

Chapter 4

E-Readiness Assessment of Central Ministries and Departments

With the increasing penetration of Information and Communication Technologies in the Government workplace, newer applications are being developed with a focus on improving citizen and other stakeholder services. For instance – online railway reservations, online submission of utility bills, online tracking of speed posts and money orders. Governance is no longer the way it used to be. The face is changing, the attitude is changing and most importantly there is an air of urgency: To deliver what they are expected to – and that too as quickly as they can.

However, the changing face of the government is not yet visible to the common citizen. While it is true that the government machinery is waking up from its slumber, what is not known is the degree of preparedness of the government departments and ministries to meet the demands of today's networked society. Further not all have changed their ways of functioning. Thus, there was a need to identify who are the champions and who are the laggards in this endeavour.

The following chapter assesses the central government ministries and departments which have exploited ICT to the best of their abilities and have prepared towards an era of e-governance.

E-Governance assessment of Central government departments/ ministries – The P³ I³ Model

The P³ I³ model, for assessing the e-readiness of the Central Government departments and ministries was developed after studying various international e-readiness models and tools and analysing e-governance studies. The model was developed taking into account the peculiarities of India as a nation, i.e. India being at an early stage of e-readiness. This is because the IT infrastructure is still in its development stage and has not reached the final stage. But the Government has taken various policy initiatives to adopt and implement e-governance at both the central and state level.

This model, along with assessing the overall e-readiness, also measures the various factors that are impacting the e-readiness. According to the model, various criteria have been evaluated as the factors affecting e-readiness. The various factors that determine the overall e-readiness score

were defined and weights were assigned to these. The assigned weights essentially define the quantum of impact of the criteria on the overall e-readiness. In order to achieve this, multiple regression analysis was done to identify a dependent variable and then measure the impact of the other variables. This procedure estimates the co-efficients of the linear equation, involving a set of independent variables, that best predicts the value of the dependent variable.

The efficiency of usage of Information Technology by any Central ministry/department depends upon six broad criteria, namely:

- IT/e-governance preparedness;
- Policy;
- People;
- IT Infrastructure;
- Process;
- IT Benefits/ competence

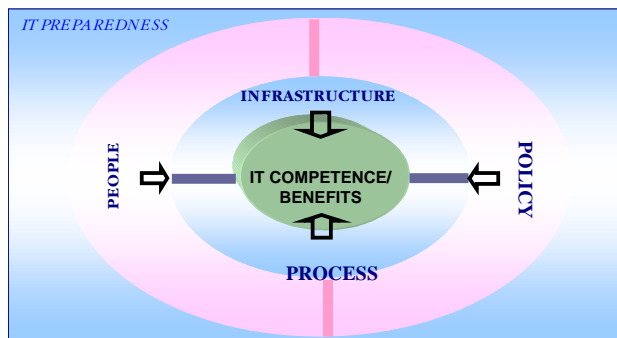


Figure 4.1: P³I Model for e-Governance Readiness

The above six criteria closely interact with each other to enable e-governance for the particular department / ministry. The above mentioned micro criteria are further divided into sub-criteria which are both objective and subjective (only for those required) in nature as shown below:

IT / e-Governance Preparedness

- Understanding of e-Governance
- Importance of IT in functioning of Department / Ministry

IT Policy

- Action Plan – Status and responsibilities
- Adherence and benefits of IT Action Plan
- IT Spending

People

- Responsibility of the IT Function
- Basic Working Knowledge of computers
- IT Training and Development Policy
- Basic Computer Training Programme
- Specialized IT Training Programme

IT Infrastructure

- Hardware / Software Infrastructure
- Networking Infrastructure
- Website Infrastructure

Processes

- Business Process Re-engineering
- Mode of Interaction for Processes
- Status of Automation for Processes
- Status of Integration for Processes
- Database Maintenance
- Security Mechanisms deployed

IT Benefits

- Benefits observed by implementing IT in processes
- Return on Investment for implementing IT in processes
- Impact on productivity by implementing IT in processes

Developing the Micro Indices

An initial score was assigned to each of the criteria. The initial scores were evolved during discussions with a few key ministries and departments who were responding to the survey along with the officials of Department of IT. Internal discussions were also done to fine tune the scores given to each of the criteria. Thus, qualitative evaluation of the weights to be assigned to each of the criteria (sections) was done and the initial weights assigned to each of the criteria are given below:

Table 4.1: Initial Weights Assigned to the Criteria

Criteria	Weight	Score
IT/e-governance Preparedness	15%	150
Policy	20%	200
People	20%	200
IT Infrastructure	20%	200
Process	15%	150
IT Benefits	10%	100
Total	100%	1000

Thus, maximum weights (20 per cent) have been assigned to Policy, People and IT Infrastructure criteria. Process and IT/e-governance preparedness have been assigned a weightage of 15 per cent each, while IT benefits has been

assigned a weight of 10 per cent. The scores mentioned above give the maximum marks in each of the sections. Each sub-criteria within a criteria (questions) has been further assigned weights according to the importance of the question and how likely it is to impact the overall e-readiness scores. Thus, the maximum marks allotted to each of the questions within a criteria total upto the maximum marks of the criteria. Within each of the questions, the responses were graded on a five-point scale. The scores for the sections were then computed by taking the summation of each of the questions. The sectional scores were then summated to arrive at the overall score for the ministry / department.

This gives an initial score for each of the sections and an overall score defining e-readiness within the department. However, there is subjectivity involved in this methodology as the weights are assigned using qualitative inputs. To negate this subjectivity and to develop an Index that would be a true representative of the e-readiness scores, further analysis on the above scores was done.

The questions in each of the sections are assumed to be the variables that impact the section score. These variables were then reduced using Factor Analysis. Factor Analysis is a technique used to identify underlying factors that explain the correlation among a set of variables. Its purpose is to summarise a large number of variables with a smaller number of factors. Thus, a smaller number of factors were identified using this analysis. The scores for these factors (as computed by the statistical package) were then regressed with the overall initial scores using Linear Regression Analysis. This procedure estimates the co-efficients of the linear equation, involving a set of independent variables that best predict the value of the dependent variable. The co-efficients in the equation explain the weight that the particular independent variable would be having and would determine the impact of the variable on the dependant variable. Here the factor scores were taken to be independent variables (because of low correlation between them) and the initial total score was taken to be dependant variable. Accordingly weights were calculated for each of the independent variables. These weights were then assigned to the individual sections. The weights thus calculated for each of the section are shown in the following table:

Table 4.2: Final weights assigned to the criteria (after data modeling)

Criteria	Weight
IT/e-Governance Preparedness	12.8%
Policy	24.9%
People	26.8%
IT Infrastructure	18.5%
Process	7.7%
IT Benefits	9.3%
Total	100%

Thus, after data modeling, a few sections have gained more weightage while others have reduced. The ones to gain are Policy and People. All others have reduced. Also, it can be seen that these two criteria account for more than 50 per cent of the overall score. The result goes on to confirm the statement on the Stages of e-readiness, which explains the fact that India should focus more on formulating IT Policies and imbibing the right virtues in the people and employees to move ahead in e-governance.

E-Readiness Ranking

The e-readiness scores on the Micro Indices were calculated by applying the above analysis and weights and these scores were then summated to calculate the Macro Index. The scores for the individual ministries and department have been compiled and a ranking generated on the basis of the Macro Index. The ranking is presented in table 4.3:

Based on the above scores, it can be seen that the star performers in terms of e-readiness are the Department of Administrative Reforms and Public Grievance, Cabinet Secretariat, Ministry of Steel, Department of Bio-Technology and Department of Commerce.

However, the above table does not take into account the variance that these departments and ministries have due to their nature of functioning. Thus, there may be some small ministries, who have taken some big initiatives, but have got low scores as they have been eclipsed by a few large ministries. Thus, there is a need for a comparison across groups formed according to some distinct properties of the ministries and departments.

Table 4.3 : E-readiness scores for the Ministries and Departments

Rank	Name	Micro Indices Scores						Macro Index Score
		IT / e-gov Prep	Policy	People	IT Infrastructure	Process	IT Benefits	
1	Department of Administrative Reforms and Public Grievance	128	241	209	117	57	84	835
2	Cabinet Secretariat	128	219	218	98	67	74	804
3	Ministry of Steel	128	200	186	132	50	56	752
4	Department of Bio technology	128	134	233	131	47	74	746
5	Department of Commerce	128	173	171	121	44	93	729
6	National Commission for SC/ST	128	222	181	98	45	56	729
7	Ministry of NCES	89	224	205	109	27	56	710
8	Department of Information Technology	128	164	206	128	26	56	708
9	Ministry of Defence - Supply and Production Division	128	157	222	103	41	56	707
10	Ministry of Small Scale Industries	89	202	179	126	33	74	704
11	Department of Women and Child Development	102	155	208	128	29	74	696
12	Department of Telecommunications	128	167	187	117	29	56	683
13	Department of Industrial Policy and Promotion	128	167	189	111	31	56	681
14	Department of Tourism	128	158	179	117	41	56	678
15	Planning Commission	128	172	137	136	44	56	673
16	Department of Company Affairs	128	220	102	132	24	56	661
17	Ministry of Civil Aviation	128	198	135	114	22	56	653
18	Ministry of Textiles	128	145	183	92	44	56	647
19	Department of Science and Technology	102	181	161	114	29	56	644
20	Department of Atomic Research	128	129	200	99	26	56	637
21	Ministry of Food Processing Industries	128	157	166	111	32	42	635
22	Ministry of Coal	102	195	104	138	38	56	634
23	Department of IT and Revenue	89	205	134	85	37	74	624
24	Department of Chemicals and Petrochemicals	128	210	95	114	20	56	622
25	Ministry of Social Justice and Empowerment	128	146	159	93	19	74	620
26	Department of Posts	89	175	171	78	18	84	615
27	Department of Food and Public Distribution	89	151	166	115	41	47	610
28	Department of Agricultural Cooperation	89	147	150	122	34	56	598
29	Ministry of External Affairs	102	127	177	109	20	56	590
30	Ministry of Mines	102	166	102	118	40	56	583
31	Department of Fertilizers	89	132	170	124	30	37	582
32	Department of Official Languages	128	164	115	99	17	56	579
33	Department of Family Welfare	128	107	106	117	47	74	579
34	Ministry of Labour	128	158	116	114	19	42	576

(Contd...)

(Contd... Table 4.3)

Rank	Name	Micro Indices Scores						Macro Index Score
		IT / e-gov Prep	Policy	People	IT Infrastructure	Process	IT Benefits	
35	Ministry of Statistics and Programme Implementation	102	97	200	89	32	56	576
36	Ministry of Food and Consumer Affairs	89	134	150	113	33	47	566
37	Ministry of Disinvestment	64	194	91	119	36	56	560
38	Department of Public Enterprises	102	143	110	120	28	56	559
39	Department of Health	102	58	177	112	22	56	527
40	Ministry of Law and Justice Legislative Department	89	179	110	84	15	47	525
41	Department of Finance and Economic Affairs	128	53	133	121	34	56	524
42	Ministry of Shipping	128	121	102	93	12	56	512
43	Ministry of Power	102	121	99	147	15	28	512
44	National Security Council	89	121	171	57	17	56	512
45	Department of Agricultural Research and Education	102	126	126	90	11	56	511
46	Ministry of Tribal Affairs	102	90	154	81	33	47	507
47	Ministry of Information & Broadcasting	128	68	111	126	16	47	496
48	CSIR	102	76	127	120	22	47	494
49	Department of Legal Affairs	64	135	121	100	16	56	492
50	Ministry of Environment and Forests	64	142	130	99	15	37	487
51	Ministry of Railways	89	102	84	117	17	56	466
52	Department of Ocean Development	128	114	35	87	19	74	457
53	Department of Culture	64	113	102	104	26	47	454
54	Ministry of Land Resources	64	56	135	114	30	56	454
55	Ministry of Small Scale Industries and Agro and Rural Development	102	78	95	105	25	42	447
56	President's Secretariat	64	143	103	88	14	28	441
57	Department of Rural Development	51	58	150	99	28	51	437
58	Department of Drinking Water Supply	89	134	33	104	21	51	433
59	Ministry of Road Transport	102	93	88	91	14	28	416
60	Ministry of Petroleum and Natural Gas	77	75	54	116	26	56	403
61	Department of Scientific and Industrial Research	64	100	38	116	26	56	400
62	Department of Secondary and Higher Education	64	62	73	117	28	56	399
63	Department of Animal Husbandry	64	115	88	79	9	42	397
64	Department of Urban Development	64	63	81	97	28	56	388
65	Department of Personnel and Training	38	72	83	120	16	56	384
66	Ministry of Parliamentary Affairs	45	141	35	101	8	33	362
67	Department of Commerce - Supply Division	38	74	62	74	9	56	312
68	Ministry of Youth Affairs and Sports	102	48	40	103	10	5	309
69	Indian Systems of Medicine & Homoeopathy	51	57	46	82	14	47	296

E-Readiness assessment of Central Ministries and Departments - Need for an Apple to Apple comparison

Similar Size Groups (SSGs)

Keeping the above premise in mind, there was a need to classify the departments and ministries into similar activity groups. The groups could have been formed according to various variables that would classify them into distinct, independent and mutually exclusive groups. Variables like the predominant process (Government to Citizen, Government to Business, government to Government) or spread (number of offices) or size (number of employees) or affluence (annual budget allocation for the ministries / departments) could have been used to classify the departments.

Using the above variables, a cluster analysis was done. The goal of cluster analysis is to identify relatively homogeneous groups of cases based on selected characteristics (or as in this case – variables). The variables that best identified homogenous groups were the size and spread. Three distinct clusters were formed using these two variables. The three groups are as follows:

- SSG I: Small (Less number of employees, a few offices only)
- SSG II: Medium (Large number of employees, less number of offices)
- SSG III: Large (Large number of Employees, Large number of offices)

The members of these groups and their properties are shown below along with the overall ranking (on the basis of macro index scores) of the ministries and departments.

SSG I – Small

Table 4.4 : E-Readiness scores for the Ministries and Departments – SSG I

Rank	Name	Scores	Predominant Process	Total Employees	Total no. of Offices	Spending 2001-02 (in Rs. crore)
1	Department of Administrative Reforms and Public Grievance	835	G2C	140	1	4.00
2	Cabinet Secretariat	804	G2G	274	5	6.49
3	Ministry of Steel	752	G2B	263	2	9.33
4	Department of Bio technology	746	G2G	200	62	
5	National Commission for SC/ST	729	G2G	338	19	6.47
6	Department of Women and Child Development	696	G2C	216	1	2,220
7	Department of Tourism	678	G2G	239	22	146.40
8	Ministry of Civil Aviation	653	G2C	194	1	8.45
9	Ministry of Textiles	647	G2B	180	56	1,428.29
10	Department of Atomic Research	637	G2G	280	23	1,781.92
11	Ministry of Food Processing Industries	635	G2B	125	7	57.01
12	Ministry of Coal	634	G2B	131	15	5.255
13	Department of Chemicals and Petrochemicals	622	G2B	254	1	
14	Ministry of Mines	583	G2B	241	1	639.26
15	Department of Fertilizers	582	G2G	217	4	13,643.50
16	Department of Official Languages	579	G2G	85	97	2.50
17	Ministry of Food and Consumer Affairs	566	G2C	151	1	-
18	Ministry of Disinvestment	560	G2B	56	2	7.50
19	Department of Public Enterprises	559	G2B	111		
20	Ministry of Law and Justice Legislative Department	525	G2C	151	249	3.29
21	Ministry of Shipping	512	G2B	227	2	3,163.27
22	Ministry of Power	512	G2G	124		
23	National Security Council	512	G2B	303	1	6.36
24	Ministry of Tribal Affairs	507	G2C	77	1	1,000.00

(Contd...)

(Contd... Table 4.4)

SSG II – Medium

Table 4.5: e-Readiness Scores for the Ministries and Departments – SSG II

Rank	Name	Scores	Predominant Process	Total Employees	Total no. of Offices	Spending 2001-02 (in Rs. Crore)
1	Ministry of NCES	710	G2B	414	13	5,030.00
2	Ministry of Defence - Supply and Production Division	707	G2G	1400	29	20.35
3	Department of Telecommunications	683	G2B	826	1	0.61
4	Department of Industrial Policy and Promotion	681	G2C	847	4	-
5	Planning Commission	673	G2G	886	16	22.53
6	Department of Science and Technology	644	G2B	538	1	400.00
7	Ministry of Social Justice and Empowerment	620	G2C	400	1	-
8	Department of Food and Public Distribution	610	G2C	538	3	18,026.89
9	Department of Finance and Economic Affairs	524	G2G	997	1	-
10	Ministry of Environment and Forestss	487	G2G	1122	16	900.00
11	Department of Rural Development	437	G2C	-	-	-
12	Ministry of Road Transport	416	G2C	699	24	7,946.81
13	Department of Secondary and Higher Education	399	G2C	1181	5	8,036.97
14	Department of Urban Development	388	G2G	383	9	2,284.62
15	Department of Personnel and Training	384	G2G	688	1	-

Table 4.6: e-Readiness Scores for the Ministries and Departments – SSG III

Rank	Name	Scores	Predominant Process	Total Employees	Total no. of Offices	Spending 2001-02 (in Rs. Crore)
1	Department of Commerce	729	G2B	1054	41	1,361.94
2	Department of Information Technology	708	G2G	694	31	491.00
3	Ministry of Small Scale Industries	704	G2B	2500	80	2,900.00
4	Department of Company Affairs	661	G2B	701	47	4.03
5	Department of IT and Revenue	624	G2G	58388	501	-
6	Department of Posts	615	G2C	143411	576	5,817.60
7	Department of Agricultural Cooperation	598	G2C	1318	182	2,234.75
8	Ministry of External Affairs	590	G2G	3542	203	2,624.54
9	Department of Family Welfare	579	G2G	300	51	4,232.28
10	Ministry of Labour	576	G2C	489	33	-
11	Ministry of Statistics and Programme Implementation	576	G2G	914	183	1,901.49
12	Department of Health	527	G2C	921	106	-
13	Department of Agricultural Research and Education	511	G2G	750	104	1,389.00
14	CSIR	494	G2G	400	20701	934.00
15	Ministry of Railways	466	G2C	2764	145	80.00 ¹
16	Department of Culture	454	G2C	293	35	433.75
17	Department of Animal Husbandry	397	G2G	277	145	7.23

These SSGs have been used in the future sections. Also all the scores have been mentioned according to these SSGs only.

A look at each of the criteria in detail would bring out a clear picture of where the central ministries / departments stand with respect to each of them.

1. IT/e-governance Preparedness

IT/e-governance Preparedness is a subjective measure to assess the e-readiness within the ministry/ department. It is the view of the top officials on how well the department / ministry is prepared to adopt the challenges forced by e-Governance. This encompasses all the initiatives undertaken by them in the past as well as their readiness to implement IT in their functioning. IT/e-governance preparedness is the stepping stone to actual implementation of e-governance within a ministry/department. It can be measured in terms of:

- Existence of a precise definition of the scope of e-governance and a clear understanding of this definition within the top management;
- Importance accorded to IT in the overall functioning of the ministry/department.

Understanding of e-governance

The broad understanding of the concept as a whole is a pre-requisite to the implementation of e-governance and realisation of the benefits of e-governance. In case the central ministries and departments misconstrue e-governance, the whole objective of implementing and measuring e-governance would go in vain. The broad understanding of the concept within the top officials of the ministries is a must for undertaking any further initiatives towards this direction.

The top officials within a ministry/department would be the driving force of e-governance initiatives. Thus, it is very critical that they have a clear understanding of definition and scope of e-governance. Based on the qualitative discussions with various ministries and departments, it has been found that the exact meaning of e-governance is not comprehensible among the ministries. Some way or the other, the known and standard definition of e-governance has been modified to suit their purpose. However, the quantitative study (self-filled form) throws up a different picture and is shown in the following figure.

Figure 4.2: Current level of understanding of the e-governance definition

About 61 per cent of the central ministries and departments claim to have a precise definition of e-governance and there is also a clear understanding of this definition among the top management (above director level). However, as stated earlier, there is still a degree of vagueness in defining e-governance. This has to be overcome by the government of India who should take initiatives towards making clear the definition of e-governance that is suitable for individual ministries and departments. A standard definition of e-governance overlying the scope of functions of individual ministries and departments needs to be evolved and communicated. This would give them a clear idea of the concept and would serve as a precursor to all the initiatives of e-governance. This would also help them in laying down goals for implementation of e-governance within their separate ministries and departments.

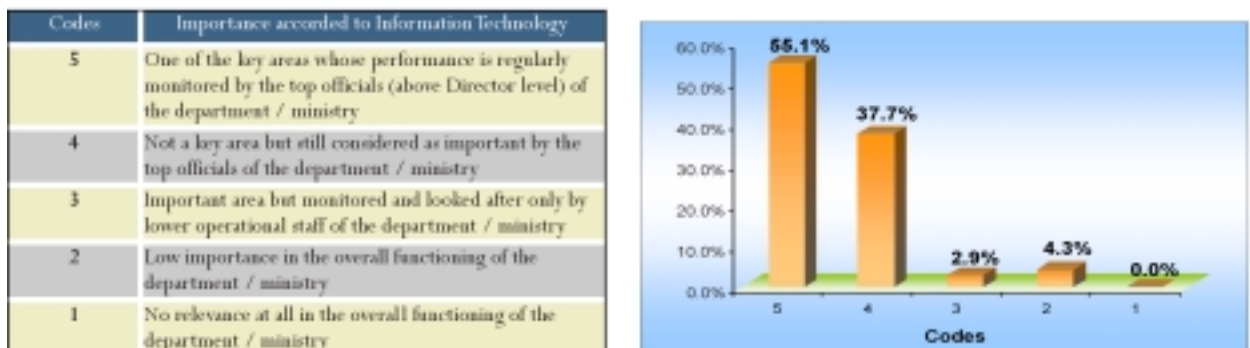
On an equal footing are another 35 per cent of the ministries and departments that have not clearly defined the scope of definition of e-governance but the top management has a good understanding of the same. Once these ministries and departments define the scope of e-governance specific to their individual ministries and departments, it would smoothen the path to further development in the area of e-governance. In a few of the ministries and departments, they do not have a clear definition of the scope of definition of e-governance nor does the top management have a good

understanding of the concept. The government should thus aim to standardise the definition of e-governance and explain its scope and relevance to various ministries and departments.

Entities like Cabinet Secretariat, Department of Commerce, Ministry of Civil Aviation, Department of Biotechnology, etc. have tabled a very clear and comprehensible definition of the scope of e-governance and the top officials also understand these clearly.

Importance of IT in the functioning of Ministry/ Department

Once the ministries and departments have a clear understanding of the concept of e-governance, they also need to build a strong building block for e-governance. This building block is IT. IT should be considered as a prime functional area and the entire functionality of the ministry/ department should assume IT as a core function. The central ministries and departments in India should at least realise the importance of IT in their functioning and accord due weight to it. The importance accorded to IT varies across the ministries and departments. The following figure depicts the variance in the importance accorded to IT in the overall functioning of the department.

Figure 4.3: Importance accorded to IT in the overall functioning of the ministry/department

About 55 per cent of the ministries and departments consider IT as one of the key areas whose performance is regularly monitored by the top officials. These ministries and departments have put their right foot forward and have set up the building blocks for e-governance. The only effort lies in strengthening the other building blocks of people, process etc.

Even though another 38 per cent of the entities do not consider IT as a key area but still it is considered as important by the top officials. The third bar shows that 2.9 per cent of the ministries and departments consider IT an important area but it is looked after by the lower operational staff. In such departments, an additional official at the top level needs to be appointed to take care of IT and monitor it regularly.

None of the ministries or departments have given “No relevance to IT”, but the government needs to worry most about the 4.3 per cent ministries and department who have given low importance to IT. These departments need to realise the importance of IT and accord it high importance in their overall functioning.

Entities like Cabinet Secretariat, Department of Commerce, Ministry of Steel, and the like have accorded high importance to IT and IT is one of the key areas whose performance is regularly monitored by the top officials (above Director level). The Ministry of Petroleum and Natural Gas, Department of Personnel Public Grievances and Pensions, Department of Commerce-Supply Division need to start giving high importance to IT in their overall functioning.

E-governance Projects Undertaken/Planned

The various e-governance projects undertaken by the central ministries and departments fall into any of the following three categories:

E-Governance Projects- Current

The following paragraphs summarise some of the e-governance projects undertaken by some of the ministries and departments:

Cabinet Secretariat – Various e-governance projects that have been implemented by the Cabinet Secretariat and the ones fully functional are: Committee on disputes monitoring system, OPA – Diary/ File Tracking System, Pay Roll Management, Personnel Information System, ACC Diary Monitoring System, Library Management System and Telephone Billing Systems.

Ministry of Railways – The ministry has smoothened its customer interface by implementing passenger reservation system (PRS). IT has been implemented all over the country and all passengers of reserved trains are the beneficiaries. Some of the other projects are National Train Enquiry System (NTES), Unreserved Ticketing System (UTS) and Freight Operating Information System (FOIS) that allows freight customers to track the consignments as they move over Railway system.

Ministry of Non-Conventional Energy Sources – Establishment of RENET (Renewable energy network) and creation of a renewable energy database. RENET is an integrated network with centralised server and database. The project would enable online collection of data from nodal agencies, regional offices, etc. and would enable electronic processing of proposals for establishment of renewable energy projects. It would benefit MNES headquarters, regional offices, solar energy centers, state nodal agencies, institutions, and manufacturers working in the field of renewable energy.

Ministry of Power – It has successfully implemented the CPSU-NET, a wide area network linking various central public sector undertakings, like NTPC, NHPC, PGCIL, PFC, REC etc. In CPSU-NET, Voice over IP facility has been

installed at all CPSUs and at the ministry of Power. In order to ensure transparency and wide publicity in the matters of tenders and bids, all

Category of E-Governance projects	
G2G	Projects that are implemented to automate the internal functioning of the ministry and department. The benefits are smooth and efficient working of the ministry/ department.
G2B	Projects implemented to automate and integrate the functioning with other government bodies and external agencies. The benefits are smooth and efficient interaction with external entities.
G2C	Projects that deal with offering services to the citizens. Projects like information dissemination and like fall in this category. The benefits are better and efficient information and services delivery to the citizens.
Combination of above	Projects that deal with offering services to all the stakeholders. These projects could involve integration of internal processes with external agencies, for example project Gyandoot that is a G2G+G2B project. Similarly there are projects that integrate internal functioning to delivery of services to the citizens, for example grievance handling of Department of Administrative Reform and Public Grievances that is a G2G+G2C project. The benefits are efficient and effective working of the ministry and better services to the stakeholders.

related CPSU tenders are floated on the website. The ministry has installed video conferencing facility in the last one year.

Ministry of Steel—A Ministry-wide Intranet portal has been set up for work flow and work management in the area of e-submission of indents for monthly stationary items and casual leaves. The portal facilitates online lodging of general administration related complaints. It has successfully implemented web-enabled services/ databases for integrated view and MIS on steel sector performance and trends statistics in the area of steel production, steel export and imports, consumption, demand and market analysis. The Ministry has bulletin boards, monitoring and tracking facility of important references and requests, grievance and cases.

Department of Land Resources – The department has undertaken computerisation of land records. The scheme has been implemented since last four years. It is planning for strengthen of revenue administration and updating of land records.

Department of Commerce – The department has implemented web-based information system on the country's trade and this has helped the department and other agencies in formulating their future trade strategies and policies. The department has computerised and implemented processes like payroll processing system, Office Procedure Automation (OPA), Inventory System, VIP Reference Monitoring System, Public Grievances Monitoring, Electronic Requisition System For Stationery Items, Leave Application Processing System etc. on its Intranet. The department has set up video conferencing facility to have interaction with other locations without the need for travelling. The department has developed a commerce portal providing G2B interface. It has also implemented electronic commerce interface/ electronic data interchange in trade regulatory/facilitating/ organisations to minimize administrative delays.

Ministry of Small Scale Industries (SSI)—The SENET (Small enterprises information and resources network) is the e-governance initiative of the Ministry of SSI. The project is unique to the SIDO (Small Industries Development Organization) comprising of DC (SSI) Headquarters and its field offices. The office automation application developed under SENET focuses on housekeeping and internal office documentation while web-enabled applications are aimed at e-enabling small businesses.

The ministries that have already implemented e-governance projects have started realizing its benefits. Some of them

have taken further initiatives in the same area. On the other hand, there are some ministries/ departments that have planned a host of e-governance projects and have made efforts towards its implementation. Some of the planned projects of e-governance have been mentioned in the following paragraphs. The success of these planned projects depends on the effort with which they are implemented.

E- Governance projects – In the pipeline

Ministry of Steel – The Ministry has planned the development of its local Intranet portal for re-engineered work processes/ services like document management, workflow and work routing and bulletin board services for the Department's administration. It has also planned a project for streamlining the interface for data exchange between the Ministry and the PSUs /attached offices and have proposed a web-interface for this purpose.

Department of Company Affairs – The Department has planned for large scale computerisation and interlinking of all offices in order to drastically improve the efficiency of the office and deliver quality service. The business process reengineering (BPR) aspect is over and the financial viability is being examined at present. The project is being implemented in consultation with the Department of IT, Department of Expenditure and NISG (National Institute for Smart Government).

Ministry of Environment and Forests – The Ministry has planned the linking of State Pollution Control Boards with the Central Pollution Control Board. The main objective is to computerize work in all state PCBs and to network them for information sharing and to have a national picture at any given time about the status of pollution and pollution control measures. The Ministry is also planning computerisation of regional offices and wildlife divisions.

Department of Secondary and Higher Education – The Department has planned for implementation of office procedure automation for integrated monitoring of file movement and tracking of VIP reference in all the 267 nodes in 2003. It also plans to develop a complete database related to establishment matters of all employees and implement payroll system by 2003.

Department of Administrative Reforms and Public Grievances (DARPG) – The Department has planned to set up Wide Area Network (WAN) interconnecting offices of the Ministry of Personnel, Public Grievances and Pensions. It has also entrusted a project to an external consultancy agency for the development of an IT based MIS/ decision system for the Ministry of Personnel, Public

Grievances and Pensions. The department has planned to implement e-learning project.

Ministry of Urban development – The Ministry has planned a project called Government Accommodation Management System (GAMS) in the Directorate of Estates to have a complete record of government quarters for each type, locality, details of occupant and other related information.

Department of Commerce – The Department has already implemented a host of e-governance projects and has a lot of projects in the pipeline. It plans to have an information system on national and international trade. The Department plans to strengthen its existing video conferencing facility. It also plans to have e-commerce interface of DGFT (Directorate General of Foreign Trade) with community partners (banks/customs/income tax/exporters/importers) for trade facilitation.

Ministry of Road Transport and Highways – The Ministry has planned a project to develop a linked website for TRW (Transport Research Wing) having various provisions like filing a periodic return by the data sources agencies, downloading electronic version of the publication of TRW, and interactive national transporters database for online extraction of the information required by citizens. The Ministry has planned to introduce Smart cards based DL&RC (Driving License and Registration Certificate) of a vehicle.

Performance ranking on IT/e-governance Preparedness – SSG wise

This section details on the performance ranking of each Central ministry and department on e-governance preparedness. The ministries and departments have been ranked within the SSGs to which they belong. The ranking within SSG serves a better purpose of assessing the ranks within similar sized ministries and departments. Hence, one should look at the ranking within SSG and not the overall ranking. Overall ranking would not take into account the differences within ministries and departments. The performance ranking of these ministries and departments within various SSGs is shown in the following tables:

Table 4.7: Ranking on IT/e-Governance Preparedness – SSG I

S. No.	Central Ministry/ Department within SSG I	Performance Score (Out of 128)
1	Ministry of Steel	128
2	Cabinet Secretariat	128
3	Ministry of Shipping	128
4	Ministry of Textiles	128
5	Department of Administrative Reforms and Public Grievances (DARPG)	128
6	Department of Tourism	128
7	National Commission for SC/ST	128
8	Department of Biotechnology	128
9	Department of Atomic Research	128
10	Department of Ocean Development	128
11	Ministry of Food Processing Industries	128
12	Department of Chemical and Petrochemicals	128
13	Department of Official Languages	128
14	Ministry of Information & Broadcasting	128
15	Ministry of Civil Aviation	128
16	Department of Women and Child Development	102
17	Ministry of Mines	102
18	Ministry of Coal	102
19	Ministry of Power	102
20	Ministry of Tribal Affairs	102
21	Ministry of Small Scale Industries and Agro and Rural Development	102
22	Ministry of Youth Affairs and Sports	102
23	Department of Public Enterprises	102
24	Ministry of Law and Justice Legislative Dept.	89
25	Ministry of Food and Consumer Affairs	89
26	Department of Fertilizers	89
27	Department of Drinking Water Supply	89
28	National Security Council	89
29	Ministry of Petroleum and Natural Gas	77
30	Department of Legal Affairs	64
31	Department of Scientific and Industrial Research	64
32	Ministry of Disinvestment	64
33	President's Secretariat	64
34	Ministry of Land Resources	64
35	Indian Systems of Medicine & Homocopathy	51
36	Ministry of Parliamentary Affairs	45
37	Department of Commerce - Supply Division	38

Table 4.8 : Ranking on IT/E-Governance Preparedness – SSG II

S. No.	Central Ministry/ Department within SSG II	Performance Score (Out of 128)
1	Ministry of Defence - Supply and Production Division	128
2	Planning Commission	128
3	Ministry of Social Justice and Empowerment	128
4	Department of Industrial Policy and Promotion	128
5	Department of Telecommunications	128
6	Department of Finance and Economic Affairs	128
7	Department of Science and Technology	102
8	Ministry of Road Transport	102
9	Department of Food and Public Distribution	89
10	Ministry of NCES	89
11	Ministry of Urban development	64
12	Ministry of Environment and Forests	64
13	Department of Secondary and Higher Education	64
14	Department of Rural Development	51
15	Department of Personnel and Training	38

Around 15 of the Central ministries and departments within SSG I have performed excellent on e-governance preparedness. They have a clear definition of the scope of e-governance that is well understood by their top management and also consider IT as a key area whose performance is regularly monitored by the top officials. The lower scoring ministries and departments should aim at learning from the top performing ones and start considering IT as a key area under regular monitoring by their top officials. They also need to have a precise definition of the scope of e-governance and make it clear among the top management.

SSG II has only six ministries and department that have performed excellent on e-governance preparedness. The low performers need to emulate the best practices of the star performers (in terms of having a clear definition, top officials having clear understanding of e-governance and giving importance to IT and monitoring it regularly).

Out of a total of 17 ministries and department within SSG III, only five are fully prepared for e-governance by having a clear definition and considering IT as a key area. The bottom performers need to have a clear definition of e-governance and give importance to IT as a key functional area.

Table 4.9 : Ranking on IT/E-Governance Preparedness – SSG III

S. No.	Central Ministry/ Department within SSG III	Performance Score (Out of 128)
1	Department of Commerce	128
2	Ministry of Labour	128
3	Department of Information Technology	128
4	Department of Company Affairs	128
5	Department of Family Welfare	128
6	Department of Health	102
7	Ministry of External Affairs	102
8	CSIR	102
9	Ministry of Statistics and Programme Implementation	102
10	Department of Agricultural Research and Education	102
11	Department of IT and Revenue	89
12	Department of Agricultural Cooperation	89
13	Ministry of Railways	89
14	Ministry of Small Scale Industries	89
15	Department of Posts	89
16	Department of Culture	64
17	Department of Animal Husbandry	64

2 IT Policy/ Action Plan

IT Policy/Action Plan is laid down by the particular ministry / department documents and defines the scope of IT in their operations and processes. A sound policy would be one that recognizes the role that IT can play in streamlining their operations through deploying a sound infrastructure and provide better services to their stakeholders – essentially the citizens or other ministry/ department to enable smooth functioning of the government. A sound IT Policy also lays down a path with clear timelines for implementation and reaping the benefits out of IT Implementation.

The two important pillars to e-governance are Action plan and People. Central ministries and departments must have an Action Plan in order to envisage e-governance projects and implement them in a timely manner. The Action Plan contains various IT projects that a particular ministry/ department envisages for a time period. This Action plan could be for one year, two years or for five years. It also contains the expenditure, beneficiaries, agencies involved, timelines etc. The Action Plan serves as a guideline for implementing IT in the ministry/department. It also serves as an indicator to measure and report the deviation from

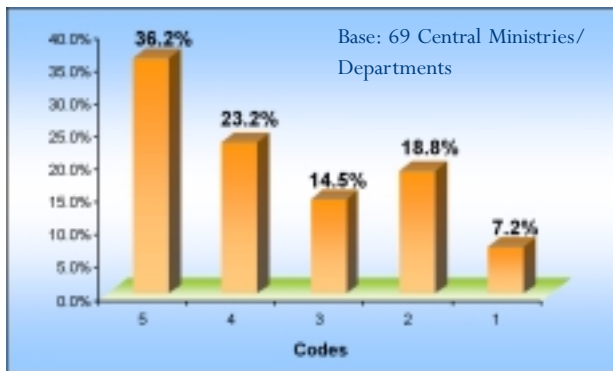
the plan, for example the timelines stated in the action plan need to be met and if not met, then appropriate reasoning should be offered to explain the delay. Normally the IT plan in the central ministries is made by the top officials in consultation with the NIC team.

Status of IT Action Plan

The status of Action Plan can be measured from being in the planning stage to the development stage to the documentation stage. The planning of action plan should ideally have been done in all the ministries and departments as this is considered to be a pre-requisite for e-governance.

Figure 4.4 : Status of IT Action Plan/ IT Policy

Codes	Status of IT Action plan/ IT Policy
5	Well documented Action Plan for implementation of Information Technology in the department / ministry for which documentary evidence can be provided
4	Documented Action Plan exists but documentary evidence cannot be provided
3	In the process of documenting the Action Plan
2	Action Plan is in the planning stage
1	Action Plan does not exist at all



Looking at the above figure, about 36.2 per cent of the central ministries and departments claim to have documented their IT action plan/ policy guidelines and have evidences to prove it. Another 23.2 per cent state that their IT action plan exists but they do not have any evidence to prove it. This implies that a total of about 59.4 per cent have an IT action plan. The existence and documentation of the IT action plan is a pre-requisite to future monitoring and assessment. About 14.5 per cent of the ministries and departments are in the process of documenting their IT action plan. Another 18.8 per cent are currently in the planning stage of action plan. These ministries and department must take the example of best practices from the others who have a well documented action plan. Only 7.2 per cent of the ministries and departments do not have any IT action plan at all. These ministries and departments need to realise the importance of IT and should move

towards planning for an IT action plan. The Government of India should make it mandatory for all central ministries and departments to have an IT Action Plan that has specific timelines and should ensure strict adherence to the timelines.

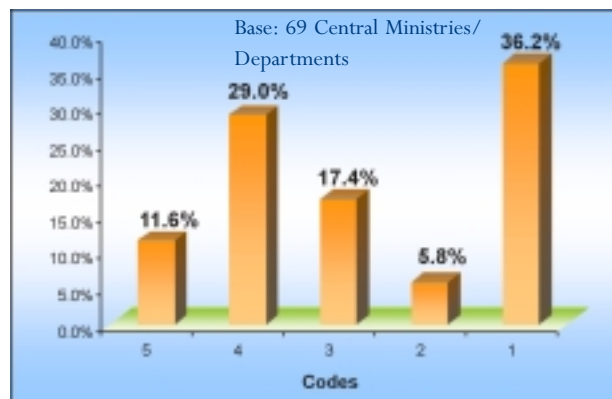
Entities like Cabinet Secretariat, Ministry of Civil Aviation, Ministry of Disinvestment, Department of Commerce, Department of Post, Ministry of Coal, Ministry of Mines, etc. have well documented IT Action plans. Entities like Ministry of Urban Development, Ministry of Tribal Affairs, Department of Health, Ministry of Road Transport and Highways, etc. have started planning their IT Action Plan. Entities like Department of IT, Department of Culture, Department of Biotechnology and Department of Economic Affairs are in the process of documenting it.

Communication of IT Action Plan to stakeholders

Once the IT Action Plan is documented, it should also be communicated to the various stakeholders. Here, stakeholders include various other related ministries and departments, PSUs, nodal agencies, attached offices, field units etc.

Figure 4.5 : Communication of IT Action Plan/ IT Policy to stakeholders

Codes	Communications of IT Action plan/ IT Policy
5	The Action Plan has been communicated to all the stakeholders for which documentary evidence exists
4	The Action Plan has been communicated to all the stakeholders, but no documentary evidence exists for this.
3	The Action Plan has been communicated to only a few of the stakeholders
2	The Action Plan has not been communicated to any of the stakeholders
1	The Action Plan does not exist at all / is in the process of development



The Action Plan has been communicated to all the stakeholders by a handful of ministries and departments (11.6 per cent), and they have documentary evidence to prove it. Although about 29 per cent of the ministries and departments have communicated its Action Plan to all the stakeholders but they do not have any documentary evidence to prove it. The communication of the Action Plan to all the stakeholders has happened in only 40.6 per cent of the ministries and departments; however this communication is an important factor in assessing the success of IT projects. It is quite possible that if all the stakeholders are not aware of the IT Action Plan, they might not be able to support or facilitate the implementation of the projects. The integration of processes requires that the IT projects are known to each entity related to the processes.

About 17.4 per cent of the ministries have communicated their action plan to some of the stakeholders and not all of them. It is quite possible that they deemed it important to communicate the action plan to only few of the stakeholders and not all. The matter of concern is the remaining 36.2 per cent of the ministries and departments who do not have any action plan at all or their action plan is in the process of development. Entities like Cabinet Secretariat, DARPG, Ministry of Labour and National Commission of SC/ST have communicated their IT action plan to all the stakeholders.

Adherence to the Action Plan

Once the IT Action Plan has been documented and communicated to all the stakeholders, it also needs to be adhered to. Strict adherence to the IT Action plan would result in effective implementation of the e-governance projects. For example, adherence would also result in a better monitoring and assessment of the action plan and the achievement of targets in a timely manner.

Only 11.6 per cent of the central ministries and departments claim to have met all the targets specified in the action plan and have documentary evidence to prove it. Another 15.9 per cent of them claim to have met all the targets but do not have any documentary evidence to prove it. However, if we add the two, then about 27.5 per cent of them have met all the targets specified in the action plan.

Another 31.9 per cent claim to fall short of a few targets specified in the action plan. These ministries and departments should work at removing the deficiencies and have better time management to achieve all the targets specified in the action plan. The serious matter of concern is 4.3 per cent of the ministries and department that have fallen short on a lot of targets specified in the action plan. There seems to be serious issues that are impeding the achievement of targets mentioned in the action plan. These ministries and departments should aim to identify these causal factors and rectify them, so that they can meet their targets.

As mentioned earlier, about 36.2 per cent of the ministries and department do not have any action plan or their action plan is in the process of development. In these cases, the issue of adherence does not arise at all. Entities like Ministry of Steel, Cabinet Secretariat, DARPG, Ministry of Small Scale and Industries, Ministry of Non-Conventional Energy Sources, Planning Commission have met all their targets specified in their action plans.

Benefits of Action Plan

The ministries and departments should realise the benefits of the Action Plan in meeting their business goals. These benefits should ideally be measurable and the concerned ministry and department should be able to evaluate the contribution of Action Plan in their overall functioning.

Figure 4.6: Adherence to the IT Action Plan/IT Policy

Codes	Adherence to IT Action Plan/ Policy
5	Meeting all targets as specified in the Action Plan for which documentary evidence exists
4	Meeting all targets as specified in the Action Plan, but there is no documentary evidence for this
3	Falling short of a few targets as specified in the Action Plan
2	Falling short on a lot of targets as specified in the Action Plan
1	The Action Plan does not exist at all / is in the process of development

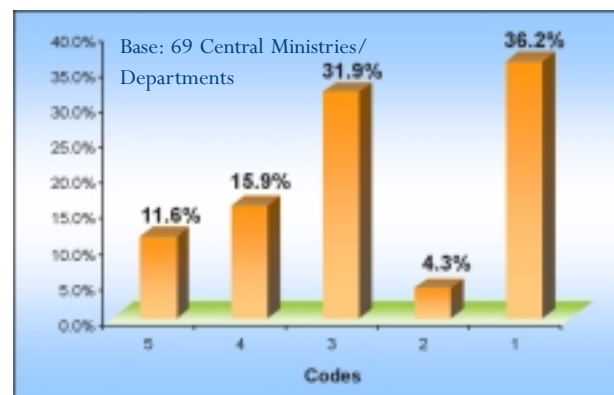
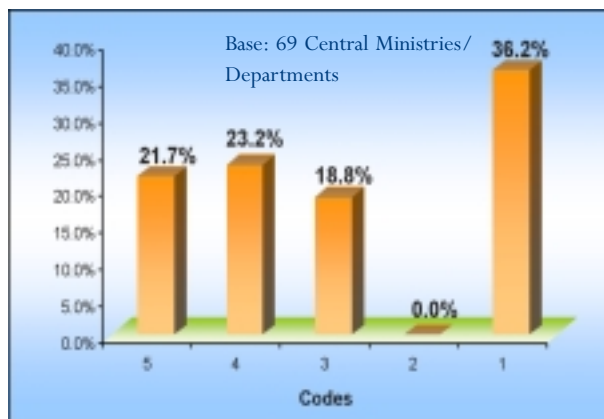


Figure 4.7 : Benefits of the IT Action Plan in meeting the business goals

Codes	Benefits of IT Action plan in meeting business goals
5	There are clear benefits from Action Plan that have allowed us to meet all the business goals of the department / ministry for which documentary evidence exists
4	The benefits from Action Plan have allowed us to meet all the business goals of the department / ministry but no documentary evidence exists
3	Action Plan has only limited benefits towards meeting our business goals.
2	Action Plan has no benefits towards meeting our business goals
1	The Action Plan does not exist at all / is in the process of development



Around 44.9 per cent of the ministries and departments realize that there are clear benefits from the Action Plan that have allowed them to meet business goals. However, only 21.7 per cent out of them have documentary evidence to prove it. None of the ministries and departments find action plan as useless, but about 18.8 per cent of the ministries and departments claim that the action plan has only limited benefits towards meeting business goals.

For the Action Plan to be successful, it is required that ministries and departments should realize the benefits of Action Plan in meeting business goals. Only when they realize the benefits, would they be willing to put their best efforts in implementing it and adhering to it.

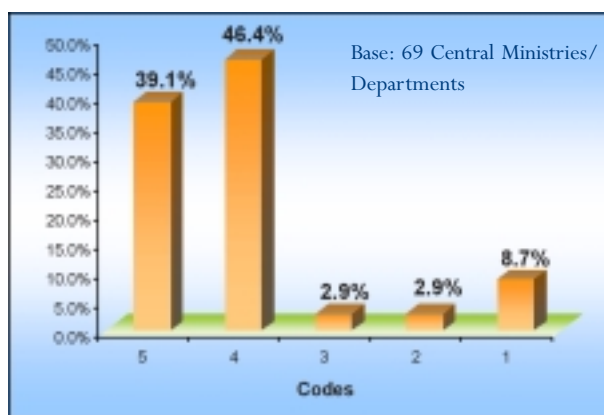
Entities like Cabinet Secretariat, Department of Company Affairs and Ministry of Non-Conventional Energy Sources claim to have met all the targets specified in their action plan and have found clear benefits from the action plan in meeting their business goals.

Responsibility ownership for determining IT Action Plan

The following figure shows the responsibility status for determining the IT Action Plan within the ministries and departments.

Figure 4.8 : Responsibility for determining IT Action Plan

Codes	Responsibility of determining IT Action Plan/ Policy
5	Specific senior official (above Director level) in the department / ministry having clearly defined responsibilities
4	Specific senior official in the department / ministry having clearly defined responsibilities, and handling other tasks as well
3	Specific Junior Official (below Director level) in the department / ministry having clearly defined responsibilities
2	Specific Junior Official in the department / ministry having clearly defined responsibilities, and handling other jobs as well.
1	The task has not been clearly defined for anyone in the ministry



It is very good to see that in about 39.1 per cent of the ministries and departments, specific senior officials (above Director level) own a clearly defined responsibility for determining the IT Action Plan. This clearly defined ownership of responsibility facilitates better documentation, communication and adherence to the action plan.

In some of the ministries and departments, the senior officials handle a lot of tasks and there is no senior official who can specifically be delegated to look after IT. In such cases, if the senior official can effectively manage his/her existing task along with the new role of IT action plan, then the action plan would be implemented in an effective manner. However, if he/she finds it cumbersome to handle

the additional role of determining the IT action plan, then the ministry/department needs to seriously consider re-allocating the IT task to some other senior official or appoint a specific senior official for IT. This issue should be addressed in the right earnest as about 46.4 per cent of the ministries and departments face such a situation.

In about 5.8 per cent of the ministries and departments, the responsibility of determining the IT Action Plan is designated to the junior officials (below Director level). In about 50 per cent of such cases, the junior officer is also handling other tasks. Hence, it is advisable that the IT action plan determination be assigned to a senior official or a junior official and he be relieved of other tasks.

The responsibility of determining the IT Action Plan has not been clearly defined in about 8.7 per cent of the ministries and departments. In these cases, the delegation of the job of determining the IT action plan is circumstantial. This kind of working is not advisable, as IT should be given its due importance and specific officials should be designated to determine the IT action plan.

Entities like Ministry of Steel, Department of Commerce, Ministry of Power, DARPG have specific senior officials who have a clearly defined responsibility for the IT action plan.

IT Budgeting and Spending

IT spending is a policy matter with central ministries and departments. Infact, every ministry and department can spend 3 per cent of their Non- Plan budget on IT. At present, IT is not a separate cost head, but if there were a separate cost head for IT, it would be possible to plan IT expenditure in the beginning of the year itself.

IT Budgeting Process

IT budgeting is done to plan for all the expenditure related to IT throughout the year. Although IT is a Non-Plan expenditure, the budgeting process has to be effective enough to include all the costs related to IT.

IT budgeting is a scientific process in about 29 per cent of the central ministries and departments. The aim should be to increase this figure. If IT budgeting is done on the basis of some scientific process and collective opinion of the related people is taken, then it is very likely that the entire plan for IT gets smoothened. About 44.9 per cent of the ministries and department take isolated inputs from various functional departments/groups/divisions while preparing the IT budget. In about 10.1 per cent of the cases, minimal inputs are taken from related entities in preparation of the IT budgets. This can be quite wrong as the requirements of each and every entity are not taken into account and the estimation process is also not scientific. This is a matter of serious concern along with 4.3 per cent of the cases where budgeting is an isolated process undertaken without the knowledge of related entities and 11.6 per cent cases where there is no thorough rationale for budgeting in the ministry/ departments.

Entities like DARPG, Ministry of Textiles, Department of Revenue and Income Tax, Department of IT, Department of Biotechnology, Ministry of Statistics and Program Implementation etc. claim to have a scientific process for budgeting along with inputs from various functional departments/groups/divisions.

IT Spending

The central ministries and departments have been increasing their spending on IT over the years. This is quite visible in the following figure, where the mean annual IT spending has been increasing over the years.

Figure 4.9: IT Budgeting Process

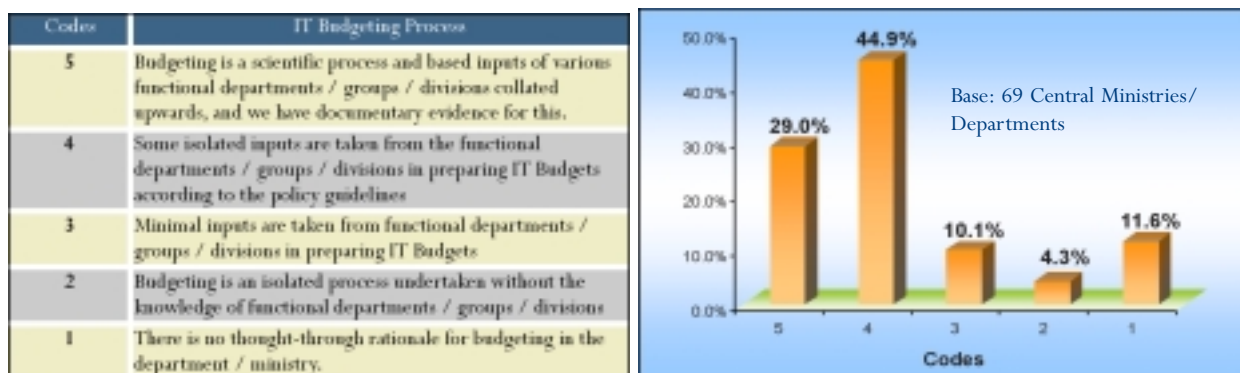
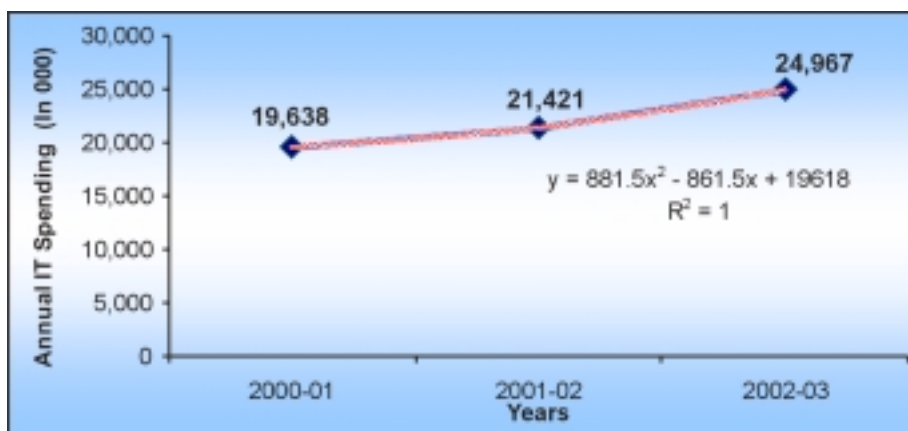


Figure 4.10 : Mean Annual IT Spending for three years



The mean annual IT spending follows a polynomial trend and is expected to increase in the coming years in the same ratio. Increase in IT spending is a good indicator for e-governance, as the spending would go into building up the infrastructure for IT.

Break-up of IT spending

The top three heads for IT spending within central ministries and departments are hardware, maintenance and software. Majority of the amount is spent for procuring hardware. The software is usually offered by NIC free of cost. The table 4.10 explains the trend in the IT spending heads for the last three years.

After discussing the status and responsibility of IT Action Plan along with IT budgeting and IT spending within central ministries and departments, the following section shows the ranking of the departments on the basis of the IT Action Plan.

Performance Ranking on IT Policy/Action Plan

The performance ranking on IT Action Plan/Policy for the central ministries and departments has been done taking into account the following parameters. Essentially, a central ministry and department should have:

- a well documented action plan,
- communicated its action plan to all the stakeholders,
- adhered to the action plan,
- realized the clear benefits of action plan in meeting the business goals,
- a specific senior official for determining IT action plan,
- a scientific process for budgeting along with inputs from related entities
- spent a reasonable amount on IT

The group-wise ranking of the central ministries and departments is given in tables 4.11 to 4.13.

Table 4.10: Break up of Annual IT Spending for three years

IT Spending Heads	2000-01	2001-02	2002-03
(In '000)			(In %)
Base:	52	58	53
Hardware	69	64	63
Maintenance	10	16	16
Software	8	8	7
Consultancy & software development	5	3	4
Networking	4	4	4
E-governance projects	3	3	3
Training	1	1	2
Total	100	100	100

Table 4.11 : Ranking on Policy – SSG I

S. No.	Central Ministry/ Department within SSG I	Performance Score (Out of 249)
1	Department of Administrative Reforms and Public Grievances (DARPG)	241
2	National Commission for SC/ST	222
3	Cabinet Secretariat	219
4	Department of Chemical and Petrochemicals	210
5	Ministry of Steel	200
6	Ministry of Civil Aviation	198
7	Ministry of Coal	195
8	Ministry of Disinvestment	194
9	Ministry of Law and Justice Legislative Department	179
10	Ministry of Mines	166
11	Department of Official Languages	164
12	Department of Tourism	158
13	Ministry of Food Processing Industries	157
14	Department of Women and Child Development	155
15	Ministry of Textiles	145
16	President's Secretariat	143
17	Department of Public Enterprises	143
18	Ministry of Parliamentary Affairs	141
19	Department of Legal Affairs	135
20	Department of Drinking Water Supply	134
21	Department of Bio technology	134
22	Ministry of Food and Consumer Affairs	134
23	Department of Fertilizers	132
24	Department of Atomic Research	129
25	Ministry of Shipping	121
26	Ministry of Power	121
27	National Security Council	121
28	Department of Ocean Development	114
29	Department of Scientific and Industrial Research	100
30	Ministry of Tribal Affairs	90
31	Ministry of Small Scale Industries and Agro and Rural Development	78
32	Ministry of Petroleum and Natural Gas	75
33	Department of Commerce - Supply Division	74
34	Ministry of Information & Broadcasting	68
35	Indian Systems of Medicine & Homoeopathy	57
36	Ministry of Land Resources	56
37	Ministry of Youth Affairs and Sports	48

Table 4.12 : Ranking on Policy – SSG II

S. No.	Central Ministry/ Department within SSG II	Performance Score (Out of 249)
1	Ministry of Non conventional energy sources	224
2	Department of Science and Technology	181
3	Planning Commission	172
4	Department of Telecommunications	167
5	Department of Industrial Policy and Promotion	167
6	Ministry of Defence - Supply and Production Division	157
7	Department of Food and Public Distribution	151
8	Ministry of Social Justice and Empowerment	146
9	Ministry of Environment and Forests	142
10	Ministry of Road Transport	93
11	Department of Personnel and Training	72
12	Ministry of Urban Development	63
13	Department of Secondary and Higher Education	62
14	Department of Rural Development	58
15	Department of Finance and Economic Affairs	53

Table 4.13 : Ranking on Policy – SSG III

S. No.	Central Ministry/ Department within SSG III	Performance Score (Out of 249)
1	Department of Company Affairs	220
2	Department of IT and Revenue Tax	205
3	Ministry of Small Scale Industries	202
4	Department of Posts	175
5	Department of Commerce	173
6	Department of Information Technology	164
7	Ministry of Labour	158
8	Department of Agricultural Cooperation	147
9	Ministry of External Affairs	127
10	Department of Agricultural Research and Education	126
11	Department of Animal Husbandry	115
12	Department of Culture	113
13	Department of Family Welfare	107
14	Ministry of Railways	102
15	Ministry of Statistics and Programme Implementation	97
16	CSIR	76
17	Department of Health	58

DARPG outperforms all the ministries and departments within SSG I. SSG II has 15 ministries and departments, and only five out of them can be stated to perform reasonably well on the IT Policy parameter. The benchmark within this SSG is the Ministry of Non-Conventional Energy Sources and the poor performers need to adopt the best practises of the star performer within this SSG. The third SSG has 17 entities and the top five performers have been highlighted. Department of Company Affairs stands out as a benchmark in this SSG and is number four in overall ranking too.

3. IT People

The People or the employees within the department / ministry also have a vital role to play in e-governance. Hence, the People factor becomes critical while evaluating the e-readiness. It is the employees of a department / ministry who drive the e-governance initiatives. Thus, it is necessary to evaluate the overall hierarchy of the department and the importance of IT Setup in this hierarchy. It is also necessary to evaluate the IT training exercise incorporated in the department and understanding the current strength of IT knowledge in the department and the comfort level of the employees in handling tasks electronically. Needless to say, better trained the employees are, the easier it is to deploy and handle infrastructure and implement automation of processes.

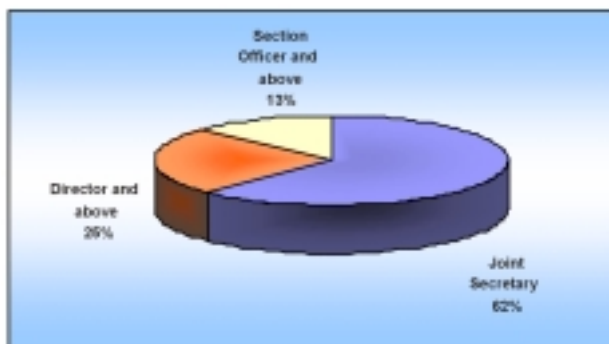
This factor is considered as the second pillar in the e-governance framework. The People factor is a key component from the planning to the execution stage in the e-governance initiatives. It is important to leverage strength of manpower in the government sector. It calls for creating awareness of various applications that can be done using ICT infrastructure.

Responsibility of the IT function

Designation of the IT managers (In-charge)

The designation of the IT manager should be such that he has the power to force people to change their mindsets. The data indicates that around 62 per cent of the central ministries / department's IT Managers are of the Joint Secretary level. These central ministries can leverage the designation of IT managers as they have the power to make policies at their department level and also have people under them who can be assigned the task of monitoring it on a continuous basis. It is very important for the IT manager to have a separate task force whose focus is concentrated on achieving the goals of e-governance which are speed, transparency and easy access of services by the citizens.

Figure 4.11: Designation of IT Managers



The other 37 per cent of the central ministries/ departments need to review their hierarchical structure and the role of the top officials in developing e-governance initiatives. Responsibility of the IT function should be assigned to the higher designations. The IT head should also have a line function in the overall ministry, whereas currently it has been observed that IT is an additional role allotted to the officials whose primary role is different from IT like administration, finance, etc.

Officers holding responsibility

Driving IT initiatives in the department is also directly or indirectly dependent on the number of people responsible for it. More the number of people assigned for this role, faster would be the adoption among the workforce.

Table 4.14: Number of people responsible for IT

Number of officers responsible for IT	In %
Base: All 69	
Only 1	4.3
2 to 3 people	23.2
4 – 5 people	24.6
6 – 10 people	30.4
More than 10 people	17.4

Around 17 per cent of central ministries/ departments have more that 10 people responsible for IT functions. This list includes Department of Commerce, Department of Revenue & Income Tax, Ministry of External Affairs, Department of Posts, Ministry of Civil Aviation, etc. These ministries have a higher chance of a faster adoption of IT as they are backed by the required manpower that can train employees at the ground level. Depending on the size of the ministry/ department, it should have sufficient number of people responsible for driving IT in the department. More numbers would lead to better training, continuous monitoring and innovative ways of working.

Basic Working Knowledge of Computers

As stated earlier, e-governance is directly related to use of IT in all the functions of the department. This calls for an adequate level of computer knowledge among the employees of the ministry/ department. Computer knowledge of employees is a pre-requisite for any department before any e-governance initiative is undertaken because currently all functions are undertaken manually and they would be shifted to the electronic form only if people involved in it have sufficient knowledge of using computers. Therefore, it is important to look at the current level of computer literacy among employees in the ministry/ department.

Percentage of staff with basic working knowledge

All employees in the ministry/ department should have at least a basic knowledge of computers. Computer education should be the first step towards driving IT in various processes of ministries. There is a need to communicate the benefits of using ICT in day-to-day work.

Table 4.15: Percentage of employees with computer knowledge

% of employees with basic knowledge of computers	In %
Base: All 69	
Less than equal to 20%	4.3
21 to 50 %	23.2
51 to 70%	13.0
71 to 85%	33.3
More than 85%	24.6
Missing data	1.4

On an average about 68.8 per cent of the employees within the central ministries and departments have basic computer knowledge. Around 25 per cent of the central ministries/ departments have more than 85 per cent employees with basic knowledge of computers. This list includes Ministry of Power, Ministry of Disinvestment, Department of Atomic Research, Legislative Department, Ministry of Statistics and Programme Implementation and Ministry of Civil Aviation. Around 27 per cent of the central ministries have fewer employees (less than 50 %) with computer knowledge.

The above data indicates that the next challenge which lies in front of all central ministries and departments is to train their workforce so that they use computers for majority of their working. On a different note, computer knowledge should not be restricted to the top officials; it should also be given to the lower management staff like desk workers, clerks for reducing their work load.

During the qualitative phase, it has come out that “resistance to change” is the key barrier in imparting IT education at the ground level, therefore there should be a positive reinforcement from the top management in order to push computers in the habits of employees. Employees can be motivated by introducing rewarding schemes for using computers in their day-to-day life. IT Training & Development should form a critical component of an Annual IT action for all central ministries / departments.

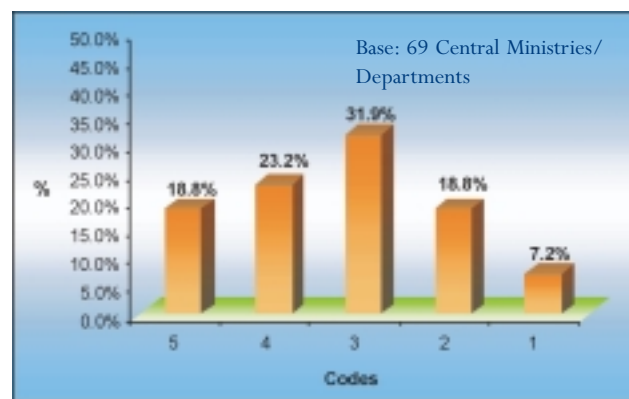
IT Training & Development

IT Training and Development Programmes play an important role in driving IT in central ministries/ departments. Every department should offer training programmes to employees that in turn would make them use ICT in their work. These training programmes need to be monitored on a continuous basis which would ensure that employees are exploiting the IT resources.

Status of IT Training and Development Programmes

Figure 4.12: Status of Training and Development Programmes

Codes	Status of IT Training & Development Policy
5	Well documented IT Training & development policy for which documentary evidence can be provided
4	Documented IT Training & development policy exists but documentary evidence cannot be provided
3	In the process of documenting the IT Training & development policy
2	IT Training & development policy is in the planning stage
1	IT Training & development policy does not exist at all



It is important to have a well-documented training and development policy before designing any training and development programme for the central ministries/ departments. A well-documented policy is a pre-requisite for having any training and development programme that would smoothen the training exercise in any ministry.

Around 19 per cent of the central ministries/ departments have well documented policies in place (with documents) and the next 23 per cent have training and development policies but not so well documented. These top two boxes include Cabinet Secretariat, Ministry of Textiles, Ministry of Women & Child Development, DARPG, Ministry of Non Conventional Energy Sources, Department of Official Language, Department of Telecommunications, Planning Commission, Department of Biotechnology, National Commission for ST/SC and a few others. However, it was realised during the qualitative phase that even these ministries do not follow their training policy strictly, most of the time it is based on the immediate needs of the department.

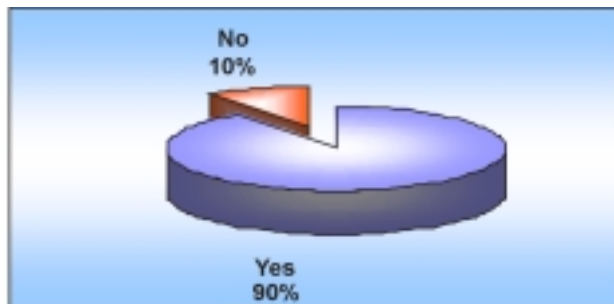
Around 50 per cent of the central ministries/ department have already initiated some Training and Development policies. But, disappointingly, around 7 per cent of them do not have any training policy at all.

Basic Computer Training

Frequency, No. of Employees and Presence of Feedback System

Basic computer training among all employees in the central ministries/ department forms a platform to using IT in various processes. It is found that 90 per cent of the central ministries/ department offer basic training programmes to their employees, while the remaining 10 per cent do not have any basic training programmes. This data gives an optimistic picture to making the Indian government 'e-Ready'.

Figure 4.13: Presence of Basic Computer Training

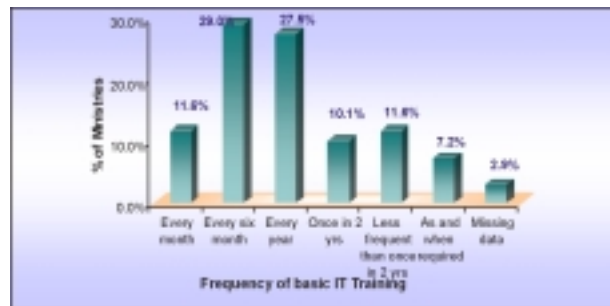


The above data calls for quick action from these 10 per cent central ministries/ departments in terms of developing some basic training programmes for their employees. As a result, these training programmes would spread the knowledge of using computers to increase productivity, reducing wastage of time, etc among its employees. Every ministry should have a content of basic training in their annual Action Plan, where it should state the percentage of employees to be given basic knowledge of computers. There should not be any distinction between top level officials and low level employees in this respect.

Frequency of basic training

Around 12 per cent of central ministries/ departments conduct basic training programmes on a monthly basis. It might have incurred from the fact that they have just initiated their employees' IT program and sending employees in batches for at the rate of one division of the ministry per month. However, it has emerged from the data that majority are offering basic training to employees on a half-yearly basis.

Figure 4.14: Frequency of Basic Computer Training



The frequency of basic training programmes is entirely dependent on the needs of the department. As it is possible that some departments have already achieved 100 per cent basic training of all its employees and now it is the stage where basic training needs to be given to the fresh recruitment only.

Table 4.16: Percentage of employees given basic computer training

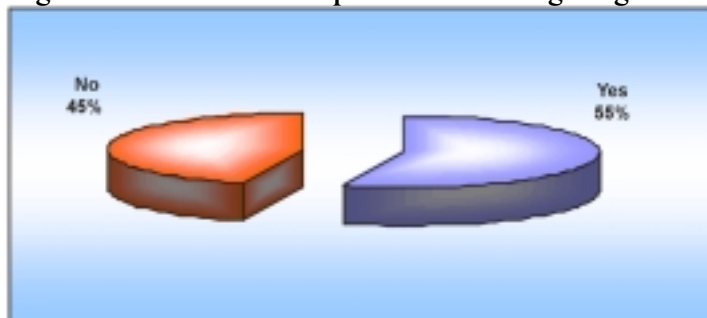
% of employees undertaking basic computer training	In %
Base: All 62	
Less than equal to 5%	8.7
6 to 20 %	21.7
21 to 50%	20.3
51 to 80%	14.5
More than 80%	21.7
Missing data	13.0

Around 22 per cent of the central ministries/ department have imparted some basic training to its employees. These include Ministry of Disinvestment, Ministry of Information and broadcasting, Department of IT, Cabinet Secretariat, Department of atomic supply, Ministry of Power, Ministry of Coal, Department of Commerce (supply divisions) and a few others. Other ministries should emulate them. Around six (8.7 per cent) ministries have trained less than 5% of their employees; it is assumed that they have just initiated the process of training employees. Therefore, these ministries should aim at imparting speedy basic computer training to their employees.

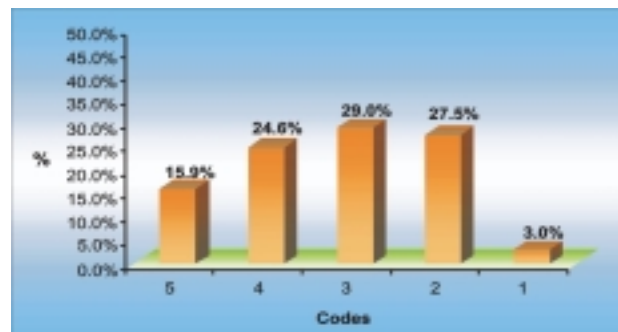
Specialised Computer Training

Frequency, No. of Employees and Presence of Feedback System

Specialised IT training programs can be imparted for running new software, new IT projects, high end customised software like OPA from NIC. It would also include training on using internet, payroll software, file tracking software, tally etc. Around 55% of the central ministries / departments undertake specialised training for the employees.

Figure 4.15: Presence of Specialised Training Programmes

Every department/ ministry should offer specialised training to its employees on applications of Internet, payroll, file tracking etc. Web based interaction is also considered as a critical step towards e-governance. Therefore, it is important for employees to understand various applications of Internet. Specialised IT training policy should also occupy some space in the IT action plan for the ministry. These training programmes should be directed to those who would be involved in operating the high-end customised software.

Figure 4.16: Frequency of Specilised IT Training

There are around 23% central ministries/ departments, which conduct specialised training once in a year. Specialised training is also conducted as and when the department installs some new software, packages etc. The above table also concludes that around 32 per cent of the central ministries and departments do not have any periodicity of specialised training and their IT managers are confused on this data point. Frequency of specialised IT training programmes is again dependent on the departments' needs and requirements. Therefore, the thumb rule to adopt is "impart specialised training to all those who require it".

The performance of the ministries/departments in this aspect group-wise is as follows:

Table 4.17: Ranking on IT People – SSG I

S. No.	Central Ministry/ Department within SSG I	Score (Out of 268)
1	Department of Bio technology	233
2	Cabinet Secretariat	218
3	DARPG	209
4	Department of Women and Child Development	208
5	Department of Atomic Research	200
6	Ministry of Steel	186
7	Ministry of Textiles	183
8	National Commission for SC/ST	181
9	Department of Tourism	179
10	National Security Council	171
11	Department of Fertilizers	170
12	Ministry of Food Processing Industry	166
13	Ministry of Tribal Affairs	154
14	Ministry of Food and Consumer Affairs	150
15	Ministry of Land Resources	135
16	Ministry of Civil Aviation	135
17	Department of Legal Affairs	121
18	Department of Official Languages	115
19	Ministry of Information & Broadcasting	111
20	Legislative Department.	110
21	Department of Public Enterprises	110
22	Ministry of Coal	104
23	President's Secretariat	103
24	Ministry of Mines	102
25	Ministry of Shipping	102
26	Ministry of Power	99
27	Ministry of Small-Scale Industries and Agro and Rural Development	95
28	Department of Chemicals and Petrochemicals	95
29	Ministry of Disinvestment	91
30	Department of Commerce - Supply Division	62
31	Ministry of Petroleum and Natural Gas	54
32	Department of Indian System for Medicine and Homoeopathy	46
33	Ministry of Youth Affairs and Sports	40
34	Department of Scientific and Industrial Research	38
35	Department of Ocean Development	35
36	Ministry of Parliamentary Affairs	35
37	Department of Drinking Water Supply	33

Table 4.18 : Ranking on IT People – SSG II

S. No.	Central Ministry/ Department within SSG II	Performance Score (Out of 268)
1	Ministry of Defence - Supply and Production Division	222
2	Ministry of Non Conventional Energy Sources	205
3	Department of Telecommunications	189
4	Department of Industrial Policy and Promotion	187
5	Department of Food and Public Distribution	166
6	Department of Science and Technology	161
7	Ministry of Social Justice and Empowerment	159
8	Department of Rural Development	150
9	Planning Commission	137
10	Department of Finance and Economic Affairs	133
11	Ministry of Environment and Forests	130
12	Ministry of Road Transport	88
13	Department of Personnel and Training	83
14	Ministry of Urban Development	81
15	Department of Secondary and Higher Education	73

Table 4.19 : Ranking on IT People – SSG III

Sr. No.	Central Ministry/ Department within SSG III	Performance Score (Out of 268)
1	Department of Information Technology	206
2	Ministry of Statistics and Programme Implementation	200
3	Ministry of Small Scale Industries	179
4	Department of Health	177
5	Ministry of External Affairs	177
6	Department of Commerce	171
7	Department of Posts	171
8	Department of Agricultural Cooperation	150
9	Department Income Tax and Revenue	134
10	Council for Scientific and Industrial Research	127
11	Department Agricultural Research and Education	126
12	Ministry of Labour	116
13	Department of Family Welfare	106
14	Department of Company Affairs	102
15	Department of Culture	102
16	Department Animal Husbandry	88
17	Ministry of Railways	84

In SSG I, Department of Biotechnology and Cabinet Secretariat have got the highest scores. Other ministries within this SSG I should learn from the top ten in terms of training, quality of employees and use of computers in work. In the second SSG, Ministry of Defence (supply division) has emerged as the leader. This department has made it mandatory for the employees to file all leave application in the soft form. Other ministries need to use positive reinforcement method in order to get maximum participation from the employees in training programmes and exploiting the benefits of training programmes for which it was offered. There should be some reward factor attached to it, which would pull more employees to participate in learning computers. This SSG has a large base of employees and offices; therefore it would be a challenge for them to train each and every employee in all of their branches. It might demand an increased annual spending on the People factor as a sub-component of IT spending.

Department of Information Technology is the leader in the third SSG. Others include Ministry of Small Scale Industries, which has already trained more than 50 per cent of its employees on basic working knowledge of computers. This Ministry also stands to realise the benefits of training programmes given to the employees.

Overall, it is seen that even today majority of the central ministries/ departments are not strong in this factor. They are still in the stage where more than half of the employees are not computer literate. Their employees are not motivated enough to use computers in their working. For those who have scored high they still have to make efforts to leverage their strong human resource towards making e-governance a successful arena for the ministry/ department.

4. IT Infrastructure

IT Infrastructure is considered to be one of the important factors for e-governance. It would benchmark the initiatives already undertaken by the ministry / department to implement the IT Policies and utilise the knowledge of the employees. This criterion includes studying the robustness of IT infrastructure in terms of hardware, software, networking and communication of a ministry / department (website). This would also indicate the seriousness with which IT is viewed by the particular ministry/department. Each of the four components have sub-components within themselves.

In case of the absence of IT infrastructure, all the policies would go in vain. The e-governance preparedness and IT action plan translate into infrastructure build up. The qualitative study throws an interesting finding that lack of IT infrastructure is not the key bottleneck in the path of e-governance. Almost all the central ministries and departments have good IT infrastructure. The key problem lies with the people aspect wherein people have an attitude of resistance.

The following figure depicts the four components of IT infrastructure and their sub-components.

Figure 4.17: Four Components of IT Infrastructure



These four components are discussed in detail in the following sections.

Hardware/ Software Infrastructure

Hardware and software infrastructure is the core for e-governance and is the basic tool for automation. Components like computers, servers and printers, operating systems and desktop applications are the tools required for basic IT functioning.

Computer – Employee Ratio

Almost all the employees till grade C should have access to computers. Every ministry and department aims to provide PCs to all the employees upto the section officer level.

Table 4.20 : Computer per Employee Ratio

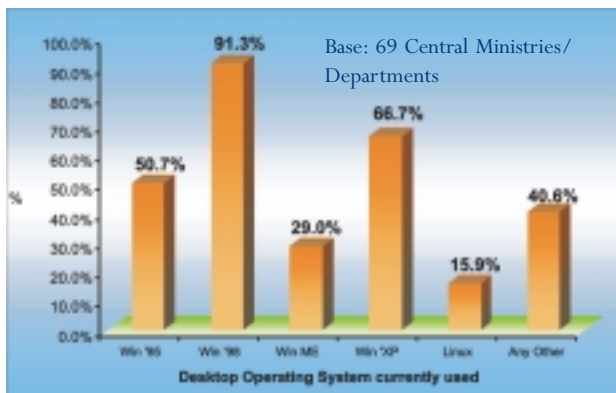
* Computers per employee ratio	
	(In %)
Base: All 69	
Less than equal to 40%	39.1
41-60 %	42.0
61-75 %	11.6
76-90 %	2.9
More than 90 %	4.3
* (Computers include PC & Laptops / Notebooks)	

The average computers per employee ratio is 0.438. Here, computers include laptops and notebooks that are provided to the senior level officials (mostly JS and above). Computer to employee ratio is a good indicator for measuring computer penetration within a ministry/ department. Looking at the above table, in about 19 per cent ministries and departments, this ratio is more than 60 per cent. And a good indicator of e-governance are the 7.2 per cent ministries and departments where the ratio is more than 75 per cent. Entities like Ministry of Coal, Department of Biotechnology, Department of Food and Consumer Affairs, Ministry of Chemicals and Fertilizers have provided computers to more than 75 per cent of their total employees. If most of the employees till the clerical level have access to computers, then it is quite possible to have automation in most of the processes within a ministry/ department.

Operating System Used

Operating system usually comes pre-loaded with branded PCs. Central ministries and departments always buy branded computers in consultation with NIC. A ministry/ department generally uses more than one operating system as most of them keep buying computers with new operating systems pre-loaded on them.

Figure 4.18: Desktop Operating System Currently Used



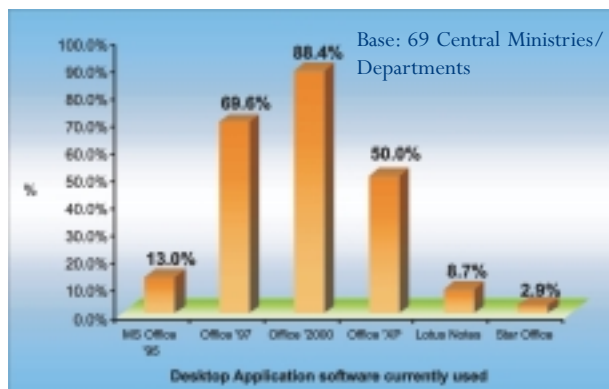
Windows '98 is the most predominant operating system being used within 91.3 per cent of the central ministries and departments. The second most used operating system at present is Windows 'XP, that is the latest operating system from the Microsoft stable. Some of the examples of entities using Windows 'XP are Cabinet Secretariat, Ministry of Shipping, Department of Culture, Department of Science and Technology Ministry of External Affairs etc.

Windows '95 is also being used by about 50.7 per cent of the entities as quite many of them have old machines that have '95 loaded on them and the usage for a new version did not arise within these ministries and departments. Looking at the last bar, about 40.6 per cent use other operating systems like network operating system, for example Windows/NT etc. Linux has also found its way within the government sector and about 15.9 per cent of the ministries and departments are using Linux as the operating system.

Desktop Application Software Used

In most of the cases, it is the operating system that defines the version of desktop application to be used. There are various desktop application software's available but MS Office seems to have a monopoly within these central ministries and departments.

Figure 4.19: Desktop Application Software Currently Used



Windows '2000 is the most predominant office package used by the central ministries and departments followed by Office '97. The most likely combination within ministries and departments is Windows '98 with Office '2000. As seen earlier, about 66.7 per cent use Windows 'XP operating system and about 50 per cent are using office 'XP as the application software. Lotus Notes GroupWare is also being used within 8.7 per cent of the ministries and departments. This GroupWare allows better documentation, calculation and presentation. Star Office is also found in about 2.9 per cent of them and is quite possible on some old computers.

Percentage of Employees having Official e-mail ID

Table 4.21 shows the number of employees having an official e-mail ID. This indicates the extent of email usage by the employees. It also throws light on the extent of networking within the ministry/department.

Table 4.21: Percentage of Employees having an Official Email ID

% Employees having official Email ids	
	(In %)
Base: All 69	
Less than equal to 50%	89.9
51-60%	2.9
61-70%	2.9
71-80%	2.9
More than 80%	1.4

On an average, about 25.3 per cent employees have an official e-mail ID. Generally, the e-mail IDs are given to the senior level people only, as in about 89.9 per cent of the ministries/departments, the percentage of employees having an official e-mail ID is less than 50 per cent. Entities like Council of Scientific and Industrial Research (CSIR), Department of Drinking Water, etc. have a high number of employees with official e-mail IDs, as they are linked with various attached units/regional offices via Internet and their working requires them to interlink and communicate via e-mail.

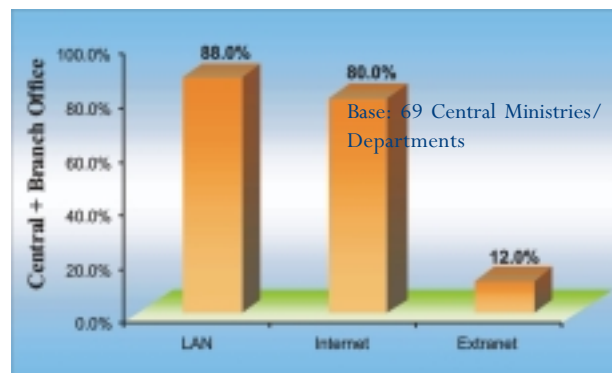
Networking Infrastructure

Networking refers to the existence of a local area network (LAN), Internet, and/or Extranet within the ministries/departments. Once the ministry/department is automated and has computers, it is required to have networking within and across offices. Networking offers benefits like effective communication, sharing of resources (hardware, software, and knowledge).

In cases of ministries and department that have a lot of shareable data, it is found that most of the computers are connected to LAN. The Office Procedure Automation (OPA) software developed by NIC requires computers to be interconnected via LAN so that the entire data can be shared. Some of the ministries and department have also gone for Wide-Area Network (WAN) to link offices spread across the city.

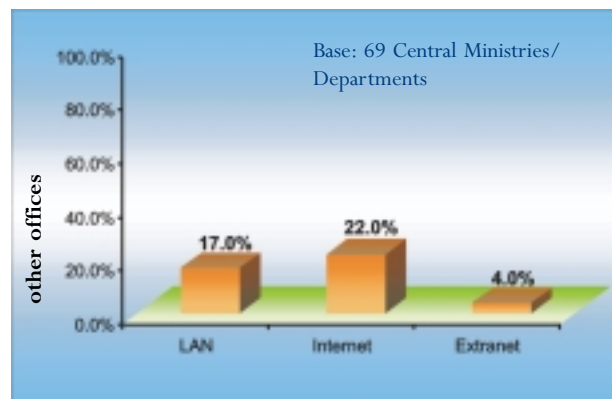
Presence of LAN/Intranet, Internet, Extranet within offices

The offices of the departments have been classified into two categories for this purpose – the first category has a central and a branch office. The second category has citizen interaction points, other closely associated government departments and field units/ nodal agencies, etc.

Figure 4.20: Connectivity across Central & Branch Offices

A majority of the central and branch offices have LAN and Internet connectivity. This is a good indicator of e-governance. Only when the networking happens, would a project be ideally implemented across ministries and departments. All the branch offices should be well networked with the central office and the aim of all the ministries and departments should be to network all the branch/regional offices to the central office. Only 12 per cent of them have Extranet. Extranet refers to linking with external agencies like suppliers, etc.

The following figure reveals that very few other offices have LAN and Internet connectivity. Other related offices of the ministry/department should also have good networking with the central office. The successful implementation of a G2C project depends on the extent to which the implementing agencies like field units and nodal agencies are connected to the head office.

Figure 4.21: Connectivity across other offices

* Other Offices include Citizen interaction points, other related govt. departments etc.

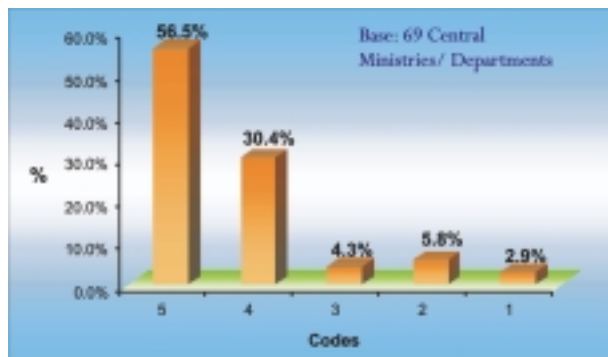
As can be seen above, the percentage of Internet connectivity is higher than the LAN, as most of the other offices connect to the head office for information sharing and reporting purposes. And secondly, it might not be viable for field units to have a separate LAN connectivity.

Status of LAN connectivity

India is considered to be at Stage I of e-governance. The IT infrastructure is developing and has not reached the final stage. Therefore, the basic infrastructure building is a big challenge for the Government. Once the nation moves into Stage II, connectivity through LAN would become very critical, as integration would be the key issue at that stage.

Figure 4.22: Status of LAN Connectivity

Codes	Status of LAN Connectivity
5	All departments/ offices are connected through LAN, for which documentary evidence can be provided
4	All critical departments are connected through LAN, for which documentary evidence can be provided
3	Some of the critical departments are connected through LAN, but evidence cannot be provided
2	Only few departments/ offices are connected through LAN
1	Not at all connected through LAN



About 56.5 per cent of the ministries and departments have all offices connected through LAN. In most of these cases, there are no branch offices and there is only a central office with LAN connectivity. About 30.4 per cent of the ministries and departments have critical offices connected through LAN. The matter of concern is the 2.9 per cent cases where there is no connectivity at all. These ministries and department should make a beginning towards networking and connect at least the central office through LAN.

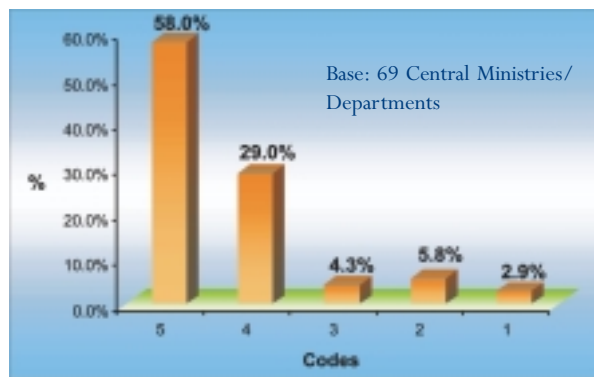
Entities like Department of Administrative Reforms and Public Grievance, Ministry of Mines, Ministry of Shipping, Ministry of Petroleum and Natural Gas etc., have all the offices connected through LAN. These entities have been able to realise the benefits of networking through LAN.

Status of Internet connectivity

The scenario is quite different in the case of connectivity through Internet. Most of the ministries and departments have an Internet connectivity with offices in far-flung areas. It is also not feasible to have LAN connectivity in all the offices. Hence the ministry/ department works with Internet connectivity for basic monitoring and reporting from such offices.

Figure 4.23: Status of Internet Connectivity

Codes	Status of Internet Connectivity
5	All departments/ offices are connected through Internet, for which documentary evidence can be provided
4	All critical departments are connected through Internet, for which documentary evidence can be provided
3	Some of the critical departments are connected through Internet, but evidence cannot be provided
2	Only few departments/ offices are connected through Internet
1	Not at all connected through Internet



Looking at the above figure, about 58 per cent of the ministries and departments have Internet across all offices. Entities like Ministry of Steel, Ministry of Power and Department of Women and Child Development fall under this category.

All the central ministries and departments need to have networking across offices and it could be through LAN or Internet. Ideally, all the offices should have LAN and inter-office connectivity could be through Internet.

Website Infrastructure

The website of a central ministry/ department is one of the indicators of a good level of e-governance. Website is one of the interfaces to service the citizens and the stakeholders. Most of the websites of various central ministries and departments have been developed by NIC.

Table 4.22: Presence of Website

% Ministry / Department having a Website	
	(In %)
Base: All 69	
Yes	98.6
No	1.4

All the central ministries and departments have a website with the exception of National Security Council which does not have a website because of security reasons. The websites are maintained and hosted by NIC in most cases. The next section discusses the functionality of the websites in the departments.

Functionality of Website

The website is used for servicing the stakeholders and citizens. The websites of some of the developed nations provide a host of services and provide links to various relevant departments, etc.

A lot of Indian government websites also offer similar services, like railways reservation services, information query services, passport services, registration of land records, etc. The following table and graph depict the level of functionality of these websites.

Codes	Level of Functionality of Website
5	Provides only static information (like details about ministry/department contact address etc.)
4	Provides frequently updated information (like railways reservation status, etc.)
3	Provides applications/ forms downloading facility
2	Online transaction processing (air ticket reservation, railway reservation etc.)
1	Interactive (forums, message boards, bulletin boards etc.)

Figure 4.24: Level of Functionality of Website

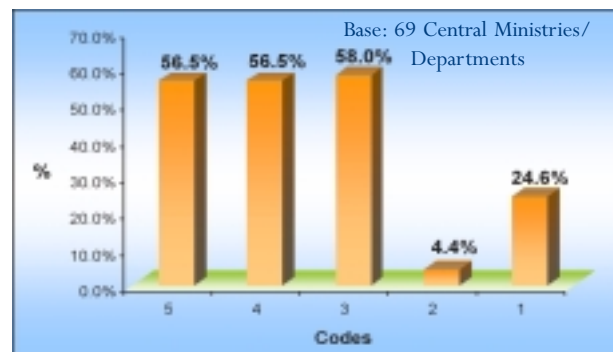
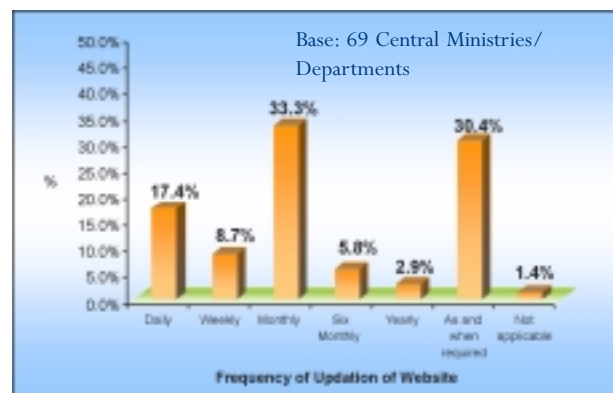
The functionality varies from basic information provision to interactive forums and online transaction processing services. An excellent example is the Ministry of Railways that provides online reservation facility on its website. This case of excellent customer service has been emulated by various ministries and departments and a lot of them have planned a host of services in the area of customer services. For example, Department of Post has planned to offer a host of services through its website.

About 56.5 per cent of the ministries and departments provide frequently updated information on their website. For example, the websites of Cabinet Secretariat, Planning Commission, etc. Another 24.6 per cent of the entities offer interactive services for stakeholders and citizens to make use of bulletin boards, forums, etc. For example Ministry of Environment and Forests, Department of Revenue and Income Tax, Department of Tourism, Ministry of Labour, etc have interactive services on its website.

Updating websites

The website is of no use if it does not provide updated information. Most of the websites are frequently updated by NIC.

Figure 4.25: Frequency of updation of website



Looking at the first bar, about 17.4 per cent entities update their website daily, for example Department of Commerce, Department of Administrative Reforms and Public Grievances etc. claim to update their websites daily. Generally, the websites are updated monthly or as and when required. There is no standard frequency of updation of a website. However, in case of citizen centric areas, the website should be updates daily.

Table 4.23 : Ranking on IT Infrastructure – SSG I

S. No.	Central Ministry/ Department within SSG I	Performance Score (Out of 185)
1	Ministry of Power	147
2	Ministry of Coal	138
3	Ministry of Steel	132
4	Department of Biotechnology	131
5	Department of Women and Child Development	128
6	Ministry of Information & Broadcasting	126
7	Department of fertilizers	124
8	Department of Public Enterprises	120
9	Ministry of Disinvestment	119
10	Ministry of Mines	118
11	Department of Administrative Reforms and Public Grievances	117
12	Department of Tourism	117
13	Ministry of Petroleum and Natural Gas	116
14	Department of Scientific and Industrial Research	116
15	Ministry of Civil Aviation	114
16	Department of Chemical and Petrochemicals	114
17	Ministry of Land Resources	114
18	Ministry of Food and Consumer Affairs	113
19	Ministry of Food Processing Industries	111
20	Ministry of Small Scale Industries and Agro and Rural Development	105
21	Department of Drinking Water Supply	104
22	Ministry of Youth Affairs and Sports	103
23	Ministry of Parliamentary Affairs	101
24	Department of Legal Affairs	100
25	Department of Atomic Research	99
26	Department of Official Languages	99
27	National Commission for SC/ST	98
28	Cabinet Secretariat	98
29	Ministry of Shipping	95
30	Ministry of Textiles	92
31	President's Secretariat	88
32	Department of Ocean Development	87
33	Ministry of Law and Justice Legislative Department	84
34	Indian Systems of Medicine and Homoeopathy	82
35	Ministry of Tribal Affairs	81
36	Department of Commerce - Supply Division	74
37	National Security Council	67

Performance Ranking on IT infrastructure

After discussing the four components of IT infrastructure, the performance ranking of all the central ministries and department on the basis of these is given below. The following tables show the group-wise performance of the various ministries/departments on IT Infrastructure:

Ministry of Power is the benchmark for SSG I. All the ministries and departments that fall in SSG I should aim to emulate the best practices manifested by this Ministry.

The performance ranking within SSG II is shown in the following table.

Table 4.24 : Ranking on IT Infrastructure – SSG II

S. No.	Central Ministry/ Department within SSG II	Performance Score (Out of 185)
1	Planning Commission	136
2	Department of Finance and Economic Affairs	121
3	Department of Personnel and Training	120
4	Department of Industrial Policy and Promotion	117
5	Department of Secondary and Higher Education	117
6	Department of Food and Public Distribution	115
7	Department of Science and Technology	114
8	Department of Telecommunications	111
9	Ministry of Non Conventional Energy Sources	109
10	Ministry of Defence - Supply and Production Division	103
11	Ministry of Environment and Forests	99
12	Department of Rural Development	99
13	Ministry of Urban Development	97
14	Ministry of Social Justice and Empowerment	93
15	Ministry of Road Transport	91

Out of a total of 15 ministries and departments in SSG II, the top five performers have been highlighted above. Planning Commission is the star performer within SSG II.

The ranking within SSG III is as follows:

Table 4.25: Ranking on IT Infrastructure – SSG III

S. No.	Central Ministry/ Department within SSG III	Performance Score (Out of 185)
1	Department of Company Affairs	132
2	Department of Information Technology	128
3	Ministry of Small Scale Industries	126
4	Department of Agricultural Cooperation	122
5	Department of Commerce	121
6	CSIR	120
7	Department of Family Welfare	117
8	Ministry of Railways	117
9	Ministry of Labour	114
10	Department of Health	112
11	Ministry of External Affairs	109
12	Department of Culture	104
13	Department of Agricultural Research and Education	90
14	Ministry of Statistics and Programme Implementation	89
15	Department of IT and Revenue	85
16	Department of Animal Husbandry	79
17	Department of Posts	78

Department of Company Affairs is the best performer on IT infrastructure within SSG III, followed by Department of Information Technology.

The following section discusses at length the performance of the central ministries and departments on the Process factor.

5. Processes

Processes is one of the six key components that measure the e-governance status of any central ministry/ department. The handling of Processes of a department would be a key indicator of the implementation of the IT Policy of the department and the utilization of knowledge of the employees. In spite of the laying down of IT policies, training people and setting up infrastructure, if the department / ministry is not able to utilise it and automate their processes, the whole effort goes waste. Thus, the automation of inter and intra departmental processes would be a sound indicator of the e-readiness of the central ministry/ department.

A few processes common across all Government ministries/ departments have been highlighted below under the heads of G2G (Government to Government), G2B (Government to Businesses) and G2C (Government to Citizens).

Key Government to Government processes

1. General Correspondence with other related ministries/ departments
2. Interaction with various administrative ministries and State Governments
3. Approval/clearances required any new project in country
4. Country's Foreign Trade Monitoring Analysis
5. Bilateral and multilateral trade and commercial relations
6. Formulation of policies for the country
7. Investigation of anti-dumping cases and recommendation
8. Legal advice to all Central Government departments
9. Litigation matters pertaining to all Central Government departments
10. External assistance from donor countries
11. Formulation of budget

Key Government to Businesses processes

1. Issue of guidelines on foreign investments, external commercial borrowings, etc.
2. Banking and insurance
3. Interaction with suppliers of equipment, expenses and consumable for tendering and purchases.
4. Procurement / Purchase
5. Development of Export Promotion Schemes and measures
6. Market Development Assistance
7. Interface with Community partners for trade facilitation EC/EDI for trade
8. Compilation of information/statistics
9. Award of contracts/approvals
10. Revision Petitions
11. Meetings, Seminars with industry associations
12. Participation in the exhibitions / international exhibitions

Key Government to Citizen processes

1. Department performance analysis
2. Grievance Redressal (PGRAMS) - Review Mechanism
3. Facilitation counters for citizen related services
4. Communication of policies and guidelines
5. Website interactions and building public awareness
6. Establishment of various institutes/ college/ autonomous bodies

7. Import of medical equipment beyond certain value
8. Medical doctors, who wants to go abroad for higher medical education
9. Ministries discretionary grant for assistance towards treatment
10. Passenger related choices such as reservation, ticketing, train movement information
11. Freight related services such as booking and receipt.
12. Claims and grievance for freight and passenger service customers.

Mode of interaction for key processes

Table 4.26: Modes of interaction of key processes

Modes of interaction	Key G2G Processes	Key G2B Processes	Key G2C Processes
	In %	In %	In %
Physical/ Telephone/ Fax	95	94	82
Email	81	62	64
Internet / website	50	43	69

The above data indicates that currently majority of the work is done on telephone, letterheads, fax (physical interactions), etc. However, it is seen that e-mails are also becoming a part of the interaction mode for all key processes in various central ministries and departments. It is seen that, increasingly, G2C processes are getting more attention on the Internet. It is mainly through the department websites, where the department can interact with the citizens. Every department should try to maximise usage of Internet as a mode of interaction for all its key processes. This would save time and effort for any central ministry / department.

Status of Automation for Key Processes

Table 4.27: Level of automation of key processes

Automation status	Key G2G Processes	Key G2B Processes	Key G2C Processes
	In %	In %	In %
Fully Automated	18	2	15
Partly Automated	61	66	73
No Automation	21	32	13

The above table shows that only a few key processes are automated across all central ministries/ departments. However, G2G processes have got the highest score of being fully automated. These G2G processes include interaction with related departments through e-mail, telephone, etc. G2C ranks next in automated processes, where interaction has become more electronic and through e-mail.

Status of Integration for key processes

Table 4.28: Level of integration of key processes

Integration status	Key G2G Processes	Key G2B Processes	Key G2C Processes
	In %	In %	In %
Fully Integrated	10	1	12
Partly Integrated	47	49	52
No Integration	43	50	36

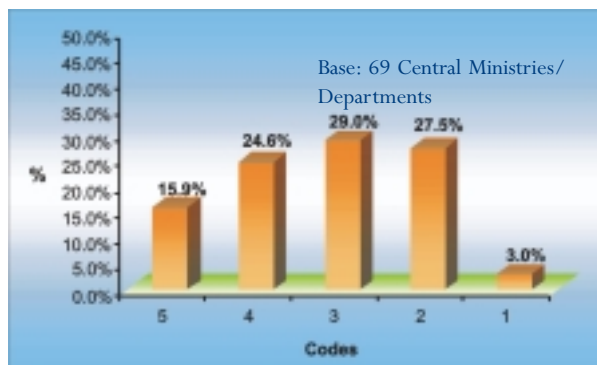
There is a very low level of integration across various key processes in central ministries/ departments. But on a positive note, it is seen that all the central departments have taken a step towards integrating all processes. All ministries have stated that around 50 per cent of the key processes are currently automated across G2G, G2B and G2C.

Database Maintenance

As seen before, database maintenance that includes keeping records, etc., is one of the core functions of any government department. Therefore it is important to have a proper database management system in all the government departments. Maintaining records of all part transactions is a really cumbersome task, which demands for electronic storage of all the records. Electronic records provide ease of storing, iterating and retrieving data as and when required.

Figure 4.26: Database maintenance

Codes	Status of database maintenance
5	All databases are electronically stored and have documentary evidences to prove it
4	All databases are electronically stored, but documentary evidence cannot be provided
3	Most of the databases are stored electronically whole a few are manually (on paper) maintained
2	A few of the databases are stored electronically, while most of them are manually maintained
1	None of the databases are stored in electronic form

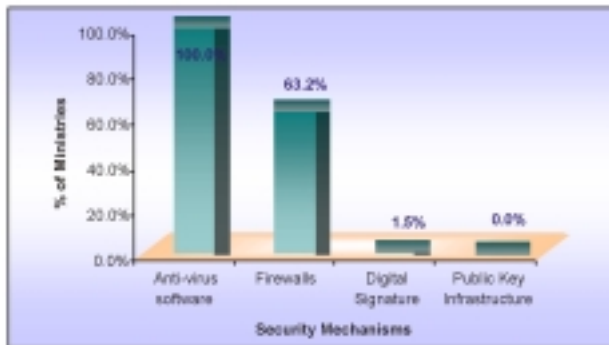


Around 40 per cent of all central ministries/ departments have their databases in electronic forms, whereas 29 per cent of the ministries have partially stored the data in electronic form. Unfortunately, around 28 per cent of them have majority of their data in paper form and 3 per cent of them have not yet started storing database in electronic form. Every ministry should get all their database stored in electronic form, this would ease the daily working of employees as data reference would be simplified.

Security Mechanisms Deployed

Government departments deal with a large amount of confidential information related to citizens, businesses and the nation. Therefore, it is important for them to adopt measures to maintain data and transaction security. The best example in this context is Ministry of Defence, which has got a lot of confidential information, and misuse of this information would definitely have a negative impact on the individual and the nation's interest. Currently, it is seen that all central ministries/ departments are using anti-virus software for ensuring security of their records.

Figure 4.27: Security Mechanisms Adopted



Around 63 per cent of these central ministries / departments are also using firewalls for maintaining security of the data. As India is currently in the first stage of e-governance, high end security mechanisms like digital signature and public key infrastructure is not being adopted by central ministries/ departments. Only one ministry has claimed to use digital signature as a security mechanism.

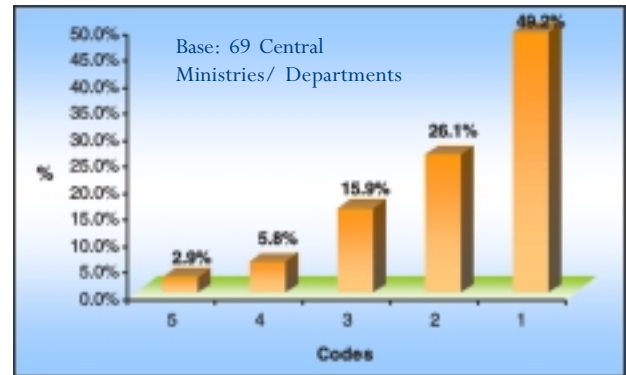
Business Process Re-engineering

As stated earlier, the Indian Government is in the first phase where policy and people factors are being focused upon. That is why it is more important to understand the perception on BPR in the government sector. BPR is perceived as something which is directly linked with

building an IT infrastructure, which includes installing LAN, developing a department's website, etc. Few ministries also comprehend it as identifying the possibility of inserting IT component in the existing processes of the department.

Figure 4.28: Phase of deployment of BPR for the key processes

Codes	Business Process Re-engineering
5	BPR has been completed on all the key processes and the results have been implemented for which documentary evidence can be provided
4	BPR has been completed on all the key processes, implementation of the results is in progress
3	BPR has been completed on a few processes and their results are being implemented
2	In the process of doing BPR on the key processes
1	No BPR has been done on the key processes



Only Cabinet Secretariat has implemented BPR on all of its key processes and also has clear evidences to prove it. They have also started integrating all IT initiatives like library management, file tracking system, payroll, etc. Majority of the processes are automated and in the stage of implementing full integration.

The above data clearly states that around half of the central ministries/ departments have not implemented any kind of BPR. It was also observed that the definition of BPR is not comprehensible among many ministries. Not only automation of the processes, but also their integration is important.

Case studies on BPR processes already undertaken/ planned for future

This section focuses on various BPR implementation projects in several central ministries/ departments. Though the number of ministries implementing BPR are few, it is important to highlight their efforts so that others can also learn from them. We have highlighted few best practices as well as BPR implementation projects that are planned for the near future.

Existing projects of BPR in central ministries/ departments

Cabinet secretariat– Cabinet Secretariat has implemented BPR in day-to-day operation of file management system. It starts from the moment any receipts/applications are received from outside. The system automatically generates one key number for a particular receipt. Then this receipt gets merged into files and is stored electronically. Top officials in the department have also been assigned the task of regularly monitoring these receipts. The BPR implementation process in the ministry has reduced the manual interference in the file management system. Other departments should try to incorporate these kinds of changes in their day-to-day activity.

DARPG – DARPG has implemented BPR on its administrative functions, which are examined on a regular basis for simplification of procedures, assessing the need for performing various activities/ tasks, impact and utility analysis, alternative ways of delegation, enhancing outcomes, effecting improvements, realising efficiencies and optimising resource utilisation. DARPG has also got the highest ranking in e-governance measures.

Ministry of Non Conventional Energy Sources – Ministry of Non Conventional Energy Sources is in the process of testing and implementing BPR through the method of online receipt of applications from SNAs (State Nodal Agencies), offering financial support and electronic processing of their requisition within various divisions of the ministry.

Department of Company Affairs –

a) Monitoring and analysis of country's trade: Quick access of data on trade details and other analysis of trade data, database had been created and maintained in the department based on the basic data supplied by DGCI&S. The web-based system has been implemented on the Internet/ Intranet to provide easy, quick retrieval of export/ import details and its analysis.

b) Automation of internal processes: A web-based system has been implemented to provide access to replies/ answers to the parliament questions. Installation of LAN/ Internet in the department has reduced the manual intervention and paper flow in the department. The web based system like Equipment Complaint System, officers-on-tour information system, leave applications processing system, and file monitoring system have been made operational on Internet in the department.

Ministry of Women & Child Development– Department of Women and Child Development is currently implementing BPR on the following schemes and programmes of the department:

- Processing project proposals received under women's economic programme
- Under 'Support for Training and Employment Programme'
- Under 'Swadhar'

Department of Public Enterprises – Department of Public Enterprise has also set up the web-enabled query package on survey database for the last 3 years and it has made it available on the Department's Intranet. This has made it easy for DPE's officer/ staff to get quick reference on the survey data. The website also offers availability of survey summary, which would offer better dissemination of information. The department is also offering survey data on CD for a better G2C interface and it also has survey input query form on the website.

BPR projects in the pipeline

Ministry of Women & Child Development– In the first phase all the key processes of the entire schemes and programmes of the department are proposed to be computerised. In the second phase on-line application facility would be introduced. This may be a difficult process that would require proper documentation and support. Ministry of Women & Child Development is also planning to implement on-line status/ tracking of pending proposals.

Department of Public Enterprises– This department also plans to set up department wide Intranet Portal for workflow. Monitoring of funds under CRR Scheme (Counseling, Retraining and Redeployment) through the web-enabled system, re-engineered back-office services for administration and other functions of the department.

Cabinet Secretariat

The Cabinet Secretariat is planning to implement BPR on the following processes:

- Budget monitoring and expenditure control
- ACC order register
- Database on vacancies in government departments

Table 4.29: Ranking on Process – SSG I

S. No.	Central Ministry/ Department within SSG I	Performance Score (Out of 77)
1	Cabinet Secretariat	67
2	DARPG	57
3	Ministry of Steel	50
4	Department of Bio-technology	47
5	National Commission for SC/ST	45
6	Ministry of Textiles	44
7	Department of Tourism	41
8	Ministry of Mines	40
9	Ministry of Coal	38
10	Ministry of Disinvestment	36
11	Ministry of Food and Consumer Affairs	33
12	Ministry of Tribal Affairs	33
13	Ministry of Food Processing Industries	32
14	Department of Fertilizers	30
15	Ministry of Land Resources	30
16	Department of Women and Child Development	29
17	Department of Public Enterprises	28
18	Department of Atomic Research	26
19	Department of Scientific and Industrial Research	26
20	Ministry of Petroleum and Natural Gas	26
21	Ministry of SSI and Agro and Rural Development	25
22	Ministry of Civil Aviation	22
23	Department of Drinking Water Supply	21
24	Department of Chemical and Petrochemicals	20
25	Department of Ocean Development	19
26	National Security Council	17
27	Department of Official Languages	17
28	Ministry of Information & Broadcasting	16
29	Department of Legal Affairs	16
30	Legislative Department.	15
31	Ministry of Power	15
32	President's Secretariat	14
33	Department of Indian System of Medicine & Homoeopathy	14
34	Ministry of Shipping	12
35	Ministry of Youth Affairs and Sports	10
36	Department of Commerce - Supply Division	9
37	Ministry of Parliamentary Affairs	8

Ministry of Shipping

This ministry is not implementing BPR currently, but it plans to implement BPR on the following processes:

- Receiving indents only through e-mail
- Inviting tonnage offers only through e-mail
- Receiving tonnage offers only through e-mail
- Nomination of vessels for approvals only through e-mail
- Receiving approvals only through e-mail
- Confirming fixtures only through e-mail
- Authorizing freight payments etc. through e-mail
- All correspondence to be exchanged through e-mail

The group-wise performance of the departments is given in table 4.30 to 4.32.

Cabinet Secretariat and DARPG have emerged as the top two scorers in SSG I. They have streamlined all of their processes in the form of wide automation and have initiated integration of processes with each other for faster implementation.

Table 4.30: Ranking on Process – SSG II

S. No.	Central Ministry/ Department within SSG II	Performance Score (Out of 77)
1	Planning Commission	44
2	Department of Food and Public Distribution	41
3	Ministry of Defence - Supply and Production Division	41
4	Department of Finance and Economic Affairs	34
5	Department of Telecommunications	31
6	Department of Science and Technology	29
7	Department of Industrial Policy and Promotion	29
8	Department of Secondary and Higher Education	28
9	Department of Rural Development	28
10	Ministry of Urban Development	28
11	Ministry of Non Conventional Energy Source	27
12	Ministry of Social Justice and Empowerment	19
13	Department of Personnel and Training	16
14	Ministry of Environment and Forests	15
15	Ministry of Road Transport	14

Planning Commission is the leader in the Process component, followed by the Department of Food and Public Distribution, Ministry of Defence which have achieved full automation of the key process and have also initiated efforts to integrate at least the key processes of the department with each other.

Table 4.31: Ranking on Process – SSG III

S. No.	Central Ministry/ Department within SSG III	Score (Out of 77)
1	Department of Family Welfare	47
2	Department of Commerce	44
3	Department of Income Tax and Revenue	37
4	Department of Agricultural Cooperation	34
5	Ministry of Small Scale Industries	33
6	Ministry of Statistics and Programme Implementation	32
7	Department of Information Technology	26
8	Department of Culture	26
9	Department of Company Affairs	24
10	Council for Scientific and Industrial Research	22
11	Department of Health	22
12	Ministry of External Affairs	20
13	Ministry of Labour	19
14	Department of Posts	18
15	Ministry of Railways	17
16	Department of Agricultural Research and Education	11
17	Department of Animal Husbandry	9

The top three ministries include Department of Family Welfare, Department of Commerce and Department of Revenue. These ministries have streamlined all of their processes by automating them and offering some integration between the key processes. The databases are stored in an electronic form and these ministries are using firewalls for maintaining data security.

The next section discusses the last of the six criteria for measuring the e-readiness of the various ministries/ departments.

6. Benefits

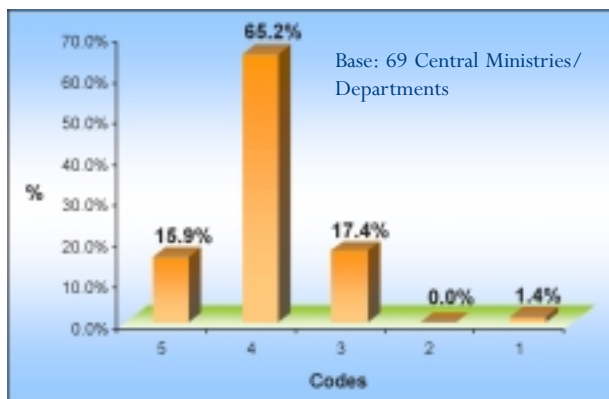
Realisation of the Benefits of IT is the sixth component in the e-governance framework. Once the ministries and departments have implemented their e-governance projects, they need to evaluate its benefits to themselves, stakeholders and citizens. Infact, the method of evaluating benefits from IT needs to be included in the IT action plan itself. The measurement of benefits to the stakeholders

(citizens, other government departments or the government itself) would ensure that all the efforts are finally bearing fruit. The reduction in the time of processes and easy accessibility and availability of information to the stakeholders involved would be a key indicator of e-readiness. The known benefits of e-Governance are improved quality of citizen services, improved internal efficiencies, better enforcement of law and order, removing subjectivity and discretion in departmental activities, better compliance to laid down standards and better satisfaction levels of the stakeholders.

Several ministries and departments have implemented various e-governance projects. Quite a few of them have also realised the benefits of implementing IT in their processes. The benefits are measured on several parameters like improvements in productivity, better time management, improved efficiency etc.

Figure 4.29: Benefits of implementing IT in the processes

Codes	Benefits of Implementing IT in the processes
5	There are clear benefits from IT implementation for which documentary evidence exists
4	There are clear benefits from IT implementation but no documentary evidence exists
3	Only limited benefits of IT implementation have been observed
2	No benefits of IT implementation have been observed
1	We are in the process of developing mechanism to observe benefits of IT implementation



It is observed that about 81 per cent of the ministries and departments have realized clear benefits of implementing IT in their processes. Entities like Cabinet Secretariat, Department of Administrative Reforms and Public Grievances, Department of Post and Ministry of Small Scale Enterprises fall under this category. Around 17.4 per cent of the entities have realized limited benefits from IT implementation. This could probably be because of the IT

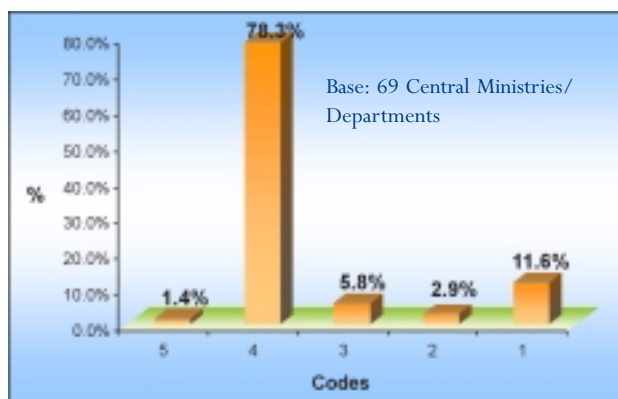
projects still being in the implementation stage or because of the lack of a proper mechanism of evaluating the benefits. Another problem could be the problem of “resistance to change” within the employees. Even though the IT projects have been implemented, the people resist adopting IT in their functioning. None of the ministries or departments have negated the benefits of IT. All the ministries and departments realise that IT is beneficial for their organisation and would definitely yield benefits in some way or the other.

ROI for implementing IT in process

One of the methods for measuring IT benefits is assessing the Returns on Investment on IT. Normally, whenever any project is evaluated, the ROI is a basic tool for assessing the benefits of undertaking that project. In case the ROI is not visible, the project is not undertaken.

Figure 4.30: Returns on Investment for implementing IT in the processes

Codes	Returns on Investment for implementing IT in the processes
5	Clearly defined and documented proof on Returns on Investment for implementing IT in processes
4	No documentation is done, but Returns on Investment for implementing IT in processes is apparent
3	Minimal Returns on Investment in implementing IT in processes
2	No Returns on Investment seen in implementing IT in processes
1	Never tried to observe Returns on Investment in implementing IT in processes



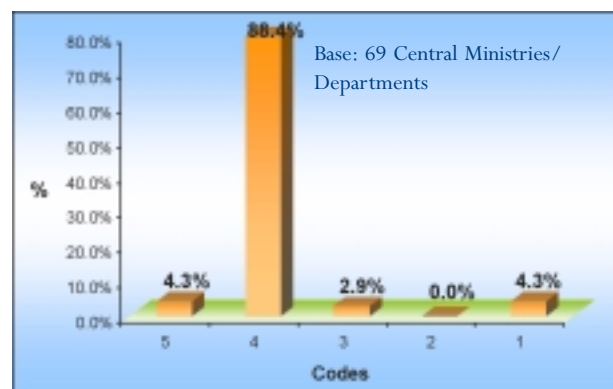
Looking at the first and second bar, around 79.7 per cent of the ministries and departments have found ROI apparent, and one department has documentary evidence to prove the ROI for implementing IT in its processes. The matter of concern is the 11.6 per cent cases, those who have never

tried to observe the ROI in implementing IT in the processes. The practice of observing ROI on each IT projects needs to be made mandatory. This would also check that no investment goes waste, in case the ROI is too less to justify the implementation of any IT project.

ROI is a financial tool to measure the impact of IT. Another subjective tool for assessment is the impact on productivity. This subjective assessment can be converted into an objective one by defining the parameters of productivity. Productivity could be measured as reduction in time, improvement in the efficiency, etc.

Figure 4.31: Impact on Productivity

Codes	Impact on Productivity
5	Clearly defined and documented proof on impact on productivity for implementing IT in processes
4	No documentation is done, but impact on productivity for implementing IT in processes is apparent
3	Minimal impact on productivity in implementing IT in processes
2	No impact on productivity seen in implementing IT in processes
1	Never tried to observe impact on productivity in implementing IT in processes



About 92.7 per cent ministries and departments have realised the impact of IT on productivity and about 4.3 per cent of the cases have documentary evidence to show the impact on productivity. These cases are entities like Department of Commerce, Department of Post and Department of Administrative Reforms and Public Grievances.

Performance Ranking on IT Benefits

The performance ranking on IT Benefits for the central ministries and departments is shown in tables 4.33 to 4.35.

Table 4.32: Ranking on Benefits in SSG I

S. No.	Central Ministry/ Department within SSG I	Performance Score (Out of 93)
1	Department of Administrative Reforms and Public Grievances	84
2	Department of Women and Child Development	74
3	Cabinet Secretariat	74
4	Department of Biotechnology	74
5	Department of Ocean Development	74
6	Ministry of Steel	56
7	Ministry of Mines	56
8	Ministry of Coal	56
9	Department of Legal Affairs	56
10	Ministry of Shipping	56
11	Department of Commerce - Supply Division	56
12	Department of Scientific and Industrial Research	56
13	Ministry of Textiles	56
14	Ministry of Petroleum and Natural Gas	56
15	Department of Tourism	56
16	National Commission for SC/ST	56
17	Department of Atomic Research	56
18	Department of Chemical and Petrochemicals	56
19	Department of Official Languages	56
20	Ministry of Disinvestment	56
21	Ministry of Land Resources	56
22	Ministry of Civil Aviation	56
23	National Security Council	56
24	Department of Public Enterprises	56
25	Department of Drinking Water Supply	51
26	Indian Systems of Medicine and Homoeopathy	47
27	Ministry of Tribal Affairs	47
28	Ministry of Law and Justice Legislative Department.	47
29	Ministry of Food and Consumer Affairs	47
30	Ministry of Information & Broadcasting	47
31	Ministry of Small Scale Industries and Agro and Rural Development	42
32	Ministry of Food Processing Industries	42
33	Department of Fertilizers	37
34	Ministry of Parliamentary Affairs	33
35	Ministry of Power	28
36	President's Secretariat	28
37	Ministry of Youth Affairs and Sports	5

Table 4.33: Ranking on IT Benefits – SSG II

S. No.	Central Ministry/ Department within SSG II	Performance Score (Out of 93)
1	Ministry of Social Justice and Empowerment	74
2	Ministry of Urban Development	56
3	Department of Science and Technology	56
4	Department of Secondary and Higher Education	56
5	Ministry of Defence - Supply and Production Division	56
6	Planning Commission	56
7	Department of Personnel and Training	56
8	Ministry of Non Conventional Energy Sources	56
9	Department of Industrial Policy and Promotion	56
10	Department of Telecommunications	56
11	Department of Finance and Economic Affairs	56
12	Department of Rural Development	51
13	Department of Food and Public Distribution	47
14	Ministry of Environment and Forests	37
15	Ministry of Road Transport	28

Table 4.34: Ranking on IT Benefits – SSG III

S. No.	Central Ministry/ Department within SSG III	Performance Score (Out of 93)
1	Department of Commerce	93
2	Department of Posts	84
3	Department of IT and Revenue	74
4	Ministry of Small Scale Industries	74
5	Department of Family Welfare	74
6	Department of Agricultural Co-operation	56
7	Ministry of Railways	56
8	Department of Health	56
9	Department of Information Technology	56
10	Ministry of External Affairs	56
11	Ministry of Statistics and Programme Implementation	56
12	Department of Agricultural Research and Education	56
13	Department of Company Affairs	56
14	Department of Culture	47
15	CSIR	47
16	Ministry of Labour	42
17	Department of Animal Husbandry	42

The Department of Administrative Reforms and Public Grievances is the benchmark within SSG I. It has evaluated IT benefits on two parameters and should also include ROI in its assessment of IT benefits. In SSG II, out of a total of 15 entities, only Ministry of Social Justice and Empowerment seems to have performed better than the

others. Other ministries and departments in this SSG need to have a better mechanism for evaluating IT benefits.

Department of Commerce lies within SSG III and is the benchmark for not only this SSG but for departments in the other SSGs also. The top performers within this SSG have been highlighted in the above table.