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## A STUDY OF CITIZEN CENTRIC SERVICE DELIVERY THROUGH e-GOVERNANCE: CASE STUDY OF e-MITRA IN JAIPUR DISTRICT

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### ABSTRACT

Good Governance is being recognized as an important goal by many countries across the world. These countries have taken up specific initiatives for open government. Along with this, there is a conscious effort to put the citizen as the centre of focus in governance where citizens are being perceived as consumers and clients. The Internet revolution has proved to be a powerful tool for good governance initiatives. An important dimension of the Internet potential is the possibility of providing anytime – anywhere services. Services rendered by the government are being provided through mix of methods such as manual system or with the help of Information and Communication Technology (ICT) in which, service centres provide most of the government services, located mostly in the convenient places within the reach of consumer or through Internet. The use of ICT helps improving efficiency of not only the government machinery but also provide better services which saves time and cost to the consumer along with convenience. One such project is e-Mitra in Rajasthan, India which renders most common services e.g. payment of utility bills (Electricity, water and telephone) and payment of dues to Jaipur Development Authority, Rajasthan Housing Board, Jaipur Municipal Corporation etc. A study was carried out to assess the awareness and usage pattern of e-Mitra in Jaipur district. The present paper focuses on the analysis and finding of the study in terms of level of awareness about e-Mitra and usage by consumers of different demographic profile such as gender, religion, cast, education, occupation etc. It also analyses the method which is being used by consumers for availing these services and media through which they have come to know about these ICT based services.

### KEYWORDS

Citizen Centric Services, e-Governance, e-Mitra, Good Governance, Role of ICT in Good Governance, Payment of Utility Bills.

### INTRODUCTION

Governments around the world are embracing electronic government (e-Government) i.e. by deploying Information and Communication Technologies (ICTs) for several decades to increase efficiency and effectiveness of their functioning. In every region – from developing countries to industries ones – national and local governments are putting critical information online, automating the once cumbersome processes and interacting with their citizens electronically (Bhattacharya, 2012).

Early applications of computers were focused on building management information system for planning and monitoring. In the initial stage many large ICT based projects were undertaken but the benefits of these projects has been quite dismal. However, with the advent of the Internet and its explosive growth, fuelled by the use of e-mail, e-commerce prompted some governments to use the Internet for delivery of information and services to the citizens. The growing use of Internet for advocacy, distance learning and fostering participation revived the hope that ICTs could indeed deliver value commensurate with investments (Bhatnagar, 2009). Borrowing from the world of e-commerce, a new term, e-Governance, was coined to describe a variety of use of the Internet by Governments.

### UNDERSTANDING e-GOVERNANCE

The revolution in information technology has brought a whole new agenda for governance into realm of possibility. e-Governance comprises decisional processes and the use of ICT for wider participation of citizen in public affairs. The purpose of implementing e-Governance is to improve governance processes and outcomes with a view to improving delivery of public services to citizen.

The “e” in e-Governance stands for ‘electronic’. Thus, e-Governance is basically associated with carrying out the functions and achieving the results of governance through the utilization of what has today come to be known as ICT (Information and Communications Technology). The reason why countries around the world are increasingly opting for ‘e-Governance’ is that governance per se has become more complex and varied in the last few decades and more importantly, citizens’ expectations from government have increased manifold. ICT facilitates efficient storing and retrieval of data, instantaneous transmission of information, processing information and data faster than the earlier manual systems, speeding up governmental processes, taking decisions expeditiously and judiciously, increasing transparency and enforcing accountability (Deva, 2005).

Although the term ‘e-Governance’ has gained currency in recent years, there is no standard definition of this term. Different governments and organizations define this term to suit their own aims and objectives. Sometimes, the term ‘e-Government’ is also used instead of ‘e-Governance’. Some widely used definitions are listed below:

**a. According to the World Bank** ([www.worldbank.org](http://www.worldbank.org))

“E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.”

Thus, the stress here is on use of information technologies in improving citizen-government interactions, cost-cutting and generation of revenue and transparency.

**b. The US E-Government Act of 2002 defines “electronic Government” to mean** (Jeong, 2007)

“the use by the Government of web-based Internet applications and other information technologies, combined with processes that implement these technologies, to-

(i) enhance the access to and delivery of Government information and services to the public, other agencies, and other Government entities; or

(ii) bring about improvements in Government operations that may include effectiveness, efficiency, service quality, or transformation”.

This definition reflects the strategy of the US Government regarding the use of ICT in improving Government operations on the one hand and enhancing the access and delivery of information and services to citizens and government entities on the other.

c. **In Indian context, Dr. APJ Abdul Kalam, former President of India, has visualized e-Governance as** (ARC Report, 2008):

*"A transparent smart e-Governance with seamless access, secure and authentic flow of information crossing the interdepartmental barrier and providing a fair and unbiased service to the citizen."*

Basically, e-Governance is generally understood as the use of Information and Communications Technology (ICT) at all levels of the Government in order to provide services to the citizens, interaction with business enterprises and communication and exchange of information between different agencies of the Government in a speedy, convenient, efficient and transparent manner.

### NEED FOR e-GOVERNANCE

Government is responsible for providing various services to the citizen. It is important that the government provides services which are really required by the citizen, these services are provided at the place where it is easily accessible by them, at a time when it is convenient to them and at the cost which they can afford for these services. The purpose of implementing e-Governance is to improve governance processes and outcomes with a view to improving delivery of public services to citizen (Heeks, 2002). e-Governance offers a large opportunity for serving the citizens in better ways. The goals of e-Governance can be assessed in terms of better service delivery to citizen, ushering transparency and accountability, empowering people through information and improving interface with citizen, business and industry.

There are no institutionalized standards for the delivery of public services. Therefore, there always appears to be an unending struggle between the governmental systems, its capability to deliver and the actual needs of the citizens. For the citizens, any encounter with the government is a harrowing experience (Rao, 2003). Be it a visit to pay utility bill or to the police station for registering an FIR, or to the respective authorities for obtaining a permission/license/certificate, or a visit to the government hospitals or government educational institutions – the procedures are so lengthy and the number of officials and their attitudes are so complicated that the citizen remains a dissatisfied and frustrated customer.

Despite using various mechanisms of delivery of these services, most governments are increasingly perceived as unresponsive, with no covert accountability systems and mere lip service to transparency (Paneerwala, 2005). The traditional system of governance has the following drawback, which affects the credibility of the government:

- The citizens are required not only to travel a long distance but also stand in long queue to avail these services. Even to get a form for ration card, he has to travel a long distance.
- In the offices, citizen may have to bounce from one table to another table to get the requisite service and may have to travel more than once.
- The timing of getting these services may not be convenient for the citizen, for example, in the traditional system, telephone bills are deposited during 9.30 AM - 2.00 PM, during which they are expected to attend their office.
- There are rigid hierarchies in the system which affects the timely completion of the task and the official providing services poses as if he is granting a favour to the citizen.
- The governance system has complicated procedures and decision making is rather slow.
- There seems to be no accountability in many cases, if the work is not being done in time.
- The services offered are government centric, i.e. services are provided as per the convenience of official concern and the entire system is based on basic mistrust for the citizen.

and ALL THIS INDUCES CORRUPTION

Thus, e-Governance can play a vital role in facilitating to make the governance responsible, accountable transparent and also effective. Many governments have already initiated various e-Governance projects in the country, so as Rajasthan Government, one such project in Rajasthan is e-Mitra.

### e-MITRA

e-Mitra is an ambitious e-Governance initiative of Government of Rajasthan and is being implemented in all 33 Districts of the state using Public-Private Partnership (PPP) model for convenience and transparency to citizens in availing various services of the Government and Private Sectors under a single roof at their door steps using an e-platform. The services are delivered via counters known as CSC (Common Service Centre) kiosks in rural areas and e-Mitra kiosks in urban areas and also online via [www.emitra.gov.in](http://www.emitra.gov.in). These counters provide services related to various departments in an integrated and easily accessible manner to people residing in rural as well as urban areas without any need for running around in government offices. The project has been operational since 2005. Initially it was functioning through a Client Server Based Application Software developed by Department of IT & C. In 2010, the old Client Server Application was migrated to Web-based on-line e-Mitra application across all the 33 districts. A new generic module has been added in May 2011 to e-Mitra portal which allows end to end application and delivery of "Digitally Signed Certificates". 'e-Mitra' has been awarded Bronze Icon for 'Outstanding performance in Citizen-centric Service Delivery' in the 10th National e-Governance Conference in February, 2007 ([www.rajasthan.gov.in](http://www.rajasthan.gov.in)).

The key objectives of e-Mitra Project is to provide hassle free one-stop solution to the citizen and provide unified e-services platform to minimize multiple interaction points for the citizen and hence reducing the wastage of valuable time. The services being offered at e-Mitra are as follows:-

- Payment of electricity bills.
- Payment of water bills of PHED.
- Online bus ticketing of RSRTC.
- Issue of Birth & Death certificates.
- Payment of various dues/fee of Jaipur Municipal Corporation.
- Payment of various dues/fee of Jaipur Development Authority.
- Payment of various dues/fee of Rajasthan Housing Board.
- Payment of Land line & Mobile bills (BSNL and others).
- Public grievance redressal.
- Access to Land & Revenue Records (ROR).
- Access to Government Information.
- Development schemes.
- BPL List.
- Immovable Property Rates (DLC).
- Agriculture information & Mandi rates.

The service deliveries are on charge basis so as to make the system self-sustaining. For services that any government department/ organization wants to offer, like bill/ taxes collection and awareness generation, the payment of service charges is made by the concerned department. While in case of services which are rendered on citizen's demand, e.g. Caste Certificate, Death/ Birth Certificate etc., the payment is made by the citizen himself.

### NEED AND SIGNIFICANCE OF THE STUDY

The aim of the research is to review the development and state of e-Governance initiative with respect to ICT enabled Public Services Delivery for common citizen with specific reference to e-Mitra in Jaipur District. The study tries to examine the e-Mitra project mainly from the perspective of consumers. The primary objective of this research paper is to know the awareness and usage pattern of ICT enabled services by users of different demographic profile.

The specific objectives of the present study are:

1. To assess the awareness and usage pattern of services by users of different demographic profile.
2. To analyse the percentage of user availing different type of services through ICT based system i.e. e-Mitra.
3. To identify the important media of publicity for creating awareness among users.
4. To suggest improvement in the ICT based service delivery system.

**RESEARCH METHODOLOGY**

The present study is an exploratory cum descriptive research as primary objective is to identify knowledge and usage of e-Mitra by the consumers of different demographic profile. Based on the objective of the study and limitations in terms of time and other resources it was proposed that the unit of analysis will be Jaipur city for e-Mitra project. The ICT enabled public services through e-Mitra are at present provided through 348 centres in Jaipur district which consist of 165 centres in rural area and 183 centres in urban area. The profile of the consumers are examined mainly on the basis of (a) locality i.e. urban or rural (semi urban) (b) religion (c) caste (d) status of respondent (e) age (f) gender (f) education (g) occupation and (h) monthly income.

A sample of 220 respondents has been chosen for the present study across the city consisted of 145 urban and 75 rural respondents. The data was collected during July 2011 to December 2011 in the Jaipur city including the rural and urban area around the city. The data was collected through a structured questionnaire which was designed in Hindi and English. Special care was also taken to include non users of e-Mitra in the sample for which researcher also visited departmental counters, shops, offices and residences of various consumers for collecting the responses. The survey instrument was also administered at the e-Mitra centres where consumers were availing various services.

The data was entered in the **Spreadsheet Software (Microsoft Excel 2007)**. To ensure that the correct data is entered, **data validation features** of the Excel was used, which helped minimizing errors at the time of entry. Most of the data analysis was done using SPSS 19.0 (Kirkpatrick, 2012). **The frequency distribution, cross tabulation, descriptive statistics, test for testing two population proportions (z Statistic) and Chi Square were the main methods used for analysis of data and drawing inferences based on the sample in the research.**

The specific research objective of the study is to examine the knowledge and usage pattern of e-Mitra in relation to area (semi rural/ urban), religion, gender, income, profession and age group, therefore following hypothesis were formulated:

- H<sub>0</sub>1: There is no significant difference about awareness & use of e-Mitra between the consumers of rural and urban area
- H<sub>0</sub>2: There is no significant difference about awareness & use of e-Mitra between the consumers of different gender
- H<sub>0</sub>3: There is no significant difference about awareness & use of e-Mitra between the consumers of Hindu and other religions
- H<sub>0</sub>4: There is no significant difference about awareness & use of e-Mitra between the consumers of General category and other castes
- H<sub>0</sub>5: There is no significant difference about awareness & use of e-Mitra between the consumers of various education groups
- H<sub>0</sub>6: There is no significant difference about awareness & use of e-Mitra between the consumers of different occupation
- H<sub>0</sub>7: There is no significant difference about awareness and use of e-Mitra between the consumers of different income group
- H<sub>0</sub>8: Source at which the payment of utility bills are paid do not differ significantly between rural and urban area

**ANALYSIS AND FINDINGS OF e-MITRA BY TARGETED CONSUMERS**

The data collection through questionnaire and personal interview was tabulated and analysis was carried through the SPSS 19.0 Version (Statistical Package for Social Sciences). The significance level has been tested for 95% confidence interval for all hypothesis i.e. alpha <0.05.

**AWARENESS AND USAGE OF e-MITRA**

One of the most important questions put to the consumers was about their awareness of e-Mitra and whether they are using these services continuously or discontinued them after using at least once. Table 1 depicts the distribution of respondents on awareness and usage of e-Mitra for different demographic profiles. It also shows value of Pearson Chi Square for examining test of independence and test for two population proportion (z statistic) between awareness and usage of e-Mitra with various demographic parameters. The significance is tested at 95% confidence interval. Since, in certain parameters, the values in the cell is less than five therefore, appropriate grouping has been made for applying Chi Square test of significance.

**TABLE 1: DISTRIBUTION OF RESPONDENTS ON AWARENESS AND USAGE OF e-MITRA BASED ON DEMOGRAPHIC PROFILE**

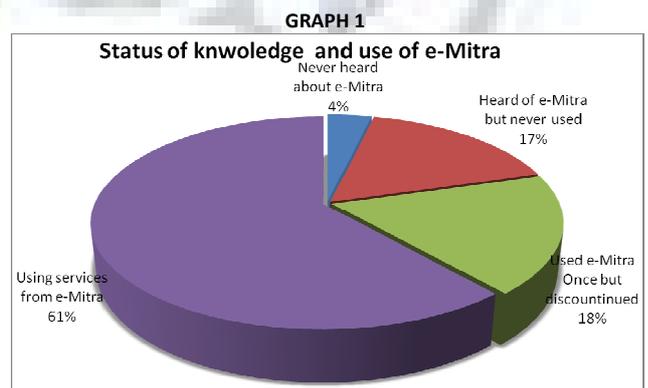
Demographic Profile/ Status of Awareness and Usage	Never heard about e-Mitra		Heard of e-Mitra but never used		Discontinued after availing service at least once		Availing services from e-Mitra		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
<b>A: Status with respect to awareness and use of e-Mitra according to locality</b>										
Rural/Semi urban	7	9.33	20	26.67	15	20.00	33	44.00	75	100.00
Urban	1	0.69	17	11.72	25	17.24	102	70.34	145	100.00
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00
<b>Pearson Chi square*</b>	<b>12.352</b>		<b>df</b>	<b>2</b>	<b>p</b>	<b>0.002</b>	<b>z</b>	<b>3.8</b>		
<b>B: Status with respect to awareness and use of e-Mitra based on Gender</b>										
Male	8	4.26	33	17.55	30	15.96	117	62.23	188	100.00
Female	0	0.00	4	12.50	10	31.25	18	56.25	32	100.00
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00
<b>Pearson Chi square*</b>	<b>3.919</b>		<b>df</b>	<b>2</b>	<b>p</b>	<b>0.141</b>	<b>z</b>	<b>0.642</b>		
<b>C: Status with respect to awareness and use of e-Mitra based religion</b>										
Hindu	8	4.23	33	17.46	36	19.05	112	59.26	189	100.00
Muslim	0	0.00	4	33.33	1	8.33	7	58.33	12	100.00
Sikh	0	0.00	0	0.00	1	10.00	9	90.00	10	100.00
Christian	0	0.00	0	0.00	2	22.22	7	77.78	9	100.00
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00
<b>Pearson Chi square*</b>	<b>1.746</b>		<b>df</b>	<b>2</b>	<b>p</b>	<b>0.418</b>	<b>z</b>	<b>1.58</b>		
<b>D: Status with respect to awareness and use of e-Mitra based on caste</b>										
General	0	0.00	11	10.09	20	18.35	78	71.56	109	100.00
SC	5	11.11	9	20.00	9	20.00	22	48.89	45	100.00
ST	3	8.57	10	28.57	3	8.57	19	54.29	35	100.00
OBC	0	0.00	7	22.58	8	25.81	16	51.61	31	100.00
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00

Demographic Profile/ Status of Awareness and Usage	Never heard about e-Mitra		Heard of e-Mitra but never used		Discontinued after availing service at least once		Availing services from e-Mitra		Total		
	Count	%	Count	%	Count	%	Count	%	Count	%	
<b>Pearson Chi square*</b>	<b>9.185</b>		<b>df</b>	<b>2</b>		<b>p</b>	<b>0.01</b>		<b>z</b>	<b>3.33</b>	
<b>E: Status with respect to awareness and use of e-Mitra based on Status of Respondent</b>											
Head of the Family	5	3.76	24	18.05	24	18.05	80	60.15	133	100.00	
Spouse	3	15.00	4	20.00	4	20.00	9	45.00	20	100.00	
Other Family Member	0	0.00	9	13.43	12	17.91	46	68.66	67	100.00	
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00	
<b>Pearson Chi square*</b>	<b>0.384</b>		<b>df</b>	<b>2</b>		<b>p</b>	<b>0.825</b>				
<b>F: Status with respect to awareness and use of e-Mitra according to age</b>											
Up to 30	1	1.85	14	25.93	11	20.37	28	51.85	54	100.00	
31 to 45	3	3.49	10	11.63	21	24.42	52	60.47	86	100.00	
46 to 60	4	5.88	12	17.65	8	11.76	44	64.71	68	100.00	
Above 60	0	0.00	1	8.33	0	0.00	11	91.67	12	100.00	
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00	
<b>Pearson Chi square*</b>	<b>10.452</b>		<b>df</b>	<b>4</b>		<b>p</b>	<b>0.033</b>				
<b>G: Status with respect to awareness and use of e-Mitra based on education level</b>											
Literate without Education	4	28.57	6	42.86	1	7.14	3	21.43	14	100.00	
Upto Primary	1	5.00	7	35.00	6	30.00	6	30.00	20	100.00	
Upto Secondary	1	5.56	3	16.67	3	16.67	11	61.11	18	100.00	
Upto Higher Secondary/ Pre-University	1	3.57	8	28.57	7	25.00	12	42.86	28	100.00	
Graduate	1	2.13	5	10.64	6	12.77	35	74.47	47	100.00	
Post Graduate	0	0.00	7	8.43	15	18.07	61	73.49	83	100.00	
Doctorate	0	0.00	1	10.00	2	20.00	7	70.00	10	100.00	
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00	
<b>Pearson Chi square*</b>	<b>23.295</b>		<b>df</b>	<b>4</b>		<b>p</b>	<b>0.000</b>				
<b>H: Status with respect to awareness and use of e-Mitra based on occupation</b>											
Government/ PSU Employee	0	0.00	7	11.29	12	19.35	43	69.35	62	100.00	
Private Employee	3	5.45	5	9.09	11	20.00	36	65.45	55	100.00	
Businessmen	3	7.69	13	33.33	7	17.95	16	41.03	39	100.00	
Labourer (Domestic/ Industry/Other)	2	10.53	7	36.84	4	21.05	6	31.58	19	100.00	
Self employed	0	0.00	3	23.08	4	30.77	6	46.15	13	100.00	
Student	0	0.00	0	0.00	2	13.33	13	86.67	15	100.00	
Retired	0	0.00	0	0.00	0	0.00	10	100.00	10	100.00	
Others	0	0.00	2	28.57	0	0.00	5	71.43	7	100.00	
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00	
<b>Pearson Chi square*</b>	<b>13.557</b>		<b>df</b>	<b>6</b>		<b>p</b>	<b>.035</b>				
<b>I: Status with respect to awareness and use of e-Mitra according to monthly income of the family</b>											
Upto 5000	2	8.70	7	30.43	10	43.48	4	17.39	23	100.00	
5000 - 10000	3	7.50	11	27.50	10	25.00	16	40.00	40	100.00	
10000-20000	2	4.88	8	19.51	1	2.44	30	73.17	41	100.00	
20000-30000	0	0.00	6	15.00	8	20.00	26	65.00	40	100.00	
30000-50000	1	3.13	2	6.25	4	12.50	25	78.13	32	100.00	
Above 50000	0	0.00	3	6.82	7	15.91	34	77.27	44	100.00	
Total	8	3.64	37	16.82	40	18.18	135	61.36	220	100.00	
<b>Pearson Chi square*</b>	<b>32.723</b>		<b>Df</b>	<b>4</b>		<b>p</b>	<b>0.000</b>				

\*Appropriate grouping has been made for applying the Chi Square test of significance

**AWARENESS AND USAGE OF e-MITRA ACCORDING TO AREA (RURAL/ URBAN)**

Table 1A and Graph 1 depicts the status with respect to awareness and use of e-Mitra by the citizen, i.e. ICT based service delivery system. It is highly encouraging that more than 96% (212) of the users have heard of e-Mitra. There are only 8 (3.6%) persons who have not heard of e-Mitra, of which, only one respondent is from the urban area. It shows that more than 99% of the consumers in the urban area are aware of e-Mitra, this ratio is 90% in the rural area. Of the total, 220 respondents, 135 (61.4%) of the respondents have been continuously using e-Mitra for at least one service, while there are 40 (18.2%) respondents, who used e-Mitra services at least once and then discontinued. The reason cited to discontinue were either e-Mitra centres are not placed at convenient location or e-Mitra centre was closed as it was not financially viable. 37 (16.8%) of the respondents have heard about e-Mitra, but never availed services from it. In the rural area relatively less, 33 (44.0%) consumers are using e-Mitra as compared to 120 (70.3%) urban consumers, which shows that more efforts are required in rural area.



Initially data were collected on 4 point scale about awareness and usage of e-Mitra, but for the test of significance or drawing the inference a hypothesis regarding proportion of usage of e-Mitra between rural and urban is considered. The test for testing two population proportion i.e. rural and urban on the frequencies availing the services from e-Mitra was Therefore applied. The z value of proportion of usage between rural and urban (3.8) shows highly significant difference, therefore the hypothesis ( $H_01$ ) is rejected at 99.9% confidence level. The chi square test of significance also shows the similar result for independence between rural and urban area with respect to awareness and usage of awareness of e-Mitra with  $p < 0.05$  (0.002). Hence, we conclude that the awareness of e-Mitra differs significantly between rural and urban population and the proportion of users of e-Mitra is higher in urban area as compared to rural area. It is thus important that government should put more efforts in creating awareness in the rural area, so that ICT enabled services can be made more popular.

#### **AWARENESS AND USAGE OF e-MITRA ACCORDING TO GENDER**

Table 1B shows that there were 188 male respondents and 32 female respondents in the study. Interesting aspect of the survey is that all the females have heard of e-Mitra, while only 4.3% of the male did not know about it. Amongst female, 28 (87.7%) have used e-Mitra at least once and 56.3% of them are using it continuously, while 33 (17.6%) of the male have heard of e-Mitra but never used it. To test the hypothesis for equality of two population proportions i.e. male and female, about usage of e-Mitra, z statistics was calculated with a value of 0.642. This value of z is not significant and hence null hypothesis ( $H_02$ ) is accepted. The chi square value of 3.919 with 2 degree of freedom and a p value of 0.141 also show that the difference is insignificant and we accept the hypothesis that there is no significant difference about awareness and usage of e-Mitra between gender, i.e. male and female consumers are equally aware of e-Mitra and using it. Although sample size for female is small in comparison to male, but our data supports that there is no significant difference between gender about awareness and usage of e-Mitra is concern

#### **AWARENESS AND USAGE OF e-MITRA ACCORDING TO RELIGION**

The majority of the respondents (189) were from the Hindu religion (Table 1C), this could be due to the fact that Jaipur city is dominated by Hindu population, however, there were Muslims (12), Sikhs (10) and Christians (9) who participated in the survey. In almost all the religion consumers were evenly aware of e-Mitra and more than 70% of them have heard of e-Mitra and used its services at least one. Almost 60% of Hindu and Muslims are continuously using services through e-Mitra; while as many as 90% of Sikhs are using these services. To test the hypothesis for equality of two population proportions i.e. between Hindu and other religion z statistics was calculated. This value of z (1.58) is not significant and hence null hypothesis ( $H_03$ ) is accepted that there is no significant difference about awareness and usage of e-Mitra between Hindu and other religion. Chi Square value of 1.765 with 3 degree of freedom and p value of 0.418 ( $p > 0.05$ ) also signifies that there is no significance difference between the consumers of Hindu and other religions and conclude that the people of Hindu and other religions are equally aware about e-Mitra in the Jaipur city and using the services through e-Mitra.

#### **AWARENESS AND USAGE OF e-MITRA ACCORDING TO CASTE**

Sample constituted of different category of persons as regard caste is concern (Table 1D). There were 109 (49.8%) from General caste, while 45, 35 and 31 were from Scheduled Caste, Scheduled Tribe and Other Backward classes, respectively. All the general category of respondents have heard of e-Mitra, while 5 (11.1%) of SC did not even know about e-Mitra. Of the 109 respondents from General category, 78 (71.6%) of the respondents are continuously availing services through e-Mitra, while this ratio for other caste is SC (48.9%), ST (54.3%) and OBC (51.6%). The value of z (3.33) is highly significant and thus we reject the null hypothesis. The chi square test of independence also shows similar result (chi square = 9.185, df = 2, p = 0.01) and is highly significant. Hence hypothesis is rejected ( $H_04$ ) and we infer that there is a dependence of awareness of e-Mitra on caste. The general caste is better aware of e-Mitra as compared to other caste.

#### **AWARENESS AND USAGE OF e-MITRA ACCORDING TO STATUS OF RESPONDENTS**

Table 1E illustrates that head of the family (133, 60.5%) is mostly the person in the family who looks after most of the services, while other family members constitute 39.8%. Only 5 (3.8%), head of family did not know about e-Mitra, while 60.2% of them continue to use e-Mitra for availing various services. Interestingly, study shows that in the category of other members of family, all have heard about e-Mitra and 68.7% of them are continuously using e-Mitra. This is usually the younger generation of family members. Approximately, 18% of respondents discontinued using e-Mitra after using it at least once. Table 1E indicates that there is no significant difference ( $p = .825$ ) about knowledge of e-Mitra among different category of respondents and most of them are evenly aware about services being offered at e-Mitra.

#### **AWARENESS AND USAGE OF e-MITRA ACCORDING TO AGE GROUP**

Distribution of awareness and usage of e-Mitra among various age groups is shown in Table 1F. In the younger generation of age group (up to 30), 51.85% of the respondents have been continuously using e-Mitra, while 20.37% have discontinued it after using at least once. More than 60% of the respondents in the age group of 31 to 45 years and 46 to 60 are continuously using e-Mitra. There are only 12 respondents who are above the age of 60 and of these, 91.7% are continuously using services of e-Mitra. The chi test for independence shows p value of 0.033 (chi square 10.452 with 2 df) indicates a significant value and we reject the null hypothesis ( $H_05$ ). Therefore we infer that awareness of e-Mitra amongst various age groups differ significantly. The elderly persons are better aware of e-Mitra and using it continuously as compared to other age groups.

#### **AWARENESS AND USAGE OF e-MITRA ACCORDING TO EDUCATION**

The Table 1G shows the distribution of awareness and usage of e-Mitra according to education level. Of the 220 respondents, 140 (64%) respondents were graduate and above and more than 70% of them are using e-Mitra continuously for availing various services. Amongst the group, literate without formal education (those who can sign and read numbers) which consisted of 14 respondents, 4 (28.6%) have not heard of e-Mitra, while only 3 (21.43%) of them are continuously using e-Mitra. The percentage of consumers with education level of up to primary, only 30% are using e-Mitra continuously. This shows that the awareness and usage of e-Mitra has dependence on education and this also corroborates with the value chi square (23.295) with p = 0.000 and is highly significant. Hence we reject the null hypothesis ( $H_06$ ). The analysis of data shows that persons with higher education are better aware of e-Mitra and continuously using it for various services.

#### **AWARENESS AND USAGE OF e-MITRA ACCORDING TO OCCUPATION**

Table 1H shows the distribution of respondents according to their occupation as regard awareness and usage of e-Mitra is concern. Majority of respondents (117) are from government or private service. All the respondents who are in government service have heard of e-Mitra, while 10.5% of labour class have not heard of e-Mitra. Only 30% of labour class is continuously using e-Mitra, while this ratio is much higher among other classes. 86.7% of students are continuously availing services, as they are the ones who use e-Mitra for filing online applications for various examinations. All the retired persons are continuously using e-Mitra for various services. This analysis indicates that the awareness and usage of e-Mitra differ among various occupation which is also confirmed with the p value which is significant ( $p = 0.035$ , i.e.  $< 0.05$ ) and is not same for various occupation. The students and retired persons are better aware of e-Mitra along with service class people.

**AWARENESS AND USAGE OF e-MITRA ACCORDING TO INCOME**

Distribution of respondents based on income is shown in Table 11. There are only 23 respondents who are from the income group of less than 5000 per month, of which only 17.4% are continuously using e-Mitra, while 74.1% knew about e-Mitra but either did not use it or discontinued after using it once. Similarly in the income group of 5000 to 1000 only 40% of users are continuously using e-Mitra, while this ratio is much higher in the income group of 10000 & above which is more than 70%. This shows that e-Mitra is more used in higher income group as compared to low income group. The p value of < 0.05 also confirms this that there a significant difference among the respondents of different income group about awareness of e-Mitra. Thus, there is a dependence of income group on awareness and usage of e-Mitra. The persons with income of up to Rs 10000 or less are relatively less aware of e-Mitra and using it as compared to relatively higher income group.

**SOURCE / PLACE WHERE THE SERVICES ARE AVAILED BY CONSUMERS**

The services of making payment of utility bills are availed by consumers at different sources i.e. concerned department, e-Mitra, shops and other places such as through ECS or internet banking. This section of the analysis is devoted to find out what percentage of users are using e-Mitra or other sources and also to draw inference whether this pattern of using various sources at which services are availed differ in rural and urban area.

Place where payment is made	Rural		Urban		Total		Z
	Count	%	Count	%	Count	%	
Concerned Department	37	49.3	27	18.6	64	29.1	<b>4.75</b>
e-Mitra Kiosk	32	42.7	99	68.3	131	59.5	<b>3.66</b>
Shop & Others	6	8.0	19	13.1	25	11.4	1.11
Total	75	100.0	145	100.0	220	100.0	
<b>Chi Square = 22.605</b>		<b>df = 2</b>		<b>p=0.000</b>			

Table 2 and Graph 2 enumerate distribution of users using various sources at which services are availed by consumers and their dependence on area i.e. rural and urban. Majority of respondents 131 (59.5%) are making payment at e-Mitra kiosks, which shows its popularity. The proportion of consumers making payment at counter of the concerned department is 64 (29.1%). This is because some of the departments have made computerized system at their cash counters to facilitate payment of utility bills, such as Electricity Department. There are 25 (11.4%) respondents that are using other means of making utility bill payment which are either at shop or through Electronic Clearance System/ Net Banking. This shows that there are consumers who still make payment of utility bills at General Shops. These respondents find it more convenient to pay at the general shops as either they are close to their houses or while shopping, they can make the payment. In such cases they pay some charges to these shop keepers. The use of ECS and Net banking would increase in future as the users of Internet are increasing.

There are relatively less number of consumers in the rural area, 32 (42.7%) as against 99 (68.3%) in urban that are using e-Mitra for availing various services. Thirty seven (49.3%), of the consumers in the rural area still resort to the departmental counter, while this category of respondents are only 27 (18.6%) in urban area. This is due to the distance from the home/ office of the e-Mitra kiosk in the rural area. There is relatively less number of persons in the rural area who prefer to pay their utility bills through general shop or using ECS or Internet payment for utility bills, which could be due difficulty in accessing Internet or literacy.

Table 2 also illustrates the test of significance for two population proportion i.e. rural and urban for the source at which services are availed. This is being tested for e-Mitra and also for use of Departmental counter. The z value of two population proportion i.e. rural and urban for source as e-Mitra is 4.75, while for departmental counter the value is 3.66, both of which are highly significant. Hence, we reject the null hypothesis ( $H_0$ ) and infer that there is a significant difference at source where utility bills are paid between rural and urban population. Further, the hypothesis is also tested using Pearson's Chi Square, which is 22.605 with 2 degrees of freedom. The value of  $p < 0.05$  (0.000) is statistically highly significant. This indicates that there is a significant difference between the rural and urban population as regard source of payment of utility bills are concern. The rural population prefer department counter for the payment of utility bills while urban population prefer e-Mitra kiosk. This difference can be correlated with the awareness and facilities available in the rural area.

**SOURCE OF KNOWLEDGE ABOUT e-MITRA**

It is important that proper method of publicity be used to make aware common citizen for any service being offered by agencies.

Source of Knowledge	Rural (Semi urban)		Urban		Total		
	Count	%	Count	%	Count	%	
News Paper	15	22.1	50	34.7	65	30.7	
Television/ Radio	3	4.4	8	5.6	11	5.2	
Friends/ Neighbour/ Relatives	20	29.4	56	38.9	76	35.8	
Colleagues at office	8	11.8	21	14.6	29	13.7	
Hoarding/ Others	22	32.4	9	6.3	31	14.6	
Total	68	100.0	144	100.0	212	100.0	
<b>Pearson Chi-Square = 25.48</b>		<b>df = 4</b>		<b>p=0.000</b>			

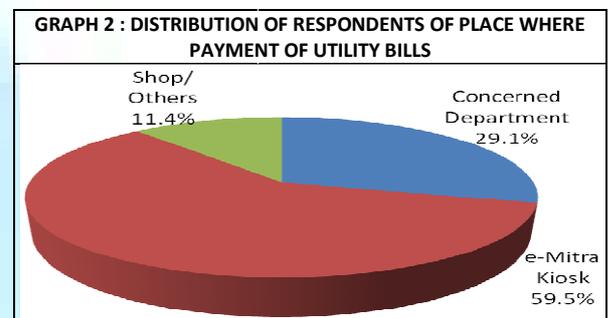
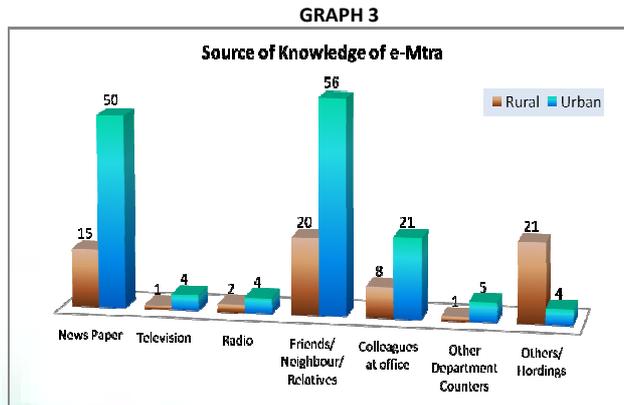


Table 3 indicates that 76 (35.8%) of the respondents have come to know about e-Mitra through friends and relatives, while 65 (34.7%) have mentioned about newspaper as a source. Hoardings/ Camps and information available from other department counters accounted for 31 (14.6%) of respondents. Television and radio seems to be least useful source of getting aware about e-Mitra. Hoardings/camps are more popular in rural (32.4%) as compared to urban population (6.3%). The difference in the method of publicity differ significantly in urban and rural area ( $p < 0.05$ , chi square = 25.48) which shows that the method used in creating awareness among rural and urban masses should be different. In rural hoarding/ camps and mouth publicity plays important role while in urban area, newspaper and mouth publicity is vital.

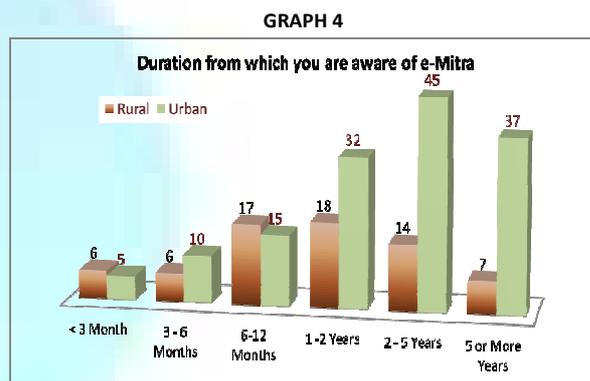


**DURATION FOR WHICH RESPONDENTS ARE AWARE OF e-MITRA**

Duration	Rural (Semi urban)		Urban		Total	
	Count	% of Total	Count	% of Total	Count	% of Total
< 3 Month	6	8.8	5	3.5	11	5.2
3 - 6 Months	6	8.8	10	6.9	16	7.5
6-12 Months	17	25.0	15	10.4	32	15.1
1 -2 Years	18	26.5	32	22.2	50	23.6
2 - 5 Years	14	20.6	45	31.3	59	27.8
5 or More Years	7	10.3	37	25.7	44	20.8
Total	68	100.0	144	100.0	212	100.0
Pearson Chi-Square = 16.79		df = 5		p = 0.005		

Table 4 indicates that majority (72.6%) of the respondents are aware of ICT based service delivery system for more than a year. In the semi urban area 57.4% of the respondents know about e-Mitra for one year or more, while this ratio in the urban area is almost 80%. In the urban area more than 25% of the users are aware of e-Mitra for more than five year, while it is only 10.3% in rural area, which shows that urban respondents are better aware of e-Mitra as compared to semi urban area.

The p value of 0.005 indicates that there is highly significant difference among the population of rural and urban area with reference to the duration for which they are aware of e-Mitra centres as in the urban area more users are aware of these services for longer period than rural area.



**SERVICE USAGE PATTERN OF THE CONSUMER**

It is important to know, whether consumers are aware of variety of services available at e-Mitra. This helps in knowing proportion of consumer using e-Mitra kiosk for availing services. Table 5 depicts distribution of various services which are being provided through e-Mitra kiosk. The respondents (212) are those who have heard of e-Mitra. There are 8 respondents who have never heard of e-Mitra and are excluded from this analysis, as this would have led to misleading interpretation. Table shows that more than 90% of the consumers are aware that utility bill payments can be made at the e-Mitra kiosk. The main reason of high percentage of this awareness is the facility of making payment at a single counter. 116 (54.7%) of the respondents are aware that Rajasthan Roadways bus tickets can also be obtained at e-Mitra. On the contrary, more than 170 (80.2%) do not have any idea that payment of various dues of housing board, JDA or Municipal Corporation can be paid at e-Mitra. Only 30.7% of the respondents are aware that RPSC (Rajasthan Public Service Commission) and University examination forms can be submitted online at e-Mitra.

Service	% of consumers knowing that service can be availed at e-Mitra		% of consumers availing services among those who knows that service can be availed at e-Mitra	
	Number	%	Number	%
Electricity bills	205	96.7	138	67.3
Water bills	206	97.2	139	67.5
Land line & Mobile bills (BSNL & others)	198	93.4	119	60.1
Online bus ticketing of RSRTC/ Railway	116	54.7	45	38.8
Issue of Birth & Death Certificate	56	26.4	16	28.6
Payment of various dues/fee of JMC/ JDA/ RHB	42	19.8	10	23.8
Submitting forms of RPSC/ University Exams	65	30.7	23	35.4
N		212		

Table 5 also shows the percentage of consumers (among those who knows that particular service is available at e-Mitra) who are using e-Mitra for availing these services. Almost 2/3<sup>rd</sup> of the consumers of the utility bills are using services through e-Mitra while less than 1/3<sup>rd</sup> of the consumers of other services are using it. This is due to the fact that these services are needed either once in a year or whenever required, in other words the frequency of using these services are much less as compared to payment of utility bills which is done almost every month or once in two months. Also these services have been introduced recently and some of the kiosk owners may not be providing these services.

**SUGGESTIONS FOR IMPROVEMENT**

The study also tried to find out suggestions through open question which citizens may have for improving the system. Based on the analysis of the quantitative data and suggestions received from the users the following suggestions are worth mentioning:

1. The government should publicize in the rural area through camps and hoarding which is an effective media of publicity.
2. More service centres (kiosk) should be opened at sub district level and cities.
3. Most of the kiosks do not work on Sunday therefore this must be ensured.
4. The number of transaction being done on line (using Internet) is much less; therefore government should encourage online payment of utility bills and other services. It has many indirect advantages such as reduces traffic, less congestions on road, reduces environment pollution, saving of time and cost for availing service which can be used for more productive work.
5. There should not be any charges for making online payment as more than 1% of the bill or ten rupee is charged towards services.
6. Different service providers such as electricity, water and telephone department should have billing cycle in such a way that the bills of various services are sent to consumers together, so that they may make payment together for all the bills which would save time and money in making multiple trips.
7. Increase number of services at these centres, as at present very few places payment of Urban Development Tax or due to RHB/ JDA / Municipal Corporation is paid. Services such as Ration Card, Domicile certificate etc should also be made available through these kiosks.

**CONCLUSION**

The Information and Communication Technology plays a very important role in implementing good governance, i.e. converting a government into SMART government. The major component of SMART governance is simple, moral, accountable, responsive and transparent; which helps in improving credibility of government among the common man. The government of Rajasthan has taken many initiatives in bringing good governance with the help of Information and Communication Technology, one such initiative is the implementation of e-Mitra which provides delivery of most common services through ICT.

This research paper provided a detailed analysis of the perceptions of citizens regarding the services offered through e-Mitra and an attempt has been made to highlight the extent of awareness consumers have about e-Mitra and its usage by them. As has been indicated that as many as 96.4% of the consumers have heard of e-Mitra and almost 80% of the consumers have used e-Mitra services at least once, which is encouraging sign for government to consider ICT for providing more and more services through ICT. Apart from awareness creation, it is equally important to roll out the centres at the sub-district level. This would help solve issues of distance and accessibility, which were the major constraints highlighted by non-users. It was learned during the study that the Government is planning a roll out immediately.

Overall, the study clearly highlights the fact that citizens are extremely happy about the project. It is also interesting to note that the participation of rural consumer is equally distributed in making payments at e-Mitra as compared to departmental counters. The project has also been able to demonstrate to the common man the possibilities of ICT in governance and has thus been able to gather support of the general public for future e-governance projects in the state.

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