the statement “No wage loss due to flexible functioning of eSeva centers”. And no citizens disagree and strongly disagree on this statement. It is reveals from the above table that the perception of citizens on the statement strongly agree and agree together shows 97.9%, which indicates that there is no wage loss due to flexible functioning of eSeva centers to avail the various services. The citizens can avail the services at their own free and convenient time which leads to no wages loss to the citizens.

The following is the presentation of results of the data analysis done to resolve each of the hypotheses, giving details of statistical tests used, the results of the analysis, and final status of the hypotheses formulated as above.

6. CONCLUSION

The study on Perception of citizen services of eSeva with reference to the Time and Cost shows that the citizens are very much interested in availing the services at eSeva centers, which reduces the no. of visits to the various departments for availing services thereby reduces the cost of travel to the citizens. The speedy transactions at eSeva enables the citizens to avoid huge queues at departmental counters. This will definitely reduce the waiting time there by the savings in terms of cost of waiting for services. The single window concept of providing citizen services of all the departments from eSeva centers definitely a positive step towards the eGovernance initiative by the Government. The citizens are saving their time and cost of availing services from eSeva with more transparent manner and high quality. The study shows that Time and Cost perceptions are significantly causing the perceptions on Quality.

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