

# **Project on Auditing E Government**

***(2006-07)***



***An Information and Knowledge Sharing  
initiative of ISCITA***



# Table of Contents

<b>Contents</b>	<b>Page No:</b>
<b>Preface</b>	<b>3</b>
<b>Highlights</b>	<b>4</b>
<b>Project Methodology</b>	<b>5</b>
<b>Survey Findings</b>	<b>6-16</b>
<b>E Government: Facts, Concepts and Perceptions</b>	<b>7-9</b>
<b>Audit Methods</b>	<b>10-13</b>
<b>Technology Centric Issues</b>	<b>14</b>
<b>Challenges</b>	<b>15</b>
<b>Conclusion and Recommendations</b>	<b>16</b>
<b>Annexure</b>	<b>17-22</b>
<b>Annexure A: Financial outlays on E Governance in Some SAIs</b>	<b>17</b>
<b>Annexure B: Number of E Governance audits conducted by different SAIs</b>	<b>18</b>
<b>Annexure C: Chronology of first IT Audit /first E Gov audit in SAIs</b>	<b>19</b>
<b>Annexure D: SAIs using a framework to conduct audit of e governance</b>	<b>20</b>
<b>Annexure E: Use of CAATs in E Gov Audit by SAIs</b>	<b>21</b>
<b>Annexure F: Framework/Standards used by SAIs to audit IT Security</b>	<b>22</b>
<b>The Survey Questionnaire</b>	<b>23-28</b>
<b>Team</b>	<b>29</b>



# Preface

At the 15<sup>th</sup> meeting of ISCITA at Brasilia it was decided that SAI India would lead the project on auditing e government which falls under the domain of knowledge and information sharing of ISCITA.

The efforts of SAI India were assisted by the SAIs of USA, Canada, UK, Sweden and Norway. This project essentially aims at collecting and distributing e government experiences, summarizing the audit work and e government concepts and analyzes the e government methods. It would hopefully result in better awareness about the concerns of the Supreme Audit Institutions regarding auditing e government/governance projects.

This report brings to completion the project on auditing e government which in a sense is only the beginning of a new and exciting stage which should result in specific audit products being developed taking into account the special concerns of SAIs in auditing e governance related activities.



## ***Highlights:***

- **Audit of e Governance -a relatively new area even for SAIs where IT Audit or audit of IT Systems is a well established process.**
- **Majority of the countries have a national/regional level strategy/plan for implementing/promoting e governance.**
- **No requirement of SAI's involvement in system development phases of e governance projects in majority of countries.**
- **No in built feature of audit by SAIs for e governance projects funded by international donor agencies in majority of countries.**
- **Coverage of Critical citizen services most important criteria for selection of an e governance project for audit by SAIs.**
- **Evaluation of Quality of service the most important audit objective**
- **End user/citizen satisfaction the most important criteria for measuring performance of e governance projects.**
- **Computer Assisted audit techniques viewed as adding value to the audit efforts.**
- **Audit of information security a very important area for audit.**
- **Balanced reporting needed in audit of e governance projects.**
- **Lack of political and executive will seen as the biggest hurdle in effective implementation of e governance.**



## PROJECT METHODOLOGY

After consultation with other members of the team SAI India circulated a detailed questionnaire to all the member of ISCITA. Responses were received from 21 countries. These responses were collated and analyzed to bring out information and trends regarding audit of e governance. The most important component of this integrated project was to collect and distribute e government related experience of various SAIs. The first question in the survey questionnaire which was asked was about the level of use of Information Technology in public governance in the country to which the SAI belonged.

Out of the responses which were received 7 stated that it was well established, 8 stated that it was in increasingly being used and 6 stated that it was in the initial stages. This information provided a very even mix of the countries at various stages of IT related activities. The categorization was as follows:

<b>Well established</b>	<b>Increasingly being used</b>	<b>In initial stages</b>
Austria	Bhutan	Costa Rica
Canada	China	Lithuania
Netherlands	Japan	Norway
Qatar	India	Pakistan
Sweden	Oman	Peru
United Kingdom	Poland	Russia
USA	Slovakia	
	Colombia	



# **SURVEY FINDINGS**



## E GOVERNMENT: FACTS, CONCEPTS AND PERCEPTIONS

- Though a majority of the SAIs clearly made a distinction between e government and e governance a significant number<sup>1</sup> still used the terms interchangeably. Interestingly none of the countries where IT is in the initial stages of being used in Public governance used the terms interchangeably.
- An important area to look for was whether there are formal national /regional level plans for implementing e-Governance in different countries. Though the responses were from countries with varying systems 85% of the countries<sup>2</sup> stated that there was some form of a structured strategy/plan for promoting/implementing e governance. This fact underlines the importance given by the national/other governments to e governance. Moreover the investment being made in the plans were substantial ranging from 2.7 million USD to 20 Billion US Dollars<sup>3</sup>; details are given in annexure **A**. However only four SAIs<sup>4</sup> reported the number of audit of e governance projects in double figures; details are given in annexure **B**. Though a clear majority of the SAIs intend to expand their activity in the field of e governance audits it was a priority

---

<sup>1</sup> Austria, Bhutan, Canada, China, Oman, Poland, Qatar, Slovakia.

<sup>2</sup> Austria, Bhutan, Canada, China, India, Japan, Lithuania, Netherlands, Norway, Oman, Pakistan, Poland, Qatar, Russia, Slovakia, UK, USA.

<sup>3</sup> Poland and UK (Private sector organization estimate) Respectively

<sup>4</sup> USA(>50), India(>15), UK(15),Costa Rica(10 to 12)



areas for only half of those SAIs<sup>5</sup> where use of IT in public governance was either well established or was increasingly being used.

- Another related finding was that half the SAIs identified IT Audit as a distinct entity while other countries identified it as primarily a part of the financial and performance audits thus carrying the ideological debate further. However only about one fourth of the SAIs stated IT Audit to be a well established function in their organization. Moreover the time gap between the first IT Audit and first audit of an e governance project ranged from 29 year to 2 years and most audits were undertaken in the last decade for all SAIs; details given in annexure C . As at the same time there was a near unanimous opinion that auditors should either possess defined skills to conduct audit of e governance initiatives or have adequate knowledge about IT. The facts point towards an unstated need for further imparting of skills to auditors for audit of e governance projects.

IT Audit as a distinct entity	IT Audit as part of financial/performance audits
Austria	China
Bhutan	Costa Rica
Canada	Japan
India	Netherlands
Lithuania	Norway
Oman	Poland
Pakistan	Russia
Peru	Sweden
Qatar	United Kingdom
Slovakia	USA
	Colombia

- However a striking feature of the findings of the survey was the fact was an apparent lack of required involvement of the SAIs to be

<sup>5</sup> Austria, Qatar, UK, India, Bhutan, Oman, Slovakia.



associated with system development phases of e governance projects even when it is well established that audit involvement in the formative stages of e governance projects which involve substantial business process reengineering, would help reduce rectification of costly errors which may be discovered later. Though many SAIs had participated in audit of e governance projects while they were being implemented it was not extended to business process reengineering.

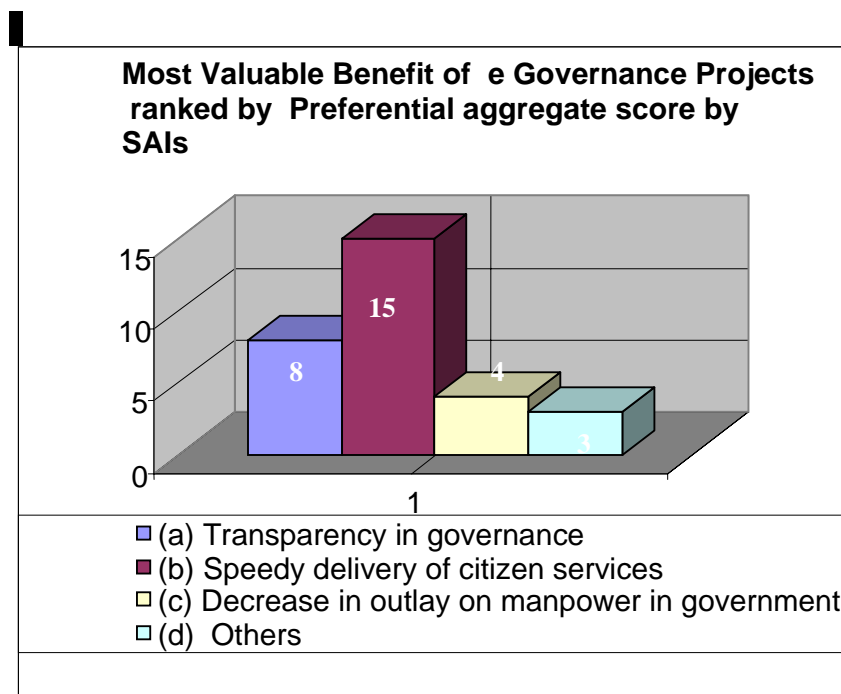
- A majority of the SAIs reported that their audit findings were fully or partly accepted by the auditees and happily none reported non acceptance of the findings. However two countries<sup>6</sup> which had some of the largest e governance related government investments also reported some non cooperation by the auditees during audit of e governance projects.
- Regarding e–Governance initiatives being funded fully / partly by International Donor agencies the responses were on expected lines with the funding being concentrated in countries where e governance was in initial stages or was being increasingly used. However an area of concern was the fact that apart from two countries nowhere was the audit by SAI of such projects an inbuilt feature of such initiatives.

---

<sup>6</sup> India and Russia

## AUDIT METHODS

- Only about 50 percent SAIs<sup>7</sup> reported use of a structured framework to audit e governance projects. Amongst the frameworks used CoBIT was the most common; details are given in annexure D. The SAIs which used a structured framework also the most successful in conducting the larger number of e governance audits.
- As the two most valuable benefits of e governance projects speedy delivery of citizen services and Transparency in governance clearly outranked cost considerations by decreased outlay on manpower.

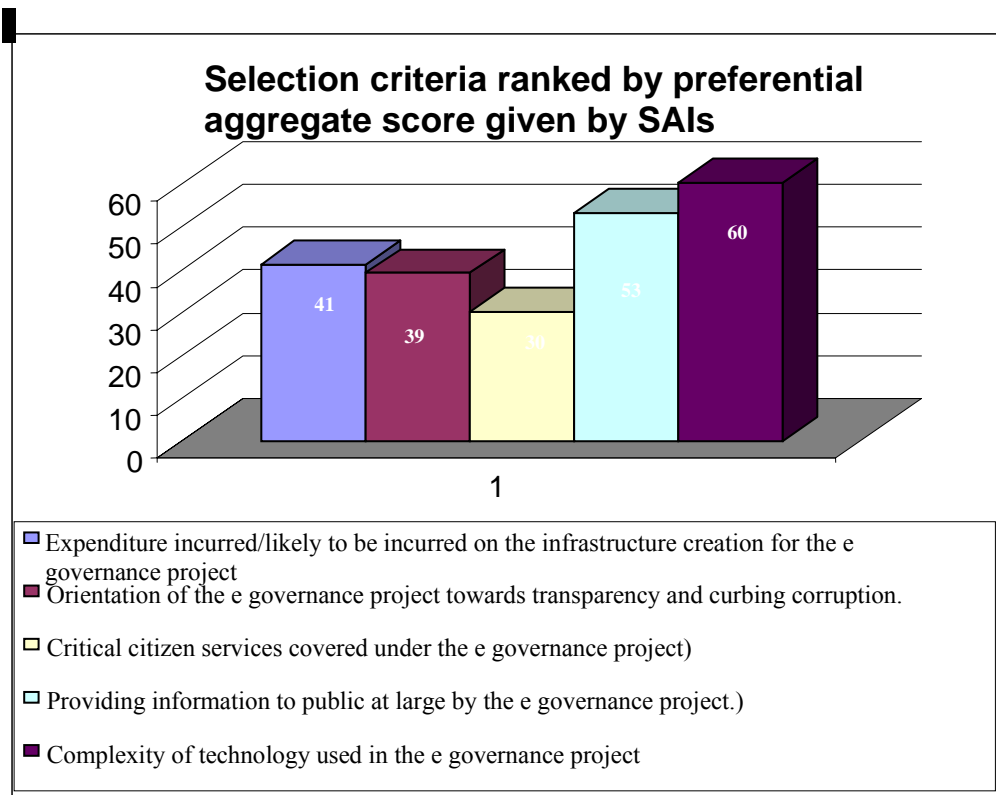


- The SAIs felt that the most important factor in choosing an e governance project by audit is the Critical citizen services covered under the e governance project. This was closely followed by

<sup>7</sup> Canada, Costa Rica India, Japan, Lithuania, Norway, Pakistan, Poland, Russia, Sweden and United Kingdom.



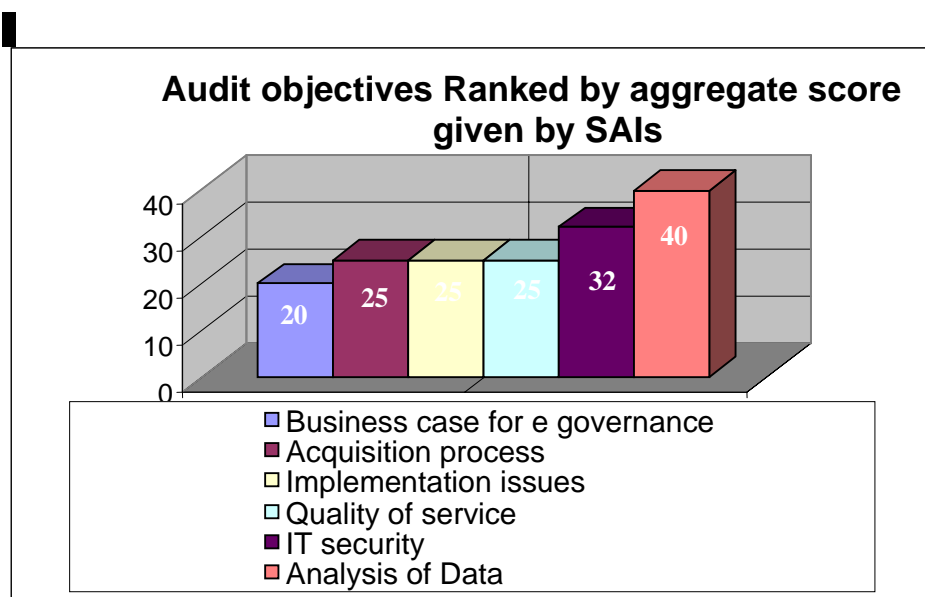
Orientation of the e governance project towards transparency and curbing corruption and Expenditure incurred/likely to be incurred on the infrastructure creation for the e governance project. Providing information to public at large by the e governance project and Complexity of technology used in the e governance project were seen as relatively less important parameters determining the audit selection of the projects. The selection criteria bring out clearly the soft benefits focus of the SAIs rather than the conventional focus on the expenditure or technology related aspects.



- Similarly the SAIs felt that the most important audit objective is Quality of service followed by Implementation issues, Acquisition



process and Business case for e governance. IT Security and analysis of data were ranked much lower as the audit objectives.



- For the criteria for measuring performance of e governance projects the most common was End user/ citizen satisfaction in terms of convenience. This was jointly followed by End user/ citizen satisfaction in terms of increased transparency and Protection of the Confidentiality, Integrity and the Reliability of the information stored and processed by the e governance initiatives. The SAIs felt as against the traditional approach that in e governance projects the Returns on the Expenditure incurred on the infrastructure creation for the e governance project is a relatively less important criterion for measuring the success or failure of and e governance project.
- ☞ Since most of the available frameworks do not necessarily address the concerns of SAIs especially regarding the evaluation of soft benefits like increasing transparency and user satisfaction there is a need for the SAIs to have a framework to conduct audit especially



of the impact assessment of e governance projects. This assumes further importance in view of the fact that regarding user satisfaction issues, while auditing e governance projects, existing government records/reports remained the most common source of information followed closely by sample survey methodology and 25 percent SAIs<sup>8</sup> even reported this aspect not being addressed at all.

---

<sup>8</sup> Canada, Costa Rica, Norway, Oman, Sweden.



## TECHNOLOGY CENTRIC ISSUES

- Though only a little less than half<sup>9</sup> of the SAIs stated that they had used CAATs (Computer Assisted Audit Techniques) for data analysis in audit of e governance projects an overwhelming majority of those who responded stated that use of CAATs helped in value addition to the audit effort; a variety of CAATs were used including IDEA, ACL, SQL, MS-ACCESS etc; details are given in the annexure **E**.
- On the other hand there was a near unanimous view that audit of Information Security an important area in audit of e governance projects and a majority of SAIs stated to have used a framework/standard to conduct audit of IT Security with CoBIT and BS7799/ISO27799 being the most common. ITIL and in-house standard were also being used by a few SAIs ;details are given in annexure **F**. As a very large number of e governance projects store and process confidential and/or personal information of citizens the importance of protection of security of such information is well recognized by all the SAIs.

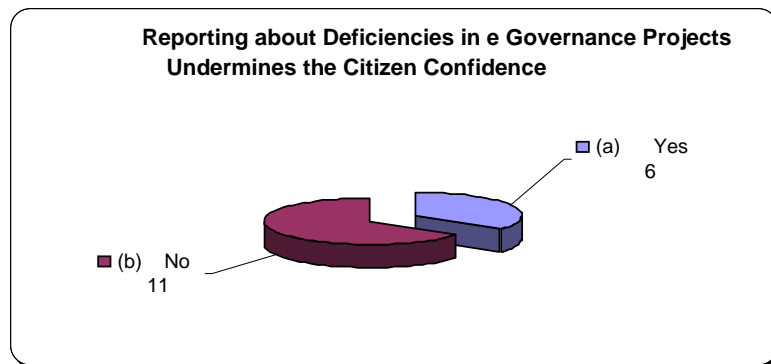
---

<sup>9</sup> Austria, Canada, China, Costa Rica, India, Japan, Pakistan, Peru, Poland, Russia, Slovakia, USA.

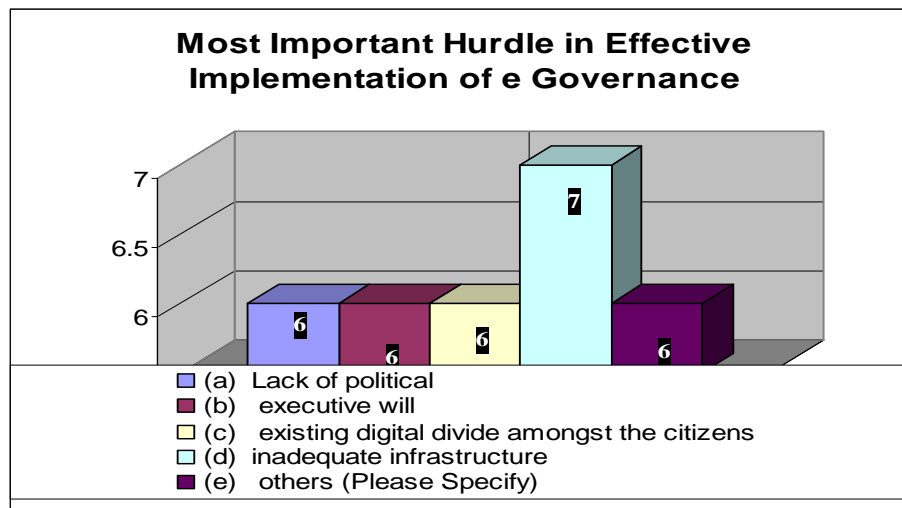


# CHALLENGES

A clear majority of the SAIs felt that an overtly critical report on the deficiencies in e governance projects will not undermine the citizen confidence in such projects and prove counterproductive to the cause of transparency in governance. However the SAIs<sup>10</sup> who were apprehensive about the negative impact of an overtly critical reporting belonged to diverse geopolitical regions reflecting valid concerns.



- Lack of political and executive will were seen as the most important hurdles in effective implementation of e governance. Digital divide and inadequate technical infrastructure were also seen as impediments in the growth of e governance.



<sup>10</sup> Austria ,Costa Rica, India, Norway, Qatar and Slovakia.



## ***Conclusion:***

Audit of E Governance is an area where most SAIs are desirous of increasing their activities. The SAIs are also conscious of the fact that evaluation of e governance projects needs a different approach especially in quantification of soft benefits associated with such initiatives. SAIs which used a structured framework to audit e governance were more successful in their endeavor. However areas of concern remain especially regarding lack of association of SAIs in system development phase of e governance initiatives, requirement of a framework taking into account the needs of SAIs in auditing e governance projects and non requirement of audit by SAIs in a majority of e governance project funded by international donor agencies.

## ***Recommendations:***

ISCITA may consider a project to create a framework incorporating the global experience and best practices which can be used to objectively, and on a replicable basis, assess the impact of e-governance on the actual targeted audience keeping in mind the role and responsibilities of the SAIs. For this, association with other international bodies can be sought. ISCITA may also consider working out the modalities of developing an online training module on audit of e governance projects for member countries.



## *Annexure A*

### **Financial outlays on E Governance in Some SAIs**

<b>#</b>	<b>Country</b>	<b>Financial outlay (in USD)</b>
1.	Austria	400 million
2.	Canada	50 million per Year
3.	India	5 billion(three year period)
4.	Japan	4 billion per year (operation cost)
5.	Lithuania	175 million
6.	Pakistan	42 million
7.	Poland	2.7 million
8.	Russia	2.4 billion
9.	U K	20 billion



## *Annexure B*

### Number of E Governance audits conducted by different SAIs

<b>Number</b>	<b>Countries</b>
>50	USA
$\geq 15 < 50$	U.K., India
$\geq 5 < 15$	Costa Rica, Russia, Austria
$\geq 1 < 5$	Canada, Costa Rica, Japan, Lithuania, Norway, Oman, Poland
Not conducted	Bhutan, China, Netherlands, Pakistan, Peru, Qatar, Slovakia



## *Annexure C*

### **Chronology of first IT Audit /first E Gov audit in SAIs**

<b>SAIs</b>	<b>Country</b>	<b>year in which the first IT Audit/Audit of IT Systems attempted by SAI</b>	<b>year in which the first Audit of e governance initiative done by SAI</b>	<b>Time difference between first IT Audit &amp; first audit of e governance processed</b>
1.	Austria	1988	2001	13
2.	Bhutan	2006	-	--
3.	Canada	1979	2000	21
4.	China	2005	-	--
5.	Costa Rica	1993	1997	04
6.	India	1990	2002	12
7.	Japan	1982	2003	21
8.	Lithuania	2001	2003	02
10	Norway	1975	2003	28
14	Poland	1998	2002	04
15	Qatar	2006	-	--
16	Russia	2000	2002	02
17	Slovakia	2005	-	--
18	Sweden	1975	2002	27
19	United Kingdom	1970	1999	29



## *Annexure D*

### **SAIs using a framework to conduct audit of e governance**

	<b>Country</b>	<b>Framework</b>
<b>1.</b>	<b>Costa Rica</b>	<b>COBIT</b>
<b>2.</b>	<b>India</b>	<b>CoBIT</b>
<b>3.</b>	<b>Japan</b>	<b>FA ENTERPRISES</b>
<b>4.</b>	<b>Lithuania</b>	<b>COBIT, ISO 17799</b>
<b>5.</b>	<b>Norway</b>	<b>COBIT</b>
<b>6.</b>	<b>Pakistan</b>	<b>RISK BASED</b>
<b>7.</b>	<b>Poland</b>	<b>COBIT</b>
<b>8.</b>	<b>Russia</b>	<b>BPWin, Microsoft Project Management</b>
<b>9.</b>	<b>United Kingdom</b>	<b>COBIT</b>



## *Annexure E*

### **Use of CAATs in E Gov Audit by SAIs**

<b>S No:</b>	<b>CAAT</b>	<b>User SAIs</b>
1.	IDEA	Costa Rica, India, Slovakia, U.K., USA
2.	ACL	Austria, Canada, Costa Rica, Oman, Pakistan, Peru, Poland, USA
3.	SQL	China, India, Russia, Slovakia, USA
4.	MS Access	China, Costa Rica, India, Japan, Oman, Poland, USA
5.	Others	China, Japan, Poland, Russia, Slovakia



## *Annexure F*

### **Framework/Standards used by SAIs to audit IT Security**

Framework/Standard	Countries
CoBIT	China, Costa Rica, India, Lithuania, Oman, Peru, Poland, Slovakia
BS7799/ISO27799	Costa Rica, India, Japan, Peru, Poland, Slovakia
ITIL	China, Peru
Others	Austria, Costa Rica, Lithuania, Sweden



# The Questionnaire

Collect and distribute e-Governance experiences:

1. How would you describe the use of Information Technology in public governance in your country?		
(a) Well established	(b) Increasingly being used	(c) In the initial stages
2. Does you SAI identify IT Audit as a distinct activity?		
(a) Yes		(b) No
3. If not, then which of the following does it form part of:		
(a) Financial Audits	(b) Performance Audits	(c) Systems Audits
(d) Others (please Specify)		
4. How would you describe IT Audit function/ Audit of IT systems in your SAI?		
(a) Well Established	(b) Increasingly being used	(c) In the initial stages
5. In which year was the first IT Audit/ Audit of IT Systems attempted by your SAI?		
6. In which year was the first Audit of e governance initiative done by your SAI?		
7. How many e governance audits have been conducted by your SAI in the past 4 years? (Please give numbers only)		
8. Is there a nation/regional level plan for implementing e-Governance in your country?		
(a) Yes		(b) No
9. If yes, then what is the size of that plan? (In terms of)		
(i) Financial outlay (In USD)		
(ii) Activities covered		



10. Is it mandatory for audit to be associated with system development phases of e governance projects?		
(a) Yes	(b) No	
11. Has Your SAI participated in audit of e governance projects while they were being implemented (as concurrent audits)?		
(a) Yes	(b) No	
12. If yes then which phase has it participated in : (Check more then one option if applicable)		
(a) Business process reengineering	(b) system design	(c) system implementation
(d)	Others (Please Specify)	
13. Has your SAI faced non cooperation from auditee organizations while auditing e governance projects?		
(a) Yes	(b) No	
14. How have the findings of your audits been accepted by the auditees?		
(a) Completely accepted	(b) Largely accepted	(c) Only a few observations accepted
(d)	Not accepted at all	
15. How many e–Governance initiatives are being funded fully / partly by International Donor agencies?		
(a) Majority of the initiative		
(b) Not the majority, but a large number		
(c) A few projects.		
(d) Not funded		
16. If e–Governance initiatives are being funded fully / partly by International Donor agencies, is audit by SAI of such projects an inbuilt feature of such initiatives?		
(a) Yes	(b) No	
17. Has your SAI conducted audits of e governance initiatives being funded fully/partially by international donor agencies?		



(a) Yes	(b) No
18. If the answer to the question no: 15 is 'yes' please specify such projects audited by your SAI	
(i)	
(ii)	
(iii)	
(iv)	
(v)	

*Analyze e-Government Methods*

1. Has any framework been used to audit e governance projects by your SAI? If yes please specify	
(a) Yes	(b) No
2. If a framework has been used to audit e governance projects by your SAI please specify :	
3. Rank the following factors in decreasing order of importance for choosing an governance project for audit by your SAI :	
Factors	Rank
(i.) Expenditure incurred/likely to be incurred on the infrastructure creation for the e governance project.	
(ii.) Orientation of the e governance project towards transparency and curbing corruption.	
(iii.) Critical citizen services covered under the e governance project	
(iv.) Providing information to public at large by the e governance project.	
(v.) Complexity of technology used in the e governance project	
4. Rank the following audit objectives in decreasing order of priority when conducting audit of e governance projects:	
Audit Objectives	Rank



(i) Business case for e governance	
(ii) Acquisition process	
(iii) Implementation issues	
(iv) Quality of service	
(v) IT security	
(vi) Analysis of Data	
5. Rank the following criteria for measuring performance of e governance projects in decreasing order of importance?	
Criteria	Rank
(i) End user/ citizen satisfaction in terms of convenience	
(ii) End user/ citizen satisfaction in terms of increased transparency	
(iii) Protection of the Confidentiality, Integrity and the Reliability of the information stored and processed by the e governance initiative	
(iv) Returns on the Expenditure incurred on the infrastructure creation for the e governance project.	
6. Has your SAI used CAATs (Computer Assisted Audit Techniques) for data analysis in audit of e governance projects?	
(a) Yes	(b) No
7. If Yes, then which CAATs have been used: <i>(Check more than one option if applicable)</i>	
(a) IDEA	(b) ACL
(c) SQL	(d) MS Access
(e) Others ( Please Specify)	
8. Has the use of CAATs helped in value addition to the audit effort?	
(a) Yes	(b) No



9. Is audit of Information Security an important area in audit of e governance projects?		
(a) Yes	(b) No	
10. Which framework/standard has your SAI used for Information Security Audit in e governance projects?		
(a) CoBIT	(b) BS7799	(c) ITIL
(d) Others (Please specify)		
11. How is User satisfaction issues addressed while auditing e governance projects? <i>(Check more than one option if applicable)</i>		
(a) Through sample surveys	(b) through mailed questionnaires	
(c) Using existing government reports	(d) Not addressed	
(e) Others (Please specify)		
12. Will an overtly critical report on the deficiencies in e governance projects undermine the citizen confidence in such projects and prove counterproductive to the cause of transparency in governance?		
(a) Yes	(b) No	

*Summarize e-Government concepts*

1. Are the terms e governance and e government used interchangeably by your SAI?	
(a) Yes	(b) No
2. Is audit of e-Governance projects is a priority area for your SAI?	
(a) Yes	(b) No
3. Do you intend to expand your activity in the field of e governance audits?	
(a) Yes	(b) No
4. Do you think that auditors should possess special technical skills to conduct audit of e governance initiatives?	



(a) Yes	(b) No
5. What do you think is the most valuable benefit of auditing e governance projects?	
(a) Transparency in governance	(b) speedy delivery of citizen services
(c) decrease in outlay on manpower in government	(d) other ( Please Specify)
6. What is the most important hurdle in effective implementation of e governance?	
(a) Lack of political	(b) executive will
(c) existing digital divide amongst the citizens	(d) inadequate infrastructure
(e) others (Please Specify)	
7. If you wish to share more regarding the audit of e governance initiatives by your SAI Please utilize the space given below: (Max 200 words)	



## *Team*

- Dr Ashutosh Sharma, Office of the Comptroller and Auditor General of India.
- Madhav Panwar, Government Accountability Office USA
- Richard Brisebois, Office of the Auditor General of Canada
- Steve Doughty, National Audit Office UK
- John Thurley, National Audit Office UK
- Bjorn Undall, Swedish National Audit Office
- Thor Svendsen, Audit Office Norway.