

e-Governance in Local Administration of Tirupur District

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Abstract

The advancement in information and communication technology (ICT) provides an opportunity to create the relationship between the government and citizens in new ways to achieve good governance. The present paper analyzes the awareness and satisfaction level among people about e-Governance measures in Tirupur district of Tamil Nadu at different levels. It finds out that the e-Governance activities are effectively carried out in local administration but the progress of e-Governance in Panchayat Raj is slow because of various reasons. Government should arrange for more training programmes to improve e-Governance.

Keywords: e-Governance, ICT

I. INTRODUCTION

The advancement in information and communication technology (ICT) provides an opportunity to create the relationship between the government and citizens in new ways to achieve good governance. It also enhances the potential for delivery of social services and the effectiveness of administration at all levels. The use of ICT may reduce transaction cost for people and governments. e-Governance has become a vital part of Information and Communication Technology (ICT) and has helped to deliver lot of services to people and businesses. India is the largest democracy in the world. It has much to gain from e-governance. Citizen participation is important for good governance[1]. e-Governance needs to transform all levels of government but the focus should be on local administration since it is the closest to citizens. The coherence between people and local government authorities are determined by several issues like public services, local area development, education etc. [2][3]. Thus, e-Governance in local administration has to be improved. The vision statement of NeGP is as follows:

“Make all public services accessible to the common people in their area through common service delivery channels and guarantee potency, transparency, and accuracy of such services at reasonable prices to realize the fundamental desires of the citizen.”

II. STATEMENT OF THE PROBLEM

Even though the state of Tamil Nadu witnessed several difficulties in the evolutionary stage, it is one of the prominent states in India that has evolved a strategy of decentralized planning after the enactment of the Tamil Nadu Panchayats Act, 1994 and Tamil Nadu District Municipalities Act, 1920. Now the vexing issue is to resolve the problems of improving efficiency in local administration, sustainable welfare of local people, and effective service delivery. The ultimate objectives of good governance can be fulfilled only if local people have confidence in the governance process[3][4]. The development of administration at local level should make sure high degree of participation, enhanced transparency in governance, efficiency of civic society in association with social development, efficient mobilization, and utilization of resources for the welfare of society[5].

III. OBJECTIVES OF THE STUDY

The following objectives are constructed to carry out the research:

- (i) To analyze the awareness level of respondents to e-Governance measures taken up at village panchayat, town panchayat, and municipality level.
- (ii) To measure the perception of respondents about e-Governance and to assess the satisfaction level about

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accounting software implemented in village panchayat ,town panchayat, and municipality level in Tirupur district.

IV. RESEARCH METHODOLOGY

Element : Persons engaged in e-Governance services in local administration.

Source list : Villagepanchayat, town panchayat, and municipality in Tirupur District

Time : 2 years (January 1, 2017 to January 1, 2019).

The study is mainly based on primary data collected with the help of questionnaire. Total population is 327. Data were collected from 265 respondents from village panchayat, 32 respondents from town panchayat, and 30 respondents from municipality who were engaged in e-Governance services. Among 327 respondents, seven respondents gave inadequate data. A pilot study was conducted among 30 respondents working with the local Tirupur administration and had been pretested to receive their opinions.

V. PERSONAL VARIABLES : ANALYSIS

The data were processed and tabulated using Microsoft Excel 2007 and SPSS version 19. Data analysis were performed using software package – IBM SPSS (Statistical Package for Social Science version 19). Cronbach's coefficient alpha was used to test the reliability of the scale. It is also used to assess the internal consistency of individual constructs, subscales and overall scale. The rule of thumb is that the coefficient alpha must be above 0.7 for the scale to be reliable [6]. The reliability for the present study was significant (Cronbach's alpha was 0.8). The tools used for analysis were, chi-square test, *t*-test for equality of variances, ANOVA, factor analysis, and regression analysis. Table I shows the personal factors.

Out of 320 respondents, 37.5% of the respondents were in the age group of more than 40 years and minimum 10.3% of the respondents were in the age group of less than 20 years. This shows that lower labour turnover and their efficient service delivery. Gender refers to the socially constructed roles, behaviours, activities and attributes that a given society considers appropriate for men and women. Table I indicates that a maximum of 78.4% of the respondents were male and 21.6% of the respondents were female. In the context of

gender, male respondents enthusiastically preferred to work in local administration due to nature of job compared to female respondents.

While considering designation of the respondents, 81.3% of the respondents were Secretaries because Village Panchayat covers a large population and 2.2% of the respondents were clerks. Education not only increases knowledge but also helps to make use of rational and scientific approach to solve problems. Education has positive impact on social life and quality of life. The perception differs according to education. Educational level of respondents is classified as 10th, Higher secondary, Degree/Diploma, and PG/Professional. Among 320 respondents, a maximum of 43.8% percent of respondents completed Degree/Diploma due to norms implemented by Tamil Nadu governmentt hat force people to finish at least any degree for working in Panchayat and Municipality. Only 15.6% of the respondents completed 10th, since they were

TABLE I.
PERSONAL FACTORS

Factor	Group	Number	Percentage
Age	Below 20 years	33	10.3
	21-30 years	66	20.6
	31-40 years	101	31.6
	More than 40 years	120	37.5
Gender	Male	251	78.4
	Female	69	21.6
Designation	Executive officer	16	5.0
	Clerk	7	2.2
	Secretary	260	81.3
	Computer Operator	24	7.5
	Others	13	4.1
Education	10 th	50	15.6
	Higher Secondary	58	18.1
	Degree/Diploma	140	43.8
	PG/Professional	72	22.5
Income of respondent	Below ₹10,000	121	37.8
	₹ 10,001-20,000	102	31.9
	₹ 20,001-30,000	73	22.8
	Above ₹ 30,000	24	7.5
Experience	Below 5 years	59	18.4
	6-10 years	74	23.1
	11-20 years	139	43.4
	More than 20 years	48	15.0
Total		320	100.0

appointed earlier.

According to their income level, 37.8% the respondents earned below ₹10,000 because village panchayat provides low salary to secretaries, even though they have more experience and minimum 7.5% of the respondents earned above ₹30,000. Life is a continuous chain of experiences. Experience is the key element to identify the problems and overall assessment of various Governance projects in local administration. Table I reveals that 43.4 % of the respondents had 11 to 20 years of experience and 15% of the respondents had more than 20 years of experience in the local administration. This shows that job satisfaction among employees working in local administration. Table II shows the percentage of type of local administration.

It is evident from table II that majority of the respondents (81.3%) belonged to village Panchayat. Only 8.8% of the respondents belonged to municipality. There are five municipalities in Tirupur district.

The respondents of village panchayat stated that their local body earned an income from ₹ 1 lakh to ₹ 25 lakhs. Town panchayat had an annual income of ₹ 25 to 50 lakhs approximately. Municipality had an annual income of more than ₹ 50 lakhs as stated by the respondents. Table III shows income of the local body.

Table IV gives details about awareness of computer services. 58.1% of the respondents said that their local administration contained one computer system because most of the village panchayats have one computer system. 2.8% of the respondents said that they had four computer systems in their office. 29.1% of respondents had been aware of computer systems for the past six to ten years and 20.6% of the respondents have computer knowledge for the last three to five years. Secretaries in village panchayat got awareness about computers within five years. The reason is that the Tamil Nadu government provides computers for each panchayat. Maximum of 51.2% of respondents did not complete any course in computers and only 48.8% respondents completed a

TABLE II.

TYPE OF LOCAL ADMINISTRATION

Factor	Number	Percentage
Village Panchayat	260	81.3
Town Panchayat	32	10.0
Municipality	28	8.8
Total	320	100.0

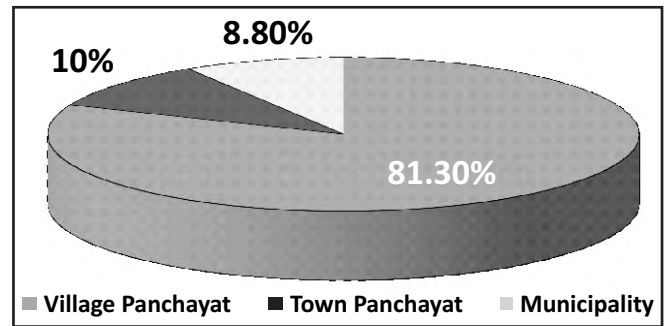


Fig. 1. Type of Local Administration

course in computers. Even though they did not complete any course in computers, the state government provided necessary training to handle the software used in the panchayat.

Table V shows that 26.9% of the respondents had moderate level of awareness about e-Governance activities and 6.6% of the respondents had very low level of awareness about e-Governance activities due to their educational qualification and lack of computer knowledge. 48.4% of respondents were aware of e-Governance activities through panchayat/municipal

TABLE III.

INCOME OF LOCAL BODY

Income of local body	Number	Percentage
₹ 1-5 lakhs	76	23.8
₹ 5-10 lakhs	100	31.3
₹ 10-25 lakhs	90	28.1
₹ 25-50 lakhs	33	10.3
Above ₹ 50 lakhs	21	6.6
Total	320	100.0

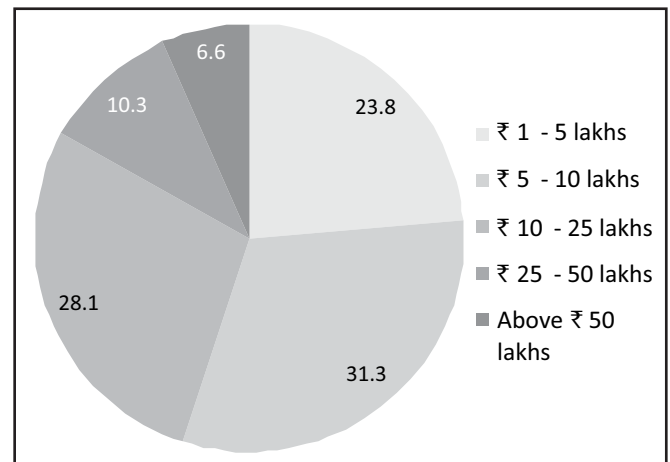


Fig. 2. Income of Local Administration

TABLE IV.
AWARENESS OF COMPUTERIZED SERVICE

Factor	Group	Number	Percentage
Number of computers in the Local administration	One	186	58.1
	Two	92	28.7
	Three	19	5.9
	Four	9	2.8
	More than 4	14	4.4
How long have been aware of computerized services	Within 2 years	77	24.1
	3-5 years	66	20.6
	6-10 years	93	29.1
	More than 10 years	84	26.3
Completion of any course in computer	Yes	156	48.8
	No	164	51.2
Total		320	100.0

offices. Only 6.9% of the respondents were aware about e-Governance activities through television as TV has low level impact on e-Governance. Majority of the respondents, that is, 28.4% gained awareness about e-Governance activities within two years and 17.2% of the respondents got awareness about e-Governance activities in more than ten years because the concept of e-Governance was developed and implemented in recent years [7].

Majority of the respondents (34.1%) had moderate awareness about Nationale-Governance Plan. 8.8% of the respondents had very low level awareness due to non-promotion of NeGP by central government. Majority of the respondents (64.8%) expressed that e-Governance could simplify their job and 31.6% of respondents said that e-governance could not simplify their job because they find difficulties in operating e-Governance projects. Table VI shows participation in Gram Sabha and impact

TABLE V.
AWARENESS OF e-GOVERNANCE ACTIVITIES

Factor	Group	Number	Percentage
Awareness about e-Governance activities	Very high	78	24.4
	High	78	24.4
	Moderate	86	26.9
	Low	57	17.8
	Very low	21	6.6
Sources of awareness of e-Governance	Friends	36	11.3
	TV	22	6.9
	Radio	22	6.9
	Panchayat/Municipal office	155	48.4

	Others	85	26.6
Years of awareness on e-Governance activities	Within 2 years	91	28.4
	3-5 years	88	27.5
	6-10 years	86	26.9
Knowledge about NeGP	More than 10 years	55	17.2
	Very high	51	15.9
	High	73	22.8
	Moderate	109	34.1
	Low	59	18.4
Simplification of job while using e-Governance	Very low	28	8.8
	Yes	219	68.4
	No	101	31.6
Total			100.0

of e-Governance in Gram Sabha.

It is inferred from Table VI that majority of the respondents (58.8%) stated that number of people participated in Gram Sabha were below 400 and 9.2% of the respondents expressed that number of people who participated in Gram Sabha was between 601 – 1000 because Village Panchayat had low population. 35.4% of the respondents had moderate level of impact of e-Governance in Gram Sabha. Only 9.6% respondents said that there was very low level impact of e-Governance in Gram Sabha. It can be concluded that majority of the people were already aware about e-Governance activities in local administration. 50.8% of the respondents viewed that special Gram Sabha was organized in their Panchyat Raj. 49.2% of the respondents said that there was no special Gram Sabha. Only special Gram Sabha was organized when the requirements of people or Panchayat Raj arose.

Table VII shows that 87.5% of the respondents stated that less than 400 people participated in Special Gram Sabha due to people's unwillingness to participate and only 0.8% of the respondents views that 601 to 1000 people participated in Gram Sabha.

Table VIII reveals that maximum number of respondents (34.4%) had high knowledge about accounting software used in their local administration. Only 7.5% of the respondents have very less knowledge

TABLE VI.
GRAM SABHA

Factor	Group	Number	Percentage
No. of people participated	Below 400	153	58.8
	401-600	83	31.9
	601-1000	24	9.2

Impact of	Very high	33	12.7
e-Governance in	High	56	21.5
Gram Sabha	Moderate	92	35.4
	Low	54	20.8
	Very low	25	9.6
Any special Gram	Yes	128	49.2
Sabha organized	No	132	50.8
Total		260	100.0

about accounting software used in their local administration and they completed their work through computer centers.

23.4% of the respondents had low level of satisfaction about the training on using accounting software and 13.8% of the respondents had high level satisfaction about training given for using accounting software used in their local administration due to lack of training programme organized by government of Tamil Nadu.

28.1% of the respondents had moderate level of satisfaction about accounting software used in their offices and 7.2% of the respondents had very low level satisfaction about accounting software used in their local administration due to lack of computer knowledge.

65.9% preferred computerized system for their document as due to computers because of quick response and minimum mistakes. 34.1% of the respondents preferred manual system for document handling due to illiteracy, lack of technical education, and inadequate training.

Respondents were ranked on the basis of number of services which are most effectively undertaken by using e-Governance. The most effective service was given a rank of 1 and the least effective item was given a rank of 11. The mean rank was found out for each item. Table IX shows that the most effective function in e-Governance is implementation of state/central schemes with a mean rating of 2.08. The least effective item with the mean rank of 9.82 was found out for others. The next least effective function was drainage with the mean rank of 7.83 as few

TABLE VII.
NUMBER OF PEOPLE WHO PARTICIPATED IN SPECIAL GRAM SABHA

Group	Number	Percentage
Below 400	112	87.5
401-600	15	11.7
601-1000	1	0.8
Total	128	100

TABLE VIII.
ACCOUNTING SOFTWARE USED IN LOCAL ADMINISTRATION (PRIASOFT/PRIMITIVE SOFTWARE)

Factor	Group	Number	Percentage
Knowledge about accounting software used	Very high	60	18.8
	High	110	34.4
	Moderate	79	24.7
	Low	47	14.7
	Very low	24	7.5
Satisfaction level about training given	Very high	44	13.8
	High	68	21.3
	Moderate	71	22.2
	Low	75	23.4
	Very low	62	19.4
Satisfaction about accounting software	Very high	83	25.9
	High	78	24.4
	Moderate	90	28.1
	Low	46	14.4
	Very low	23	7.2
Do you prefer computerized/manual system	Computerized system	211	65.9
	Manual system	109	34.1
Total		320	100

TABLE IX.
MEAN RANK FOR e-GOVERNANCE EFFECTIVE IN SERVICES

Services	Mean Rank
Water supply	6.28
Public health	6.55
Drainage	7.83
Implementation of state/central schemes	2.08
Road development	4.36
Street lamp	6.58
Granting of building licenses	4.89
Payment of taxes	3.67
Issuing dangerous & offensive trade licenses	6.13
Issue of birth/death/marriage certificates	7.82
Others	9.82

Kendall's Coefficient of Concordance	
Kendall's W	0.425

documents are handled for that service.

Kendall's coefficient of concordance was used to find the extent of similarities among the respondents in the order of assigning the ranks. Higher the value of W, more is the similarity in the order of assigning ranks. The Kendall's W found out for the items in Table IX is 0.425. The Kendall's W indicates that there is a moderate level of similarity among the respondents in the order of assigning ranks.

VI. PERCEPTION ABOUT e-GOVERNANCE

The *perception about e-Governance scale* was used to measure the level of agreeability on various statements relating to perception on e-Governance.

The rating scale consisted of 32 items and the ratings were given as '1-Strongly disagree', '2- Disagree', '3-Neutral', '4-Agree', and '5 – Strongly agree'. Higher the rating, more is the level of agreeability on the particular item. Mean ratings were found out for each item and are given in table X.

It is inferred from table X that the minimum and the maximum ratings vary between 1 and 5 for all the items. The highest mean rating is 4.13 for design and layout of application form. This shows that e-Governance applications generate report quickly and neatly as compared with manual report. The lowest mean rating is 3.27 for reduced cost of service. Most of the statements except the items exchange of information and design & layout of application form have mean ratings between 3 and 4. That is the level of agreeability for the majority of the items fall between neutral and agree.

VII. PROBLEMS IN e-GOVERNANCE

Respondents were ranked based on various problems of e-Governance in local administration. The most effective item was given a rank of 1 and the least effective item was given a rank of 11. The mean rank was found out for each item. Table XI shows that the most effective problem is to mobilize funds with a mean rating of 4.08 and the next problem of inadequate training with a mean rating of 4.09. The least effective item was the problem of reducing employment opportunity with the mean rank of 8.19. Implementing e-Governance in local administration never reduces employment opportunity.

Kendall's coefficient of concordance was used to find the extent of similarities among the respondents in the order of assigning the rank. Higher the value of W,

TABLE X.
DESCRIPTIVE STATISTICS FOR PERCEPTION ON E-GOVERNANCE

S.No.	Factors	N	Minimum	Maximum	Mean	S.D
1.	Improves the image of the Government	320	1.00	5.00	3.6437	1.47432
2.	Impersonalization of services	320	1.00	5.00	3.6250	1.35188
3.	Rural citizens benefit greatly	320	1.00	5.00	3.5125	1.37368
4.	Clarity and simplicity of processes	320	1.00	5.00	3.5812	1.41852
5.	Faster and better communication	320	1.00	5.00	3.6531	1.37202
6.	Greater reach and accountability	320	1.00	5.00	3.6781	1.27164
7.	Service area facility	320	1.00	5.00	3.6156	1.29833
8.	Ensuring wider participation	320	1.00	5.00	3.4906	1.26190
9.	Better utilization of resources	320	1.00	5.00	3.3687	1.36514
10.	Consistency	320	1.00	5.00	3.4781	1.32949
11.	Availability of h/w and s/w equipment	320	1.00	5.00	3.5875	1.38232
12.	Level of corruption	320	1.00	5.00	3.5875	1.42476
13.	Improving internal efficiency	320	1.00	5.00	3.3875	1.38956
14.	Restructuring of administrative process	320	1.00	5.00	3.5156	1.42076
15.	Job satisfaction	320	1.00	5.00	3.6656	1.36827
16.	Changing attitude of employees	320	1.00	5.00	3.4469	1.49093
17.	Easy retrieval and processing of data	320	1.00	5.00	3.7437	1.40419
18.	Accuracy of transaction	320	1.00	5.00	3.7812	1.33987
19.	Durability and legibility of document	320	1.00	5.00	3.7563	1.32138
20.	Speed and efficient delivery of public service	320	1.00	5.00	3.5219	1.32949
21.	Cost of availing service	320	1.00	5.00	3.3250	1.45378
22.	Speed and efficiency of query handling	320	1.00	5.00	3.3906	1.36248
23.	Improving quality of service	320	1.00	5.00	3.6656	1.34517
24.	Aid for easy and quick decision making	320	1.00	5.00	3.5469	1.37065

25. Time and effort in availing service	320	1.00	5.00	3.5438	1.40464
26. Complaint handling mechanism	320	1.00	5.00	3.5906	1.42676
27. Reduced cost of service	320	1.00	5.00	3.2719	1.47215
28. Convenience of working hours	320	1.00	5.00	3.4938	1.46643
29. Queuing system	320	1.00	5.00	3.6844	1.37957
30. Exchange of information	320	1.00	5.00	4.0250	1.30083
31. Design and layout of application form	320	1.00	5.00	4.1281	1.22378
32. Effort in document preparation	320	1.00	5.00	3.9375	1.31872

more is the similarity in the order of assigning the rank. Kendall's W was found out to be 0.215. Kendall's W indicates that there is a moderate level of similarity among the respondents in the order of assigning rank.

The respondents' level of satisfaction with e-Governance can be used to offer better service. It is inferred from above Tables XII and 35.3 of the respondents had strongly agreed that e-Governance can be used to offer better service due to effective service delivery and fully automated process. Minimum of 10.6% of the respondent's agreeability level was neutral. Only 14.4% of the respondents disagreed with the e-Governance services due to lack of training facilities for

TABLE XI.

MEAN RANK FOR PROBLEMS IN e-GOVERNANCE

Problems	Mean Rank
Difficult to mobilize funds	4.08
High costs in training the local population	4.99
Reduce employment opportunity	8.19
Inadequate training programmes	4.09
More technology oriented	5.19
Limited ICT infrastructure	4.86
Poor grade procurement of IT equipment	5.34
Government should make more investment	6.43
Change the working hours	7.39
Increase work burden	7.49
Causes stress	7.95
Kendall's Coefficient of Concordance	
Kendall's W	0.215

TABLE XII.

E-GOVERNANCE CAN BE USED TO OFFER BETTER SERVICE

Level of Agreeability	Number	Percentage
Strongly Disagree	54	16.9
Disagree	46	14.4
Neutral	34	10.6
Agree	73	22.8
Strongly Agree	113	35.3
Total	320	100.0

TABLE XIII.

PRESENT LAW SUITABLE FOR SUCCESS OF E-GOVERNANCE

Suitability	Number	Percentage
Yes	169	52.8
No	151	47.2
Total	320	100.0

handling software installed in local administration.

The respondents opined that the present law is suitable for the success of e-Governance. It is inferred from Table XIII that 52.8% of the respondents opined that the present law was suitable for the success of e-Governance. They were satisfied with the law of Information Technology Act 2000. 47.2% of the respondents opined that the present law was not suitable for the success of e-Governance since they were affected by time constraint.

VIII. FINDINGS OF THE STUDY

Majority of the respondents had awareness about e-Governance activities. Implementations of state and central schemes were effectively carried out using

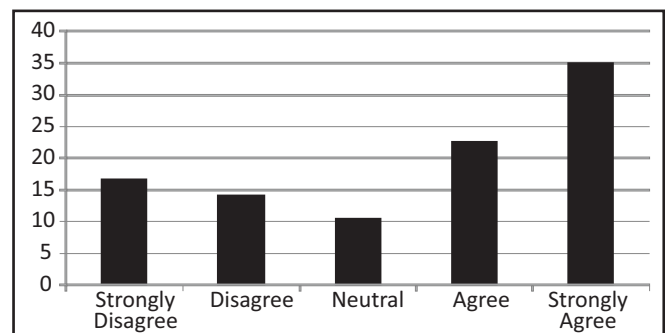


Fig. 3. e-Governance can be used to offer better service

e-Governance. Strength and opportunities of e-Governance were higher than threats and weaknesses. Majority of the respondents were satisfied with the e-Governance initiatives implemented in the local administration.

IX. LIMITATIONS OF THE STUDY

The study was confined to Tirupur District. The study was examined from the perspective of employees working in local authority and not conducted from the perspective of citizens due to time constraint. Data collection covered only the respondents who were engaged in the operations of e-Governance such as computer operators, IT officer, Secretary, and others.

X. CONCLUSION

Citizen participation is important for good governance [7]. e-Governance at local administration improves service delivery, education, and citizen participation. Governments should use ICT technologies for administration and provide services to citizen [8]. The survey found that e-Governance activities are effectively carried out in local administration but the progress of e-Governance in Panchayat Raj is slow due to lack of computer knowledge among employees, inadequate training to employees, limited network, and server related issues. Government should arrange more training programs for the progress of e-Governance.

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