

## ASSESSMENT ON QUALITY OF SERVICES AND QUALITY OF GOVERNANCE ON E-GOVERNANCE SYSTEM WITH SPECIAL REFERENCE TO E-DISTRICT PROJECT IN MIZORAM

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### ABSTRACT

Governments invest significant number of resources to implement e-governance projects. Considering this huge investment, it was found necessary to study whether or not these services are fully utilized by the citizens. The paper presents an evaluation of the e-governance regarding the perception of the users in the Indian context, wherein two dimensions of benefits: quality of service (QoS) and quality of governance (QoG) are proposed. To test the perception of the users, the services under e-District project was selected in which primary data was collected from 400 users. The Wilcoxon-signed rank test was used to find significant differences between traditional system(manual) and e-governance(computerized). The findings of the study indicate that e-governance services are beneficial in terms of QoS and QoG.

**Keywords:** *e-governance; e-District; quality of service; quality of governance; Mizoram; India*

### I. Introduction

The citizen when dealing with government in their day to day lives, expect speedy service, courteous treatment, and quick disposal of grievances or applications. However, since most government services are provided based on and regulated by certain rules and procedures. It results in delay in processing and delivering services. Moreover, even the self-help procedures that are provided are too technical or not known to the public at large hence interacting with government offices requires frequent visits which is time consuming and results in delay or interruption of attending the respective work of the citizens.

Further, the government employees are not given performance-based incentive nor periodic assessment of their performance to rectify areas where they are slacking and due to security of their jobs, they are not required to be proactive in processing files and even if reprimanded for good measure, they are not motivated nor obligated to provide a speedy delivery of services to the public. Moreover, in the absence of accountability of the employees in government offices there is a serious lapse in efficiency resulting in the public being weary of engaging with government offices even for small paper work.

This issue can be resolved to a great extent by minimising and simplification of procedures that need to be performed manually and making most of the engagement and processing available online by using possible enablers of technology and increasing accountability to bring in change in attitude of public servants.

The first step to curb such hinderances mentioned above was by introducing an e-Governance initiative across the country. Accordingly, the National e-Governance Plan (NeGP), comprising of 27 Mission Mode Projects (MMPs) and 8 components was initiated by the government with the approval of the Union Cabinet on May 18, 2006. The aim is to make all the government services available via electronic media to emphasize on inclusiveness and also ensuring efficiency, transparency and reliability at affordable cost to all citizens.

In line with NeGP, the Government of Mizoram has developed a strategy for implementation of e-Governance in the State with envision to use Information & Communication Technology to make available Government's services related to basic needs of common people and increasing accessibility even for citizens living in remote areas through minimum procedural formalities thereby attaining economic development and ease of doing business.

### **e-District Project**

The e-District project is one of the State Mission Mode Project under National e-Governance Plan and is funded by the Department of Electronics & IT, Government of India. In line with digital India programme, the Government of Mizoram has committed to use ICT for delivery of Government's services to the common people through public service delivery outlets near their locality with minimum procedural formalities thereby pursuing economics development in the State of Mizoram. The aim of the e-district is to provide and increase the online interaction experience between the government and citizen resulting in:

- (a) Reduction of time taken to avail the services by the citizens. One-stop service delivery point in an efficient, reliable and integrated manner through authorised service centre such as Common Service Centres (CSCs), Rural Information Kiosks (RIKs) and e-District Facilitation Centres.
- (b) Increase transparency in the delivery system - the applicant who goes to the authorized service centre does not have to directly engage with officials dealing with processing of government services and can keep track of the application online.
- (c) Improve processing time of applications in district administration and subordinate offices and ensure timely processing of public grievances within the defined service levels and easy access to information.
- (d) Easy access to government services to common man with minimum procedural formalities through authorised service centre like CSC, RIK and e-District facilitation centre.

The e-District project has been rolled out in eight districts i.e Aizawl, Lunglei, Saiha, Champhai, Kolasib, Serchhip, Lawngtlai and Mamit on 2<sup>nd</sup> July, 2015. It has relieved the citizens from the hardship of waiting in long queues and frequent visits to the government offices. It also increased transparency and improved workflow of district administration branch concerned with service provided by the government. Turnaround time for most of the common services has reduced to a few days from earlier processing time of weeks. At present on an average, service is mostly delivered within one day depending upon nature of service without any inconveniences and more

importantly citizen is given a firm service delivery date with provision for knowing status of their application over Internet. At the grass root level, such commitment to deliver service and engagement with citizens has increased a demand of e-services.

### **About Mizoram**

A state of north-eastern India, Mizoram has borders with Myanmar (Burma) on the east and south, Bangladesh on the west, Tripura, Assam, and Manipur on the north and northeast. Mizoram is a mix of this cross-cultural vibrancy with 87% literacy (the second-highest in India, a fact in which every Mizo takes genuine pride), gender equality and a vigorous pursuit of its ancient cultural traditions and social mores. Mizoram is currently protected under the Indian constitution under Scheduled Tribe. It consists of 11 districts- Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha, Serchhip, Hnahthial, Khawzawl and Saitual, with a total population count of approximately 10.97 lakhs as per details from Census 2011. The GSDP of Mizoram in 2022 was ranked the 32<sup>nd</sup> in India with an NSDP per capita income of Rs. 198,961.

## **II. Literature review**

Access to information pertaining to government policies, directions and programs is now made available to the public through e-governance. This includes efficiency in services, better availability of services, improvement in service delivery, increasing in accountability and transparency (Jain et. al, 2013).

OECD (2003) has identified many benefits of e-governance such as improved efficiency of Government in the processing of data; improved service delivery through a better understanding of citizen's requirements; improved trust between Government and citizens. These benefits have been discussed in many studies (Tsohou et. al,2014; Wang and Chen, 2012; Valdes et. al, 2011; Harris, 2007; Jaeger, 2005; Bhatnagar, 2008).

There were challenges that many e-governance projects implemented in both developed and developing countries had to face(Goel et. al, 2012; Heeks, 2006; Saxena, 2005 ; Savoldelli et. al, 2014). The general problem faced when usage of e-governance is low lies in unequal or limited access to e-governance applications (Madon et. al, 2009). The UN and EU e-Government regular surveys and benchmark, for example, are wealth of information regarding e- Government services offered by countries worldwide. Without doubts, assessing the supply side is very significant but it does not, by itself, constitute or guarantees advanced e-Government development and adoption. The real users' awareness, willingness, ability, actual usage, expectations, needs and preferences should be considered and precisely measured. Hence, further efforts dedicated to assessing the demand side seems convenient(Alarabiati et.al, 2018).

In order to assess the effectiveness of e-governance towards the citizens, different assessment frameworks have been developed. Bhatnagar (2008) has categorised the impact of e-governance for citizens into three categories i.e impact on the finances, administration and quality of services (QoS). The first category relates to investment of time and money to access and utilise e-governance services and the second category relates to access to information, accountability, misfeasance of the government and the third category relates to fairness and convenience. Pareek

et. al (2019) also developed a framework to evaluate the citizen's satisfaction through e-government service delivery dimensions, perceived effectiveness dimensions and citizen's trust dimensions. These dimensions also took into consideration the level of citizen's perception on transparency, efficiency and reliability of the government. Therefore in this study, we examine the demand side of e-governance services towards the citizens based on quality of service and quality of governance.

Sanyal et al. (2014) studied about e-District portal. A study of the pilot district of West Bengal will help in analysing the attitudinal changes of the citizens and accordingly implement improvement and chances for a smooth implementation of e-District services in the future.

Quality of service (QoS) is a vital aspect to the success of e-government. To assess such a quality, a multi-dimensional scale was proposed by Agarwal (2007) for measuring e-governance service quality (EGOSQ). Services such as reliability and accuracy of information, interactivity by employees, enhanced accessibility, active service recovery, and assurance of services. On the other hand, interactivity with functionaries on the basis of their attitude and behaviour, convenience of working hours, ability of complaint handling and problem resolution by the functionaries and accessibility of services were studied as quality-of-service measures by Bhatnagar (2008). Alanezi et. al (2012) evaluates quality of service in dimensions of efficiency, fulfilment, interactivity, privacy, personalisation and responsiveness. In a similar way, service quality such as reliability, communication and responsiveness were also used by Hien (2014) to measure e-government quality. These studies used reliability as the ability to provide accurate and dependable services by the service provider. Communication is generally used to specify spreading information and awareness, while responsiveness is the willingness of service provider to assist the citizens by providing fast and efficient services.

The development of e-government creates an opportunity for transformational improvement in quality of governance. Reduction of corruption, greater transparency and accountability are some of the benefits, observed as a result of implementing e-government (Gopakumar, 2001). Transparency and accountability in governance contribute to the societal harmony which benefits the citizens especially the down trodden and under privileged sections of the society (Pathak and Prasad, 2005). E-government makes the government officials more accountable for their actions. Inappropriate actions can be traced and easily fixed in e-government system, while this is a challenging task in the manual system. A good e-government brings easy traceability of citizens' applications, complaints, and feedback regarding any delay is easily brought to the notice of higher authorities which helps in reducing corruption and improving accountability of the government, thereby improving QoG.

### **III. Objective of the study**

The main objective of the study is to examine and compare the satisfaction of citizens regarding quality of service and quality of governance within traditional system (manual) and e-governance system (computerized). Quality of service is studied through citizen's experience on grievance

handling, satisfaction on location and availability of working hours. Quality of governance is studied through effectiveness of citizen's charter, level of accountability and adherence to time frame for service delivery.

#### **IV. HypothesEs**

##### **(a) Convenience of location**

The objective of the e-district project is to establish a sustainable service delivery model utilizing accessible locations, wherein the Government services are delivered to the citizen through a single window system with the use of kiosk locations (Department of Information Technology, 2011). Prior to e-district, services have to be availed directly through government, which was an inconvenience to citizens whose location was far. Through the birth of authorized service centres, these services should become more convenient especially to those that live in rural areas. Gupta and Maurya (2020) found that the convenience of accessibility of CSCs had a significant positive impact on the citizen perception of quality of service. Hence, it is necessary to examine the convenience of location after implementing e-district. Therefore, the hypothesis is framed as under:

H0a: The median differences between manual convenience of location and computerized convenience of location are equal to zero.

H1a: The median differences between manual convenience of location and computerized convenience of location are not equal to zero.

##### **(b) Complaint handling and problem resolution**

Grievance matters were addressed through a simple process by providing connectivity to all the offices at the district level and making them accountable to view and act on the posted grievances, with a process for reporting and escalations (Department of Information Technology, 2011).

In the case of e-governance in Ahmedabad, the development of grievance handling mechanism has ensured redressal in a very short timeframe and also storing records of complaints (Yadav, 2015). A study on LAPOR, a one-stop complain handling platform in Indonesia concluded that optimising the use of complain handling systems builds trust and that ordinary citizens are keener to use these systems the more non-state actors are involved. Therefore, the satisfaction of complaint handling is studied through e-District.

H0b: The median differences between manual complaint handling and computerized complaint handling are equal to zero.

H0b: The median differences between manual complaint handling and computerized complaint handling are not equal to zero.

##### **(c) Availability of working hours**

Citizen centric services aims to provide services more efficiently. In the case of e-governance portals, access to citizens and businesses are designed to reduce waiting time which will help them

in using services outside of the working hours (Department of Information Technology, 2011). Telecentres like CSCs, on the other hand, are limited to working hours of the operators and other factors including -the availability of internet and electricity in that area (Gupta and Maurya, 2020). These factors can lead to improper functioning during working hours especially in rural areas. It is therefore felt that availability of working hours is important in determining good quality of service.

H0c: The median differences between manual availability of working hours and computerized availability of working hours are equal to zero.

H1c: The median differences between manual availability of working hours and computerized availability of working hours are not equal to zero.

#### **(d)Accountability**

Accountability embraces external control issues exercised by the audit offices answerable to the citizens. Heeks (2001) described accountability as making public servants more accountable for their actions and actions. It has extended its meaning to becoming more open and aims at making both the control of government by the citizenry and public discussion between citizens and government functionaries easier. The lack of accountability was identified as one of the key drivers of corruption (Baishya et. al, 2017).

A study on the effect of ICTs on accountability in central governments show that ICTs do not promote financial accountability further away from legal requirements compared to that of the internet (Pina et al, 2007). Based on the findings from studying 16 public agencies in Nigeria, Gberevbie et.,al (2016) recommends that if the citizens are to enjoy the benefits of service delivered by public agencies, the adoption of e-governance platform for accountability has to create possible avenues other than mere web presence that will lead to better participation of citizens in contributing with their decisions. This stresses the importance of accountability towards improving governance. Therefore, the hypothesis is framed as under:

H0d: The median differences between manual accountability and computerized accountability are equal to zero.

H1d: The median differences between manual accountability and computerized accountability are not equal to zero.

#### **(e)Transparency**

Transparency in government can be described as the ability to find out what is going on inside the government in a complete and timely manner (Wong & Welch, 2004; Piotrowski et. al, 2007). Since the government is responsible for providing essential services to the population, misconduct and maladministration in local government have significant impact on people's lives (da Cruz and Marques 2014). Citizens expect that government ICTs increase transparency, empower citizens to evaluate government performance more closely and achieve a broader interaction between citizens and government (Pina et al, 2007).

Previous studies have explored the element of transparency. For example, a study by Porumbescu (2015) perceived transparency was considered an important predictor of public trust in local

government. Another study by Hartanto et. al (2021) has also reflected a positive association of perceived transparency with perceived effectiveness of e-governance. Moreover, some researchers suggested that perceived transparency improves the public trust in government (Mansoor, 2021; Moreno et. al., 2020). Therefore, the change in perceived transparency after using e-governance service shall be measured in this study.

H0e: The median differences between manual transparency and computerized transparency are equal to zero.

H1e: The median differences between manual transparency and computerized transparency are not equal to zero.

#### **(e) Awareness of Citizen's Charter**

Citizens' Charters initiative is a response to solve the problems which a citizen faces on a daily basis, while dealing with the organisations providing public services. It may be seen as a tool that provides information for the service users, regular and systematic consultation with users and ease of using complaint procedures. (Barron and Scott, 1992; Pollit, 1994; James et al, 2005; Rab and Rahaman, 2017). All of the services provided under the CSCs are displayed on the citizen's charter. Information regarding service requirements will reduce wastage of time and confusion, while services availed are required to perform under the stipulated time shown in the charter (Department of Information Technology, 2011).

The citizen's charter has become a traditional attempt at providing services for empowerment of local people and applying government policy at grassroots level. The information provided in Citizen's Charter on delivery time of service, cost and necessary information for a specific service, makes the delivery system more transparent and accountable. delay in service delivery reduced, ease access to information, officials being more accountable cum active, consciousness of both-officials & citizens increased, cost reduced, easy contact over phone, mailing, etc (Rab and Rahaman, 2017). However, factors like unawareness of the presence of charter and no practical involvement of the people who designed the citizen's charter hinders the success of the charter (Khan, 2008; Ahsan and Huque, 2016).

H0f: The median differences between awareness of citizen's charter in manual system and awareness of citizen's charter in e-district is equal to zero.

H1f: The median differences between awareness of citizen's charter in manual system and awareness of citizen's charter in e-district is not equal to zero.

#### **(f) Need of the study**

In the current era, the applications of e-District have made a deep impact on interaction between Government and Citizen, Government and Business, Government and Government, and vice versa. This has been felt at all the layers of governance from village level to district level and state level. The positive impacts of e-District in the state and local administration strengthens the very spirit of democracy along with the socio-economic well-being of the citizens. The major utilities of the present study are as follows:

- (i) The broader outcomes of the study on e-District Application initiatives with various dimensions of socio-economic planning can help in forming strategies to wipe out the hurdles on the path of present manual initiatives.
- (ii) The generalizations from the analysis of the e-District as an e-governance service relating to quality of service and governance can have greater relevance in policy formulation not only at the decentralized level, but also at all other layers of planning and governance.

### **(G) Research Methodology**

In this research work, survey method is used for gathering data. The interview schedule was administered individually to all the respondents. Enough care was taken to see that each question was correctly interpreted by them before recording their opinion. In some of the cases where language of the questionnaire was not understood, appropriate translation into local language was administered while proper explanation was given in order to have the same form and content for all respondents to provide true response to each question.

Perceived convenience of location, complaint handling and transparency were measured on a 5 point Likert scale containing options: ‘very dissatisfied’, ‘somewhat dissatisfied’, ‘neutral’, ‘somewhat satisfied’ and ‘very satisfied’. Satisfaction of working hours was measured with options: ‘very inconvenient’, ‘somewhat inconvenient’, ‘neutral’, ‘somewhat convenient’ and ‘very convenient’. Accountability and usage of citizen’s charter was also measured on the Likert scale with options: ‘never’, ‘rarely’, ‘sometimes’, ‘very often’ and ‘always’.

After collection of primary data, a master table was prepared. Then the data were analysed using electronic spreadsheet in MS Excel. For the collection of secondary data, relevant official records, government web portals, published and unpublished dissertations, books and journals, were referred.

**Sample size:** In this study, purposive sampling was used. The size of population was users of manual service and e-district service. The minimum sample size of this study which was calculated using Cochran’s formula become 384 samples but the larger the sample size, the greater the accuracy. Thus, the study included 16 authorised service centres i.e 8 district facilitation centres and 8 common service centres so as to complete the study, the total sample size would be 400 samples (384 samples of citizens +16 samples of authorise service centre). The response rate was 64.3%.

Selection of the villages/locations from where the respondents were interviewed was done on the basis of distance of the location from Authorised Service Centre. The number of respondents was proportionately chosen to the number of respondents visiting the Authorised Service Centre from that location. The table 1 below give the detail distribution of respondents based on the proportion of activity level in all the districts.

Table 1: Distribution of sample size

District	Proportion of Activity Level	Total Respondents to be Sampled	Total Sampling Units	Sample Size per Sampling Unit

Aizawl <i>(High Activity)</i>	52%	$0.52 \times 400 = 208$	4	$208/4 = 52$ respondents
Lunglei <i>(Low Activity)</i>	6%	$0.06 \times 400 = 24$	4	$24/4 = 6$ respondents
Saiha <i>(Low Activity)</i>	6%	$0.06 \times 400 = 24$	4	$24/4 = 6$ respondents
Champhai <i>(Low Activity)</i>	8%	$0.08 \times 400 = 32$	4	$32/4 = 8$ respondents
Kolasib <i>(Low Activity)</i>	8%	$0.08 \times 400 = 32$	4	$32/4 = 8$ respondents
Serchhip <i>(Low Activity)</i>	6%	$0.06 \times 400 = 24$	4	$24/4 = 6$ respondents
Lawngtlai <i>(Low Activity)</i>	6%	$0.06 \times 400 = 24$	4	$24/4 = 6$ respondents
Mamit <i>(Low Activity)</i>	8%	$0.08 \times 400 = 32$	4	$32/4 = 8$ respondents
Total		400	32	

Source: Authors' compilation

During analysis and study of e-district project, it was found from e-district portal that there are lots of service transactions during the past five years. Some of the district performed very well and some districts are not doing well due to lack of awareness and mainly due to poor Internet connectivity at remote site.

### (g) DISCUSSIONS & FINDINGS

Out of the 400 respondents, 71.5% were male and 28.5% were female. 13.25 % of respondents were in the age group 18-25 years, 36.5% were in the age group 26-35 years, 33.75% in 36-45 years, 10.25% in 46-60 years whereas the remaining 6.25% were 60 years and above. 33.25% of the respondents have used e-District for availing income certificates, 57.75% have used it for residential certificates and 72.25% for tribal certificates. Out of the respondents, 39.5% respondents have been availing government services through e-district for the last one year, 48.5% of the respondents have been using these services for the last three years and the remaining 12% have been using the services for more than three years. Preference of computerized system i.e., e-governance services over the traditional method was surveyed, whereby 94% of the respondents prefer availing services through computerized systems.

Data was collected by respondents answering using the likert scale. Normality test was done using Kolmogorov-Smimov test of normality and was found to be statistically significant violation of normally distributed data since the p-value is  $\leq 0.001$ . For this study, the Wilcoxon Signed Ranked test was used to evaluate the data.

**(a) Reliability test on questionnaire**

The reliability of the research instruments was analysed using Cronbach’s alpha on the four constructs: Quality of service and quality of governance, divided into two subconstructs- manual and computerized. All four measures showed a Cronbach alpha equal to or higher than 0.7, which shows that there is a good internal consistency in the instrument (Table 2).

Table 2: Reliability test on questionnaire

Construct	Number of items	Cronbach’s Alpha
Quality of service(manual)	3	0.7
Quality of service(computerized)	3	0.741
Quality of governance(manual)	3	0.87
Quality of governance(computerized)	3	0.743

Source: Authors’ compilation

**(b) Quality of Services**

The central tendency chosen for this study is mean, as there are no outliers and it was felt that the mean showed the exact point of improvement. It was found that each service measures found a perceived improvement when CSCs were utilized (Table 3.1). Among these measures, convenience of location showed the highest difference while the improvement in complaint handling is the lowest.

Table 3.1: Mean of Quality of Service measures

Manual Convenience of location	Computerized Convenience of location	Manual Complaint handling	Computerized Complaint handling	Manual Working hours	Computerized Working hours
2.74	4	3.15	3.7	2.97	3.93

Source: Authors’ compilation

Table 3.2 shows the analysis on convenience of location (manual) and location(computerized) using Wilcoxon signed rank test revealed a statistically significant change where  $z=-12.978$ ,  $p<0.001$ , with effect size ( $r=0.65$ ). The effect size is considered to have a large effect size using Cohen(1988) criteria of greater than 0.5=large effect. This shows that there was a significant change in satisfaction on location of the service availed. Analysis on complaint handling for manual and computerized system revealed a statistically significant change where  $z=-5.504$ ,  $p<0.001$ , with effect size( $r=0.28$ ). This effect size is considered small as it is less than 0.3, which indicates limited practical implications. Analysis on working hours for manual and computerized

system revealed a statistically significant change where  $z=-9.393$ ,  $p<0.001$ , with effect size ( $r=0.47$ ). This effect size is considered medium as it is  $0.3<r<0.5$ .

Table 3.2: Ranks on Quality of service measures

	N	Mean Rank	Sum of Ranks
Computerized Convenience of location - Manual Convenience of location	62 <sup>a</sup>	148.27	9193.00
Positive Ranks	321 <sup>b</sup>	200.45	64343.00
Ties	17 <sup>c</sup>		
Total	400		
Computerized Complaint handling - Manual Complaint handling	115 <sup>d</sup>	182.54	20992.00
Positive Ranks	239 <sup>e</sup>	175.08	41843.00
Ties	46 <sup>f</sup>		
Total	400		
Computerized Working hours - Manual Working hours	136 <sup>g</sup>	110.63	15046.00
Positive Ranks	232 <sup>h</sup>	227.80	52850.00
Ties	32 <sup>i</sup>		
Total	400		

Source: Authors' compilation

### (c) Quality of Governance

Improvement was found in all of the governance measures (table 3.3). Perceived accountability showed the highest improvement while awareness of citizen's charter showed the lowest improvement. Although, there is positive change in the perceived citizen's charter, the improvement as a whole, is the lowest among all quality measures.

Table 3.3: Means of Quality of governance measures

Manual Accountability	Computerized Accountability	Manual Transparency	Computerized Transparency	Manual Citizen's Charter	Computerized Citizen's Charter
3.40	4.37	3.65	4.25	3.02	3.57

Source: Author's compilation

Table 3.4 shows the analysis on computerized accountability and manual accountability using the Wilcoxon signed-rank test revealed a statistically significant change where  $z=-12.3$ ,  $p<0.001$ , with effect size( $r=0.62$ ).The effect size is considered to be large. Analysis on computerized transparency and manual transparency showed a statistically significant change where  $z=-11.441$ ,  $p<0.001$ , with effect size( $r=0.57$ ). The effect size is considered to be medium. Analysis on usage of citizen's charter showed a statistically significant change where  $z=-10.64$ ,  $p<0.001$ , with effect size( $r=0.53$ ). This effect size is considered to be medium.

Table 3.4:Ranks on Quality of Governance measures

		N	Mean Rank	Sum of Ranks
Computerized	Negative Ranks	28 <sup>a</sup>	257.00	7196.00
Accountability	- Positive Ranks	309 <sup>b</sup>	161.03	49757.00
Manual	Ties	63 <sup>c</sup>		
Accountability	Total	400		
Computerized	Negative Ranks	30 <sup>d</sup>	241.20	7236.00
Transparency	- Positive Ranks	274 <sup>e</sup>	142.79	39124.00
Manual Transparency	Ties	96 <sup>f</sup>		
	Total	400		
Computerized	Negative Ranks	26 <sup>g</sup>	192.85	5014.00
Citizen's Charter	- Positive Ranks	234 <sup>h</sup>	123.57	28916.00
Manual	Citizen's Ties	140 <sup>i</sup>		
Charter	Total	400		

*Source: Authors compilation*

Services availed in this study mostly came from three types: income, tribal and residential certificates. As the citizens have an improved experience on the service and governance factor on average, we can say that this fulfils one of the objectives of e-District project which is to deliver services efficiently. The users also found the locations more convenient for them. Convenient locations not only saves time for the users but may also reduce their money spent on trips. Although complaint handling received an improvement, it would be improper conclude that this will apply for the population since the effect size was quite small. Satisfaction of working hours, meaning functionaries present at the location, was also found to have significant positive change. The difference in working hours may be explainable by the way the two functionaries operate. In the manual system, the functionaries are government employees who get fixed salary. However, CSC operators' income depends on their working hours.

Although quality of governance can be measured through the functionaries, getting the perspective of users plays an important role as they show the limitations of the functionaries. For example, transparency and accountability have been an important objective of the e-District. This study showed that the perception of citizens' transparency and accountability made a significant positive improvement. On the other hand, the citizen's charter was set up to improve communicating information regarding the service the users are trying to avail. This study found a significant improvement in their use in citizen's charter but the difference was small.

#### **H. Limitations**

The study used the purposive sampling, a non-probability sampling. This makes the study vulnerable to probabilistic findings. Since the samples used in this study were required to recollect their experience from years ago, therefore the feedback were not recent which may lead to an ambiguous conclusion. Future research can use samples that are more random and diversified to

check the generalisability of findings. To assess the performance of e- governance, we have selected only e-District. So, a broader set of e-governance services can be selected.

## I. SUGGESTIONS

The service measures that did not make much improvements compared to others like citizen's charter and complaint handling can be studied through qualitative methods like interviews.

Apart from measuring service and governance quality, economic quality may also be measured to find out if e-governance through e-district has brought savings for the users and also to test whether the improvement in location satisfaction brings economic impact.

Even though rural information kiosks(RIKs) and CSCs have been established for a long time, these authorised service centres are not well-known to the citizens in districts like Siaha and Lunglei. The respondents in Aizawl mainly use E-bharat or Umang to avail services through computerized system. Although this is a solution to the manual system, awareness of authorized service centres needs to be increased for citizens as these centres can improve the quality of government services.

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