E-GOVERNANCE INTELLIGENCE: AN OVERALL ASSESSMENT STUDY FROM A RURAL INDUSTRIAL TOWN IN INDIA

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Abstract: Good E-Governance ability or Intelligence is must for E-Government success. The purpose of the study is to do an overall assessment of e-government project in the township of Neemrana, a rural industrial township located in the state of Rajasthan, India, and to come up with recommendations and suggestion for future implementations at rural level. In this study, the authors have initially used secondary data spanning from the year 2000 to 2017 to understand and identify e-government success measures globally. The study used interview method using a structured questionnaire to collect data from Sarpanchs (local government representatives in villages) from thirty-three villages in Neemrana. Descriptive statistics were used to analyze the data collected. The finding of the study would assist the government in gaining intelligence about success measure for e-governance in rural townships like Neemrana and would also serve as the knowledge base for researchers and non-government organization (NGO) in taking e-government project further.

Keywords: E-Government, E-Governance Intelligence, Rural Town.

Introduction: Rapid use of Information and Communication Technology (ICT) and digitization in the country is enabling Indian Government to reach out to its citizen located in even remote parts of its landmass. E-Government, as it is called, is one of the most ambitious missions of Honorable Prime Minister of India, for taking India forward towards its wholesome growth. But due to various local issues like the skewed demographics, illiteracy, lack of awareness, corruption and social-cultural factors, the e-government project implementation at district and village level is facing hurdles on various fronts. Rajasthan is the largest state of India and has been one of the pioneering states to implement e-government in its various districts. Besides providing an online mechanism for filing various services provided by the government, it has also come up with several schemes for it's for its inhabitants living in urban and rural areas. Neemrana is a rural industrial block or township located in Alwar district in the state of Rajasthan, India. There are thirty-three villages located in Neemrana [8]. The purpose of the study is to do an overall assessment of e-government project in the township of Neemrana to ascertain the impact of e-government and to come up with recommendations and suggestion for future implementations at the village level. As one of the major objectives of Rajasthan e-government is to ensure e-government adoptions by its entire district by the year 2025[8].

Review of Literature:

a. E-Government and E-Governance: E-Government refers to use of ICT to implement government infrastructure. It is a process wherein government provides its services to its citizens and other interested parties via its e-portals. There has been a lack of trust in function of government in general [9]. E-government leads to increased accountability, more access to citizens, efficiency and cost-effective government. But its success hinges on ease of use, trustworthiness, and compatibility [3]. Studies have suggested that by increased use of process-based interaction and participation in E-Government, there has been an increase in trust in government in general [9] [10]. Majority of the E-Government make use of G2C model where government reaches out to its citizen with information via the website. Very few

governments provide two-way interaction and vertical and horizontal integration for more wholesome interaction [7]. A look at the e-government implementation by developed economies like the USA also shows that e-government portal is basically simple, providing one-way transmission only. [5].

Good governance implies implementation of economic, political, and administrative power for better management of nation at all level. E-Government is the infrastructure and E-Governance is the process that drives this infrastructure. Use of ICT in E-Government aims to support good governance. Hence the strategic objective of E-Government is good governance. [2] Good E-Governance ability or Intelligence in thus imperative for E-Government success.

As nations across the globe get digitally savvy, they are embracing ICT enable government setup. Hence, they are at different stage of their maturity cycles. A regular check or assessment of their performance is called for one to enable their optimum performance and two to ensure that before they go any further they have closed the loophole existing in the current system. Assessment Framework [1]

b. E-Governance in Rural India: Government of India launched its National E-Government Program in the year 2005, since then it has grown by leaps and bound. Table 1 displays some mission mode projects at the central level, state level and integrated projects under this programme. The Gram Panchayats is one of the state level mission mode projects, as seen the Table 1. The aim is to extend the services and features of a Panchayat using ICT for easy access and efficiency. The National Panchayat Portal as shown in figure 1 displays the list of services to be provided by the portal.

Table 1: Mission Mode Projects

Central MMPs	State MMPs	Integrated MMPs
Banking	Agriculture	CSC
Central Excise & Customs	Commercial Taxes	e-Biz
Income Tax (IT)	e-District	e-Courts
Insurance	Employment Exchange	e-Procurement
MCA21	Land Records	EDI for Trade
National Citizens Database	Municipalities	National e-governance service delivery gateway
Passport	Gram Panchayats	India Portal
Immigration, Visa and Foreigners' Registration & Tracking	Police	
Pension	Road Transport	
e-Office	Treasuries	

Source: http://meity.gov.in/content/mission-mode-projects

The government of India has already carried out a full assessment study using an impact assessment framework [6] that has different dimensions of impact to understand impact assessment of E-Government projects in states where it is functional for over two years and a baseline study on e-Districts Mission Mode Projects in the year 2009-10. The report of the full assessment showed marked adoption of E-Government in Urban local bodies in the four states, namely Delhi, Mumbai, Hyderabad and Kolkata. The baseline study was carried out for five states namely Maharashtra, Uttar Pradesh, West Bengal, Tamil Nadu and Madhya Pradesh. The current survey which was initiated in 2013-14 is still in progress. [6].

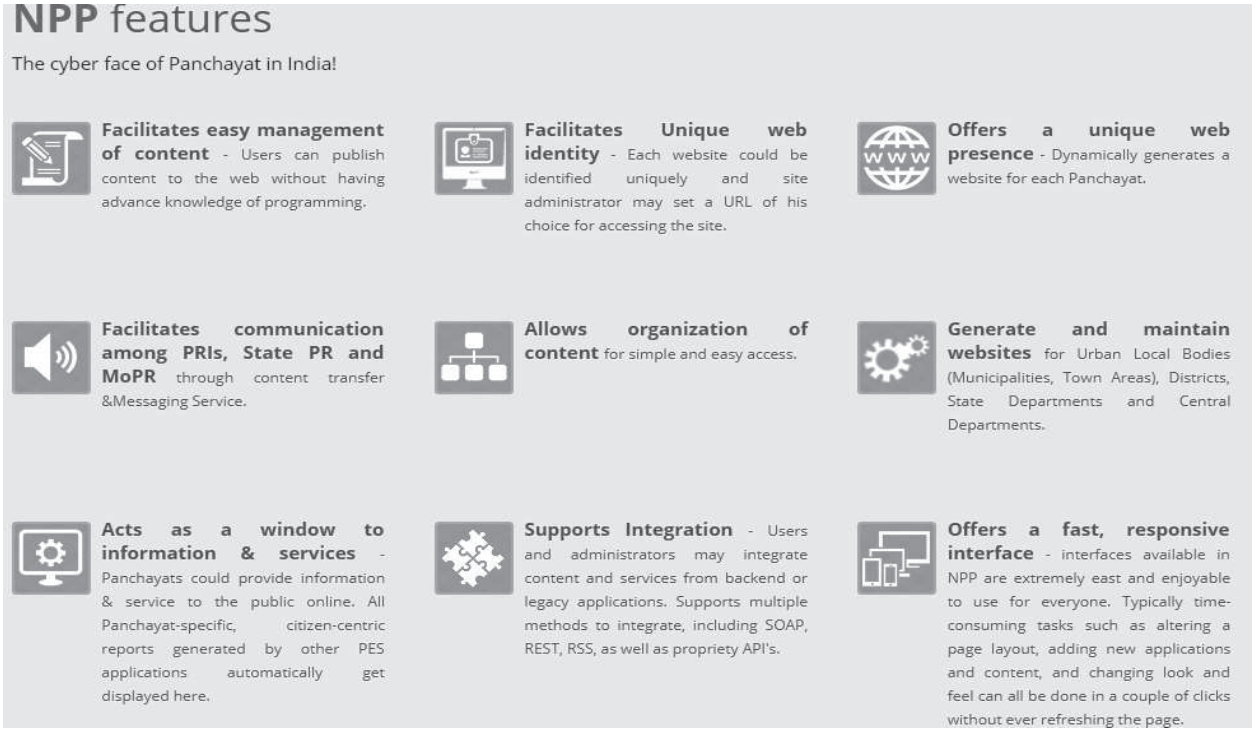

Fig. 1: National Panchayat Project.
Source: http://panchayatonline.gov.in/viewappswindow.htm?OWASP_CSRFTOKEN=G8D9-IZEN-MD4R-KOWI-RIK4-YC3J-1G1K-7TK7&appname=indexnpp

Having said that the internet infrastructure in rural India is yet to reach a minimum level of satisfaction and since 70% of Indian population lives in villages, it implies that a sound ICT infrastructure deployment has a long way to go and so do the goals of achieving good governance. This apart the current internet centre set up in villages to enable public access to E-Government services is not up to mark for several reasons [4]. The lifespan of such internet kiosk and facilities available here is far from satisfactory. Some reasons cited for this were lack of financial viability and availability of trained staff [4].

Rajasthan government has been in the forefront in implementing e-government at the grassroots level by introduction of the e-panchayat portal on its website as shown in Fig. 2

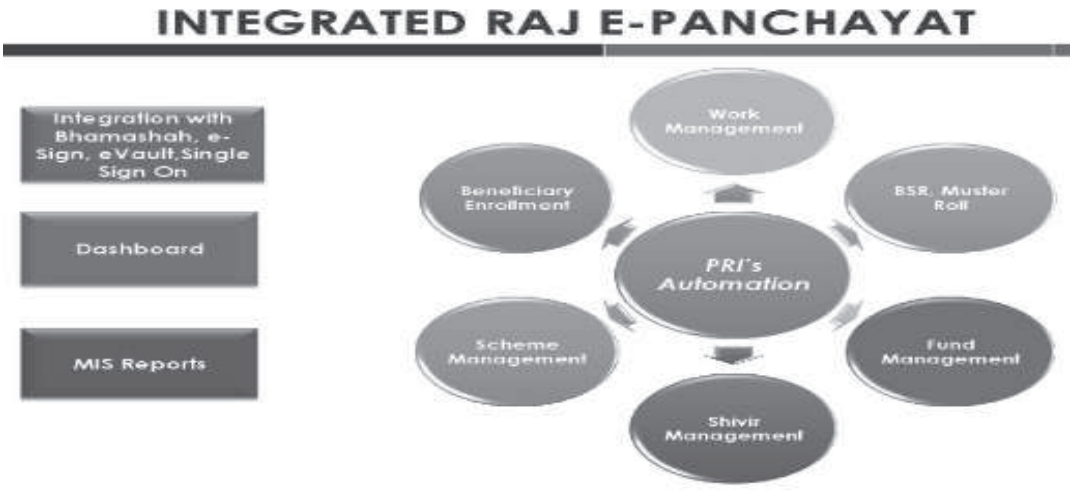

Fig. 2: Rajasthan E-Panchayat Portal.
Source: http://www.rajpanchayat.rajasthan.gov.in/en-us/epanchayat.aspx

The integrated Rajasthan E-Panchayat portal enables rural people to access various services and schemes offered by the government. But the skewed demographics, high illiteracy rate and various social-cultural factors of the state are some of the hurdle facing the government in e-government implementation. In this study, we have done a baseline study on an e-District mission project in the state of Rajasthan to assess the impact of e-government project at rural level and make suggestions based on the data analysis and findings.

Research Methodology: The study has used a mixed method approach involving qualitative and quantitative methods to investigate and understand the phenomenon. In this study, the authors have initially used secondary data spanning from the year 2000 to 2017 to understand and identify e-government assessment measures globally and nationally. This provided the descriptive validity of the study. The study used face to face and telephonic interview method using a standard questionnaire to collect data from Sarpanchs (local government representatives in villages) from thirty-three villages in Neemrana. Descriptive statistics were used to analyze the data collected. This ensured interpretative and theoretically validity of the study.

Data Analysis and Result: Neemrana is a rural industrial town at the border of the state of Haryana and Rajasthan. The Rajasthan government, through Rajasthan State Industrial Development and Investment Corporation (RIICO), has developed industrial zones in various stages in Neemrana block in Alwar district which is the in the top five districts in terms of economic contribution in the state of Rajasthan. There are 33 villages, each having its own Gram Panchayat in Neemrana block. Majority of the population works in agriculture or allied industry. Those with the school to college level educations also work in the various manufacturing and other industry in and around Neemrana. In this study, we explored Neemrana panchayat or block in Alwar district in the state of Rajasthan as shown in Figure 3. Neemrana has thirty-three villages in its area as shown in Table 2.

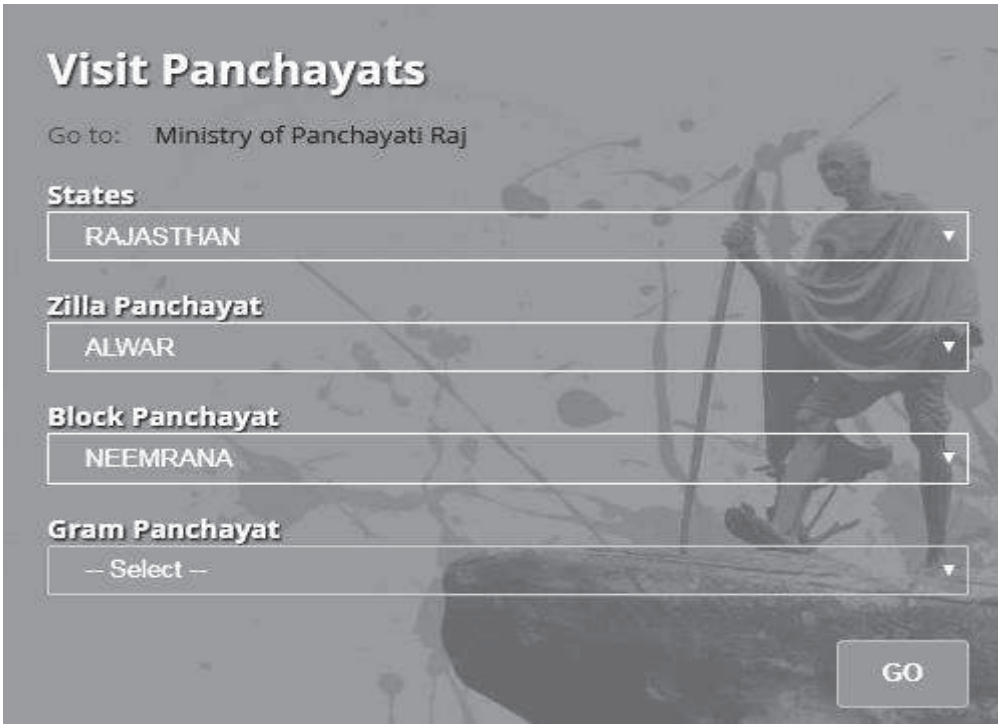

Fig. 3: Panchayat Portal.
Source: http://www.panchayatportals.gov.in/

Table 2: Villages in Neemrana Block

Zila Parishad Name	Panchayat Sabha Code	Panchayat Sabha Name	Gram Panchayat Code	Gram Panchayat Name
Alwar	14		512	
	8	Neemrana	33	
			1	Akleempura
			2	Beechpuri
			3	Dabarwas
			4	Daulatsinghpura
			5	Dausod
			6	Doomroli
			7	Fauladpur
			8	Gheelot
			9	Giglana
			10	Googal Kota
			11	Hudiya Kalan
			12	Jonaycha Kalan
			13	Jonaycha Khurd
			14	Kanhawas
			15	Kathoowas
			16	Kaysa
			17	Khoondrot
			18	Kolila Joga
			19	Kuteena
			20	Mahtawas
			21	Majra
			22	Majri Kalan
			23	Mandhan
			24	Nanagwas
			25	Neemrana
			26	Partapur
			27	Pratapsinghpura
			28	Raiwana
			29	Rodwal
			30	Salarpur
			31	Santo
			32	Shahjahanpur
			33	Shriyani

Source: http://www.rajpanchayat.rajasthan.gov.in/en-us/aboutus/panchayatdirectory.aspx

To do an overall assessment of the e-government project in the block of Neemrana, we used an overall assessment questionnaire available from Ministry of Information & Technology (MEIT), Government of India website. The questionnaire is attached in Annexure 1. It has four main questions. We used this questionnaire to interview Sarpanchs who are representative of local government in villages and whom village people go to for their various issues and concerns. Also, due to low literacy rate and the conservative social-cultural environment, we decided to interact with sarpanch rather than random people in the villages for survey purpose. We could contact only thirty villages Sarpanch out of thirty-three villages as three sarpanches were not contactable. Each of the Sarpanch was given a hard copy of the questionnaire to seek their response to the survey.

The questionnaire had three questions in total. The first question inquired about the degree of their satisfaction level with various service based attributes in a computerized system vis-a-vis in the manual

system as shown in Table 3. Using descriptive statistics the results of the survey were tabulated and presented as shown below.

As can be seen from Table 3, the mean for an attribute called predictability was highest indicating that people perceived computerized systems as being more predictable as compared to a manual system.

Table 3: Sarpanch Perception: Computerized versus Manual services

Statistics																			
	Cost	**Time**	**Accuracy**	**Corruption**	**Agent**	**Accountability**	**Clarity**	**Predictability**	**Speed**	**Courtesy**	**Complaint**	**Location**	**Working Hour**	**Service Area**	**Queue**	**Form**	**Documents**	**Treatment**	**Data Security**	**Documentation**
Mean	4.17	4.40	4.30	4.00	4.00	4.57	4.63	5.00	4.00	3.93	4.17	4.17	4.63	4.63	4.17	4.63	4.63	3.93	4.17	4.17
Median	4.00	4.00	4.00	4.00	4.00	5.00	5.00	5.00	4.00	4.00	4.00	4.00	5.00	5.00	4.00	5.00	5.00	4.00	4.00	4.00
Std. Deviation	.791	.498	.466	.000	.000	.504	.490	.000	.000	.828	.791	.791	.490	.490	.791	.490	.490	.828	.791	.791
Variance	.626	.248	.217	.000	.000	.254	.240	.000	.000	.685	.626	.626	.240	.240	.626	.240	.240	.685	.626	.626

Source: Primary Data Analysis

The next attributes that scored high on the computerized system were clarity in the process, comfortable working hour, service area and form for accessing the services and documents to be submitted. This indicates that people find access to a computerized system more convenient and appreciated that only a few documents were required to be submitted for gaining access to services. Other attributes like a time, the accuracy of data and accountability also were perceived as being highly important to the user of e-government services. This shows that users value a system which is efficient and free from errors which are so very common in manual systems. Attributes like the cost for accessing services, complaint or grievances handling mechanism, the location of the services booth, data security and overall documentation process also found high preference among many users. Users value the way documentation and security management of all the information is done. Level of corruption, the speed of access to services and agent role in the process were perceived as satisfactory. This indicates that there is a need to look in these areas for better services offering. Though the computerized system has reduced the instances of corruption still there are instances and cases of exploitation and mal-practices perceived at some paces. On the other hand, the mean for attributes like courtesy and treatment from IT personnel in office scored a little low on satisfaction level in the computerized system as compared to manual. The reason for this could be heavy workload on the IT personnel leading to resentful attitude and behaviour towards users seeking their services.

Table 4: Factor that Matters Most To Citizens

OneImpFactors		
Factor	Frequency	Percent
Time (b)	11	36.7
Clarity (g)	9	30.0
Courtesy (j)	10	33.3
Total	30	100.0

Source: Primary Data Analysis

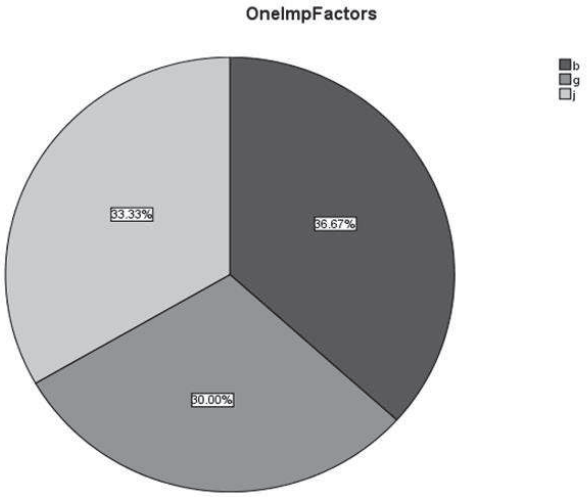

Fig.4: Pie chart for one factor of most importance to rural people
Source: Primary Data Analysis

The second question dealt with one factor that people found to be of most importance to them. In response to this question 36% people responded time as an important factor as there has been a huge reduction in time spent in accessing services in the computerized system as compared to a manual system. 33% people said that courtesy was an important factor as they did not find the IT personal courteous enough and 30% people said that clarity in the system functioning was important to them as processes were more clear and transparent as shown in Table 4 and Fig 4.
The third question enquired about preference for computerized system versus manual system. In response to this question, we got 100% positive response in favour of the computerized system. This is a good indication for acceptance of e-government by people.

Table 5: Better services with the use of IT

Better Service with use of IT		
Perception level	Frequency	Percent
Agree (A)	8	26.7
Strongly Agree (SA)	22	73.3
Total	30	100.0

Source: Primary Data Analysis

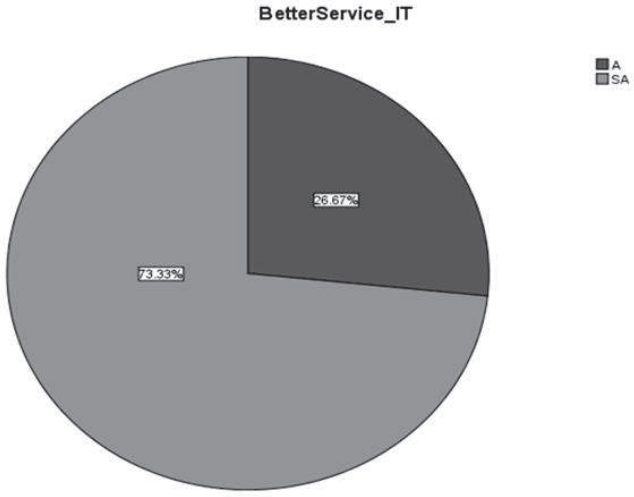

Fig.5: Pie chart for better services with the use of IT
Source: Primary Data Analysis

The third and the final question sought people's view on their perception about to what extent IT can be used for the better offering of e-government services. In response to this question 73.3% people strongly agreed to the fact that use of IT can hugely assist in bringing about efficiency and effectiveness and thus better services offing by the government. The remaining 26.7% also agreed that IT has a role to play in streamlining and better services as shown in Table 5 and Fig 5.

Finding and Conclusion: From this study, we conclude that there, in general, a high level of e-government acceptance among rural people. Though there is a concern about dependence on IT personnel who are overloaded with work and thus not able to give their best always. It is suggested that more government officials be trained in using e-government portals so that they can assist village people in accessing services and to reduce dependence on IT personnel in dedicated office for assisting people access services. It is suggested that Panchayat head or Pradhan organize a workshop in their area to familiarize inhabitants about the E-Government portals and facilities available to them from these portals and also to answer various queries, and clarify doubts of the village inhabitants. Since one of the aims of E-Government portals is also to make citizen access these services on their own via these portals. It is recommended that village authorities carry out a campaign wherein at least one member from each family in the village would be trained to create an account on E-Government portals and to access various services through this portal. Though computerization has hugely brought down the cases of corruption, there are still some instances of this visible in the processes. A more secure and e-verification driven system would assist in creating a corruption-free system. The finding of the study would assist the government in gaining intelligence about success measure for e-government in Neemrana and in townships like Neemrana and would also serve as the knowledge base for researchers and non-government organization (NGO) in taking e-government project further.
Limitation: The study has considered only one local council for this study.

Appendix: Questionnaire for E-Government-Overall Assessment.

Please indicate your perception about improvement on the following attributes in the computerized system vis-à-vis the manual system: Much worsened-1; Somewhat worsened-2; No change-3; Somewhat improved-4; Much improved-5					
1	Cost of availing service[7]		2	Time and effort in availing service	
3	Accuracy of transactions		4	Level of corruption	
5	Involvement of agents		6	Accountability of officers	
7	Clarity & simplicity of processes and procedures		8	Predictability of outcome	
9	Speed and efficiency of query handling		10	Courtesy and knowledge of staff	
11	Complaint handling mechanism		12	Convenience of location	
13	Convenience of working hours		14	Service area facilities	
15	Queuing system		16	Design and layout of application forms	
17	Durability and legibility of documents (certificates)		18	Treatment of clients	
19	Confidentiality and security of data		20	Effort in document prepration	
21	Among the above 20 factors, please list the three factors that you consider the most important attributes of the application. RECORD THE S.NO. OF THE FACTOR		☐☐ ☐☐ ☐☐		
22	Do you prefer the computerised or the Manual systems?		Computerised 1 Manual 2		
23	To what extent do you agree that Information Technology / computerization can be used to give better citizen service?		Strongly disagree 1 disagree 2 Neither agree nor disagree 3 Agree 4 Strongly agree 5		

Source: http://meity.gov.in/content/assessment-framework

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