



IMPACT ASSESSMENT OF AKSHAYA COMMON SERVICE CENTRES AS AN E- SERVICE FACILITATOR IN KERALA

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Abstract: The delivery of public services using Information Communication Technologies has been a main point of attention during the era of globalization and liberalization. ICT-mediated governance projects have been competitively pursued by both developed and developing countries. The implementation of the National e-Governance Plan (NeGP) has clearly established the vision and mission regarding e-Governance in the country. The mission statement of NeGP clearly states that public service delivery should be made at the door steps of the citizens through ICT and Common Service Centres (CSCs). Akshaya Common Service Centres are established in Kerala as an e-literacy project and later took the role of e-service delivery centre. This study has been undertaken to find out the effectiveness of Akshaya e-centres in meeting the expectations of citizens as an e-service provider.

Index Terms - National e-Governance Plan (NeGP), e-service, Common Service Centres (CSCs), Information and Communication Technologies (ICTs)

INTRODUCTION

e-Governance is increasingly being seen as a means for governments to strengthen good governance, because it not only improves the efficiency, accountability, and transparency of government processes, but it can also be used to empower citizens by allowing them to participate in government decision-making processes. The strategic goal of e-Governance is to support and simplify governance for the community, which consists of citizens, civil society organizations, private businesses, government legislators, and regulators. In May 2006, the National e-Governance Plan was implemented with the objective of improving the relationship between good governance and rural development. e-Governance is the use of electronic means to improve interactions between the government and citizens, as well as to increase administrative effectiveness and efficiency in internal government operations. It is also the application of information technology to government processes in order to achieve Simple, Moral, Accountable, Responsive, and Transparent (SMART) governance (Ministry of Information Technology, 2001). One of the primary goals of e-Governance is to provide citizens access to e-services at any time and from any location by reducing bureaucracy. e-Government enables citizens to file online returns, make online payments for various services, and download required forms, documents, and certificates, among other things. It also improves service quality by giving citizens the opportunity to participate in government decision making and provide feedback online. e-Government is a system comprised of a collection of interconnected information systems that provide services to citizens via websites, common service centres, kiosks, and mobile phones. With increasing citizen awareness of their rights and the resulting increase in expectations from government, pressure is being put on government to transform it to deliver more efficient and effective public services, and it is one of the pivotal aspects of the revolution in public service delivery system. In this context, this paper examines the experience of a visionary rural e-Governance project, Akshaya, which has been implemented in Kerala as an e-literacy project since 2002.

LITERATURE REVIEW

Sundararajan (2007) highlights the main difference between Akshaya and other similar ICT programmes of its type in its integrated or holistic strategy to simultaneously address the three issues of access, skill, and content. In that sense, Akshaya is one of the most ambitious ICT distribution programmes ever attempted, as it aims to empower a whole community across a state, including the most rural and backward areas.

Warle et al., (2015) examined the satisfaction of citizens towards the e-governance initiative "SETU" in Maharashtra. They assessed whether the SETU project met the government of Maharashtra's basic objectives, such as service quality, public satisfaction, ease of access to services, timeliness, transparency, and integrated service delivery. They discovered that citizens are only somewhat happy with service quality and that the government must reengineer processes and incorporate new technology to meet other goals.

Rahul & Krishnan (2015) examined whether the Akshaya project in Kerala succeeded in achieving the envisaged socio-economic development. They also analyzed whether the aims envisaged during the formation of the project has been effectively implemented. The study also covers the economic viability of the project and the extent of integration of stakeholders in the implementation of Akshaya project. The outcome of the study found that the project has succeeded in making people e-literate also provided a platform for e-governance, and employment generation.

Mondon and Kiran (2005) investigated the functioning of FRIENDS centres in Kerala based on citizen satisfaction and feedback from government officials, particularly those from collaborating ministries and staff. They discovered that these centres can supply public service in a more efficient manner. Because one-third of the target group is uninformed of the system, they are unable to use it. Women are more likely than men to make payments at FRIENDS than at department counters, and the majority of FRIENDS personnel are satisfied with their jobs. Officials from cooperating departments who are not assigned to FRIENDS accept it as well. They also conduct a system-wide cost-benefit analysis. This project has the potential to demonstrate the public the benefits of ICT in governance and to include their participation in the state's future e-Government initiatives.

Sreejith et al. (2015) developed a factorial model for Akshaya telecentre propagation in Kerala's grama-panchayaths. They compared Akshaya centre distribution among Local Self Governments (LSGs) and districts, paying specific emphasis to the number of wards in each LSG and district. The analysis discovered that the number of Akshaya centres sanctioned is unaffected by the size of the panchayats or districts. The average number of centres and the size of the panchayats varied significantly. According to the report, the number of centres approved should be determined by the size of the panchayats.

AKSHAYA - PROFILE

On November 18, 2002, the President of India officially launched the project, which began as a trial project in Malappuram District. The project entailed the establishment of nearly 9,000 multi-purpose community technology centres known as Akshaya Centres (e-kendras) around the State, which served as the project facilitation centres. These e-kendras were to be established by Akshaya Centre Entrepreneurs (ACEs). A total of 65 lakh families were served by the programme. The Akshaya project, the country's largest rural wireless network, aids in bringing the benefits of e-Governance and utility services such as basic connectivity to individual Kerala houses. Till March 2009, the government had spent 11.78 crore on the project implementation. Local Self Government Institutions (LSGIs) contributed 61.69 crore to e-literacy and e-learning projects. Following the introduction of the NeGP, these Akshaya e-Kendras were converted into Common Service Centres that operate on a Public-Private-Partnership (PPP) basis.

The major goals of the projects are;

- To provide access to Information and Communication Technology (ICT) services to all sections of society in the state's most remote areas in order to bridge the digital divide between the information rich and the information poor.
- To provide e-literacy to at least one member in the families of Kerala.
- To facilitate the delivery of services such as e-transactions and e-Governance that is relevant to the local community.
- Generating employment opportunities.
- To act as a front-end G2C and G2B service delivery outlet.

OBJECTIVES OF THE STUDY

The basic objectives of the study are;

1. To analyze the user satisfaction of e-service delivery by Akshaya CSCs.
2. To examine the challenges faced by users in accessing e-services provided by Akshaya CSCs.

HYPOTHESES OF THE STUDY

1. There is no significant difference in the level of users' satisfaction on e-services provided by Akshaya centres according to their characteristics.
2. There is no significant difference in the challenges faced by users in accessing e-services provided by Akshaya centres according to their domicile.

METHODOLOGY

This study is based on both primary and secondary data. Primary data is collected from 385 respondents from Thiruvananthapuram, Palakkad and Kannur district. Multi-stage random sampling method is used for selecting the respondents. Respondents from both urban and rural areas are included in the study. This study covers citizens who have availed any of the e-services from the Akshaya e-centres. A structured interview schedule was used to collect data about effectiveness of e-service delivery. The secondary data is collected from various magazines, journals, books, newspapers, websites etc.

TOOLS FOR ANALYSIS

For analyzing data, percentage, mean, one sample t-test, ANOVA and MANOVA were applied using Statistical Package for Social Science (SPSS).

ANALYSIS AND DISCUSSION

Table 1 explains the demographic profile of respondents. Out of the total respondents, most of them belong to middle age group, more than 53 percent are females, majority of the respondents are from rural areas and 31.28 percent are graduates.

Table 1: Demographic profile of the sample

Characteristics		n	%
Age	Below 30	54	13.85
	30-39	97	24.87
	40-49	96	24.62
	50-59	91	23.33
	60 and above	52	13.33
Gender	Male	183	46.92
	Female	207	53.08
Domicile	Urban	184	47.20
	Rural	206	52.80
Education	Up to SSLC	103	26.41
	Plus two	58	14.87
	Graduate	122	31.28
	PG and Above	107	27.44

Source: primary data

DIFFERENT TYPE OF E-SERVICES AVAILED BY BENEFICIARIES

Table 2 depicts the type of e-service availed by beneficiaries from Akshaya Common Service Centres. From the table, it can be seen that more than 64 per cent beneficiaries availed revenue department services. At the same time 40 per cent beneficiaries received ration card services and 33.24 per cent beneficiaries received birth/death/marriage certificate from Akshaya centres.

Table 2: Different type of e-services availed by beneficiaries

Type of service	n	%
Ration card services	154	40.00
Revenue department services	250	64.93
Passport services	110	28.57
Birth/death/marriage certificate	128	33.24
Motor vehicle department services	98	25.45
Kerala police e-payment services	96	24.93
Dairy development services	41	10.64
e-grantz	45	11.68
Farmers registration	89	23.11
e-filing	65	16.88

Source: primary data

➤ USER SATISFACTION OF E-SERVICE DELIVERY BY AKSHAYA CSCS.

From the table it can be seen that 51.02 per cent beneficiaries satisfied with the e-service delivery by Akshaya e-centres. 33.33 per cent highly satisfied with the e-service delivery. 8.20 per cent respondents neither satisfied nor dissatisfied. 4.87 per cent respondents dissatisfied and only 2.56 per cent respondents highly dissatisfied about e-service delivery.

Table 3 Distribution of beneficiaries by their level of satisfaction about e-service delivery

Components		Highly dissatisfied	Dissatisfied	Neither satisfied/dissatisfied	Satisfied	Highly satisfied	Mean	SD	t	Sig.
Single window access to several services.	N	10	19	32	199	130	4.04	0.87	22.63	0.000
	%	2.56	4.87	8.20	51.02	33.33				
Reduction in repeated visits to government offices.	N	52	41	60	102	135	3.06	1.18	19.531	0.004
	%	13.33	10.51	15.58	26.15	34.61				
Ease of access to service.	N	17	20	21	114	218	4.02	1.02	16.394	0.000
	%	4.35	5.13	5.38	29.23	55.89				
Reduced cost of accessing services.	N	64	57	39	119	111	3.94	1.10	16.913	0.000
	%	16.4	14.6	10.0	30.5	28.5				
Convenient working hours of the office.	N	34	39	46	101	170	3.58	1.39	8.221	0.000
	%	8.72	10.00	11.79	25.90	43.59				
Convenient location of office.	N	28	36	15	142	169	3.99	1.22	16.090	0.000
	%	7.18	9.23	3.85	36.41	43.33				
Good facilities of the service area.	N	51	40	65	101	133	3.58	1.39	8.221	0.000
	%	13.08	10.26	16.67	25.90	34.10				
Integrated services enabling access to several agencies through one request	N	32	37	38	168	115	3.86	1.31	12.887	0.000
	%	8.2	9.5	9.7	43.1	29.5				

Source: primary data

The mean score of level of agreement was estimated as 4.04 which is significantly higher than the mean of the response scale as the significance level of one sample t-test is less than 0.05. From the result it can be inferred that as per the opinion of beneficiaries, Akshaya e-centres has enabled single window access to several services. The beneficiaries are satisfied with all the identified aspects of e-service delivery as the mean scores are significantly above the mean of the response scale.

Testing of hypothesis

There is no significant difference in the level of users' satisfaction on e-services provided by Akshaya centres according to their characteristics.

The opinion of beneficiaries about satisfaction on e-services according to their characteristics was evaluated by one-way ANOVA and one-sample t-test with test value 3. The result of the analysis is in Table 4. The result of one sample t-test reveals that the mean score of level of users' satisfaction is significantly higher than the mean of the response scale as the significance value is less than 0.05.

The result of ANOVA shows that the level of satisfaction of beneficiaries about e-service delivery is same in all the characteristics except age. The result indicates that the opinion score of the beneficiaries with respect to gender, education and domicile are significantly higher than the mean of the response scale as the significance values are less than 0.05. Hence the result accepts the null hypothesis that **there is no significant difference in the level of users' satisfaction on e-services provided by Akshaya centres according to their characteristics.**

Table 4 Mean score of users' satisfaction on e-service delivery according to their characteristics

Characteristics		Mean	SD	One-sample t-test with test value 3.		ANOVA	
				t	Sig.	F	Sig.
Age	Below 30	4.01	0.32	12.670	0.000	3.721	0.019
	30-39	3.90	0.45	31.615	0.000		
	40-49	4.16	0.36	21.920	0.000		
	50-59	3.82	0.41	19.880	0.000		
	60 and above	3.85	0.37	14.063	0.000		
Gender	Male	4.03	0.35	29.152	0.000	0.187	0.073
	Female	4.12	0.46	28.509	0.000		
Domicile	Urban	3.98	0.40	33.066	0.000	12.697	0.061
	Rural	4.17	0.54	27.065	0.000		
Education	Up to SSLC	3.87	0.5	27.193	0.000	0.792	0.445
	Plus two	4.60	0.4	15.700	0.000		
	Graduate	3.98	0.34	23.880	0.000		
	PG and Above	3.96	0.37	21.374	0.000		

➤ **CHALLENGES FACED BY USERS' IN ACCESSING E-SERVICES PROVIDED BY AKSHAYA CSCs**

Table 5 Distribution of beneficiaries by their level of agreement about difficulties faced by them while availing e-services with mean score

Difficulties		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Mean	SD	t	sig.
Lack of co-operation from service providers	no	46	15	9	161	159	3.98	0.60	48.783	0.000
	%	11.79	16.67	2.31	41.28	40.76				
Long queue in centres	no	24	17	19	123	207	4.025	0.15	37.098	0.000
	%	6.15	4.35	4.87	31.54	53.08				
Lack of infrastructural facilities	no	79	53	17	98	143	3.02	2.08	43.64	0.079
	%	20.25	13.59	4.35	25.12	36.67				
Power failure problems	no	74	71	58	97	90	3.15	1.45	2.029	0.043
	%	18.97	18.21	14.87	24.87	23.08				

Source: Primary data

From the table 5, it can be seen that 41.28 per cent respondents agree that lack of co-ordination from service providers is a major problem. 40.76 per cent respondents strongly agree to it. The mean score of opinion of the same is 3.98. The difference in the opinion of users regarding the problem of lack of co-operation from service providers is statistically significant at 5 per cent significant level as the significance value is less than 0.05. From the result, it can be inferred that it is a major problem faced by citizens in availing e-services from Akshaya centres.

Other major problems faced by users are long queue in centres (4.025), lack of infrastructural facilities (3.02) and power failure problems (3.15).

Testing of hypothesis

There is no significant difference in the challenges faced by users in accessing e-services provided by Akshaya centres according to their domicile.

Variation in the opinion of users about the difficulties faced by users while availing e-services according to their domicile was evaluated by ANOVA and MANOVA. It can be seen from the table 6 that the mean score related to lack of co-operation from service providers is 3.86 in urban area and 3.92 in rural area. The result of ANOVA shows that there is no significant difference in the opinion of citizens regarding the problem of lack of co-operation from service providers with regard to their location as the significance level related to F value is greater than 0.05. From the result, it can be inferred that the problem of lack of co-operation is identical irrespective of the location.

Table 6 Mean opinion score of difficulties faced by citizens according to domicile

Difficulties		Domicile		ANOVA		MANOVA	
		Urban	Rural	F	Sig	F	Sig.
Lack of co-operation from service providers	Mean	3.86	3.92	3.300	0.070	0.186	0.067
	SD.	0.30	0.350				
Long queue in centres	Mean	3.91	4.00	1.354	0.245		
	SD.	0.99	0.91				
Lack of infrastructural facilities	Mean	3.00	3.01	5.483	0.060		
	SD.	0.02	0.01				
Power failure problems	Mean	3.05	3.08	1.543	0.215		
	SD.	0.03	0.02				

While considering other problems such as long queue, lack of infrastructural facilities, power failure problems, the result of ANOVA shows that there is no significant difference in the opinion of users regarding these problems with respect to their location as the significance level related to F value is greater than 0.05. From the result, it can be inferred that all these problems are identical irrespective of the location.

When all these problems are taken together, the result of MANOVA shows that there is no significant difference in the opinion of users with respect to domicile as the significance level of F value is greater than 0.05. Hence the result accepts the null hypothesis that **there is no significant difference in the challenges faced by users in accessing e-services provided by Akshaya centres according to their domicile.**

FINDINGS

The major findings of the study are;

- From the study it was found that users of Akshaya e- service centres are satisfied with the e-service delivery as several services from different government organizations can be accessed from a single window.
- Users are satisfied with the working hours and location of these centres.
- It was found from the study that these centres have resulted in reducing the waiting time for accessing the services.
- Repeated visits to government offices for accessing services have been reduced.
- Users are satisfied in the fact that Akshaya e-centres have made public service delivery easier to access them.
- The arrogant nature of staffs in these centres is one of the important problems faced by users.
- Some of the Akshaya e-centres lack certain infrastructural facilities like scanning of documents, taking finger prints etc.
- Long queue in centres is another important problem faced by users.

CONCLUSION

The objective of this study is to find out the effectiveness and user satisfaction of e-services provided by Akshaya Common Service Centres in Kerala. It can be concluded that users are satisfied with the e-service delivery as these centres help in accessing the public services with low cost, time and effort. Along with these benefits, users also face certain difficulties in accessing services such as long queue, arrogant nature of staffs in the service centres, lack of infrastructural facilities, power failures etc.

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