Department of Electronics and Information Technology
Ministry of Communications and Information Technology
Government of India

राष्ट्रीय इ-गवर्नेंस योजना
National e-Governance Plan

eGCF

simplifying capacity building

e-Governance Competency Framework for Digital India

with Implementation Toolkit

Department of Electronics and Information Technology
Ministry of Communications and Information Technology
Government of India
सत्यमेव जयते

राष्ट्रीय इ-गवर्नेंस योजना
National e-Governance Plan
एक कदम आपकी ओर
एक कदम आपके लिए
Public services closer home

eGCF

Simplifying Capacity Building

e-Governance Competency Framework
for Digital India
with Implementation Toolkit

NeGD
National e-Governance Division

e-Governance Competency Framework (eGCF) for Digital India with Implementation Toolkit

First Edition
December 2014

Published by National e-Governance Division (NeGD)
Department of Electronics and Information Technology (DeitY)
Ministry of Communications and Information Technology, Government of India
4th Floor, Electronics Niketan, 6 CGO Complex, Lodhi Road,
New Delhi – 110003, India

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Printed by
Muskan Printers, New Delhi

मंत्री
संचार एवं सूचना प्रौद्योगिकी
भारत सरकार
MINISTER
COMMUNICATIONS & IT
GOVERNMENT OF INDIA

Message

सत्यमेव जयते

रविशंकर प्रसाद
RAVI SHANKAR PRASAD

Digital India is a programme to transform India into a digitally empowered society and knowledge economy by leveraging IT as a growth engine. The ultimate objective is to deliver all possible government services to citizens electronically.

To meet this vision, we need to build adequate and relevant capacities at all levels. People, who are expected to design and deliver projects under Digital India, need to be trained in relevant areas. The e-Governance Competency Framework (e-GCF) developed by the National e-Governance Division (NeGD), DeitY is a major step in this direction. The right application of the e-GCF can result in a very constructive union of people and competencies that will go a long way in fully leveraging the immense value proposition of the Digital India programme.

I congratulate NeGD for this important initiative. I hope that NeGD will continue to undertake such path-breaking initiatives in all areas and aspects of Digital India and truly empower us to contribute meaningfully to the ethos and success of Digital India.
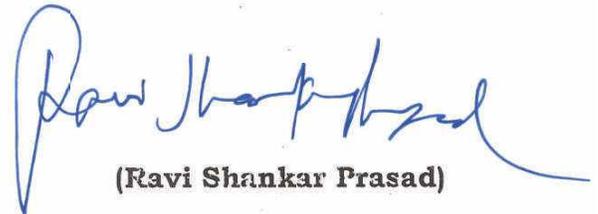
(Ravi Shankar Prasad)

New Delhi
22nd December, 2014
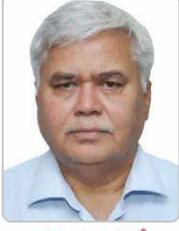
आर एस शर्मा
सचिव

R S Sharma
Secretary

Message

NeGP 2.0 (e-Kranti), an important component of the Digital India programme, has tremendous potential for transforming the manner in which governance is conducted and public services are provided. The key to implementing it right is ensuring that the right skills are present in the various implementation teams across the various domain areas of e-Kranti.

So how does one establish that such required capacity and competency is indeed available at department, team and individual levels? And if not, then where does one go from there?

It is with great pleasure that I introduce the e-Governance Competency Framework Implementation Toolkit that provides pointers and answers to these perennial questions and many more. I am sure that this toolkit will empower e-governance project teams across the centre and the states/ UTs to take stock of their human resources in terms of competencies required for meeting the team and project objectives, and perform critical course corrections with ease and in time, thereby performing and delivering in a way that is remembered long as exemplary!

Under Digital India, we plan to put all central government staff onto the e-governance platform in 2015, and we hope to leverage the e-GCF for the necessary skill-building and training needs in their Digital India related roles.

I invite the heads of all departments in the centre and the states to enrich and enhance their capacity building programmes by adopting and actively using this toolkit.

New Delhi
19th December, 2014

(RS Sharma)

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दिनांक/Dated. 12th December, 2014

Message

We are making large investments for various e-governance initiatives under the National e-Governance Plan (NeGP 2.0), a component of the Digital India programme. While all seems to be well in terms of our financial capacity to undertake and implement e-governance projects, there is significant room for improvement in terms of our collective absorptive capacity as people within the government who take these e-governance initiatives forward. e-governance projects today face a number of HR challenges.

NeGD, an independent business division within Media Lab Asia, under the Ministry of Communications and Information Technology, Government of India, has undertaken the task of developing a competency framework for government functionaries involved at various levels in e-governance projects.

NeGD is also responsible for the implementation of the Capacity Building (CB) Scheme, which is aimed at strengthening such capacities within the government through setting up of appropriate institutional mechanisms, assisting the government departments with professional resource support, and undertaking/ facilitating training and knowledge sharing initiatives. To address the gap regarding adequately equipped human resources, it was felt necessary to establish a competency benchmark and framework to act as a baseline for developing training programmes and deploying the right resources.

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National e-Governance Plan

Public services closer home

The e-Governance Competency Framework (e-GCF) is designed to streamline the two key aspects—Deploy Right and Develop Right—in e-governance project teams. This is a sincere effort to bring India's e-governance planning, management and HR aspects on par with global standards and practices.

All efforts would be made to keep the framework updated and evolving.

(Tapan Ray)

New Delhi
19th December, 2014

Anoop Kumar Agrawal, IAS
President & CEO

Foreword

The Government of India approved the National e-Governance Plan (NeGP) in the year 2006 with a vision to "*Make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man*".

To address the capacity building needs of the Government for the implementation of the NeGP, the Capacity Building Scheme was approved by the Cabinet in January 2008. The scheme envisioned imparting of specialized training and orientation program for decision makers (state legislature and senior bureaucrats). NeGD has been consistently implementing the required trainings across the nation. Over a period of time a need for benchmarking of training was felt. A competency framework for e-governance was considered to be a solution for supporting the benchmarking.

Expert Committee on HR Policy for e-Governance, constituted on the directions of the Hon'ble Prime Minister, had also recommended to develop an e-Governance Competency Framework (e-GCF). The Committee in its report has observed as under:

"Competencies required for performing work in each post should be laid down and each job should be performed by a person who has the required competencies for the job.

Competencies for all positions in e-governance shall be defined in consultation with DeitY and posting of officers to these positions, whether through the Central Staffing Scheme route or through open competition or by following any other process shall be made based on the competencies defined for each position."

In recent times, the launch of Digital India has accentuated the need for adequate and relevant

capacities at all levels. People, who are expected to design and deliver projects under Digital India, need to be trained in relevant areas. This also underscored the need to have a competency framework.

Pursuant to the above, NeGD undertook the task of development of the competency framework and CB Phase II design, and I am proud to present the e-Governance Competence Framework (e-GCF) for Digital India with a toolkit to help all stakeholders to adopt and use it. The approach has been a highly iterative one and the toolkit has been brought out after reviewing various international best practices and taking into account the recommendations and critique from large stakeholder consultations, and this will continue to be so, till we achieve the most suitable version and institutionalise a process to ensure that the e-GCF toolkit gets updated regularly. It has already undergone field testing with a few departments, and is already showing promise of becoming an effective tool.

e-GCF has been developed through a rigorous process of consultations with all the key stakeholders and meticulous documentation of the various processes leading to the development of a structured framework defining 19 roles. The roles are divided into 8 managerial/administrative roles and 11 technical roles. These roles are those required to be in an e-governance project.

This framework will enable you to identify the skills and behaviours you need to do your job correctly and to the highest standards. It will also help you to 'Deploy Right and Develop Right', i.e, to find the right person with the right skills and experience for the right role. Further, the toolkit is designed to identify core and non-core jobs, that can be outsourced easily, and to help write job descriptions, conduct fair performance assessments and identify training needs.

Please take out some time to become familiar with the e-GCF toolkit. I request you to use it actively as a means to deliver excellence in your work related to Digital India. I also request you to share the success stories related to its use so that the same can be brought out as case studies to help others learn and benefit from your experience.

As a next phase towards implementation of the framework, it is planned to web-enable the framework and develop an assessment tool for better access and usability. You may contact NeGD with your valuable suggestions and feedback at ceo@negp.gov.in

I look forward to hearing from you.

Anoop Kumar Agrawal
President and Chief Executive Officer
National e-Governance Division (NeGD)

Acknowledgements

Credits

Core Team

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Support

Dr. Piyush Gupta & Ms. Ayaluri Sridevi (NISG)

Special thanks

Mr Avaneesh Priy Srivastava & Ms Jayalakshmi Chittoor

Book design

Md. Ahmed & Md. Omar (DNPS, Hyderabad)

Cover design

Nitin Saluja & Suraj Arora (NeGD)

Editor

Deepinder Singh (NeGD)

List of Abbreviations

CMM	Capability Maturity Model
CBMC	Capacity Building Management Cell, National e-Governance Division, Government of India
CB Scheme	Capacity Building Scheme under National e-Governance Plan
CRAMM	CCTA Risk Analysis and Management Method
CCTA	Central Computer and Telecommunications Agency (U.K.)
CPMU	Central Project Management Unit
CIO	Chief Information Officer
CTO	Chief Technology Officer
CAS	Common Application Software
CSIR	Council of Scientific and Industrial Research, Government of India
CPM	Critical Path Method
DAR&PG	Department of Administrative Reforms and Public Grievances, Government of India
DeitY	Department of Electronics and Information Technology, Government of India
DFPD / DoF&PD	Department of Food and Public Distribution, Government of india
DoPT	Department of Personnel and Training, Government of India

DDG	Deputy Director General
DPR	Detailed Project Report
e-GCF or eGCF	e-Governance Competency Framework
eGLC	e-governance Life Cycle
e-Gov	e-governance
EC	Empowered Committee
FC	Finance Committee
FCI	Food Corporation of India
FAQs	Frequently Asked Questions
GFR	General Financial Rules
GPR	Government Process Reengineering
HR	Human Resources
ITIL	Information Technology Infrastructure Library
JS	Joint Secretary
KSBs	Knowledge, Skills and Behaviours
MIS	Management Information System
MoC&IT	Ministry of Communications and Information Technology, Government of India
MMP	Mission Mode Project
M&E	Monitoring and Evaluation
NASSCOM	National Association of Software and Services Companies
NeGD	National e-Governance Division, Government of India
NeGP	National e-Governance Plan
NIC	National Informatics Centre, Government of India

NISG	National Institute for Smart Government
NPR	National Population Register
NPMU	National Programme Management Unit
NTP	National Training Policy
PERT	Programme Evaluation and Review Technique
PMI	Project Management Institute
PD	Public Distribution
PPP	Public Private Partnership
RAD	Rapid Application Development
RFP	Request for Proposals
SFIA	Skills Framework for the Information Age
SDLC	Software Development Life Cycle
SRS	Software Requirements Specifications
STeP	Specialised Training for e-governance Programme
STQC	Standardisation Testing and Quality Certification Directorate under DeitY, Government of India
SDC	State Data Centre
SeMT	State e-Mission Team
SPMU	State Programme Management Unit
TPDS	Targeted Public Distribution System
TC	Technical Committee
ToR	Terms of Reference
TOGAF	The Open Group Architecture Framework
UT	Union Territory

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Executive Summary

National e-Governance Division (NeGD) is pleased to bring out the e-Governance Competency Framework (e-GCF) with implementation toolkit that provides easy to follow steps about how to structure an e-governance team and how to conduct fact based training needs analysis for competency benchmarking. The objective of the framework is to strengthen capacity building by identifying and defining competencies required for different roles under e-governance projects.

The toolkit is useful for any e-governance initiative that has requirements such as conducting training needs analysis, structuring project or programme teams, creating virtual cadres, improving the recruitment processes and outcomes, writing effective job advertisements and job descriptions, reviewing job performance, or developing training courses, etc. It includes four case studies illustrating the value and benefits of appropriate e-GCF interventions in MMPs and e-governance teams. The toolkit can be leveraged by any e-governance project in any stage of implementation. A mapping of e-Governance Project Life Cycle (e-GLC) stages with the relevant e-gov roles and competencies is provided for reference.

System integrators, institutions developing or delivering e-governance training courses, IT professionals, recruitment agencies and content providers can benefit immensely from the e-GCF as it provides standardized definitions of a gamut of competencies required in successfully performing e-governance job roles. The objective of moving towards a competency-based system is to ensure that each e-governance job role is performed by a person who has the required competencies for that job role.

A rigorous consultative approach has been taken to develop the e-GCF. It involved more than 150 face-to-face consultations, numerous interviews, surveys and a comprehensive review of international practices and standards. All this was followed by a range of subject matter expert reviews to validate the job roles developed.

In the framework, 19 provisional e-governance job roles have been identified, which are classified into two broad categories – administrative/ managerial roles and technical. The toolkit contains a set of end-user knowledge areas required for government employees.

Each e-governance role in the toolkit contains a detailed outline of the role, knowledge elements with expected depth levels and a set of professional skills along with suggested training courses and certifications. For defining behavioural competencies, e-GCF has referred to the Competency Dictionary developed by Department of Personnel and Training (DoPT). It is important to note that the e-governance roles are title, position, person or designation agnostic. A person may perform more than one role or one role may be performed by several persons depending upon the needs of the project.

The toolkit includes five annexures covering Frequently Asked Questions (FAQs), mapping of e-governance roles with those five annexures recommended in the Expert Committee Report on HR Policy, e-GCF in the larger context, observations and comments received in the online survey, and the list of contributors and stakeholders consulted during the e-GCF development process.

As a next step, it is proposed that a web based application will be developed to establish a continuous improvement process to ensure e-GCF remains up-to-date. The 19 provisional e-governance roles, which have been developed using the e-GCF, are evolving, and we look forward to active feedback from users and stakeholders

Queries or comments related to this framework may be sent to the
National e-Governance Division (NeGD), 4th Floor, Electronics Niketan,
6 CGO Complex, Lodhi Road, New Delhi - 110003,
Email: vashima@negp.gov.in / ceo@negp.gov.in

PART I :
THE FRAMEWORK

1. Background and Need for Competency Framework

1.1   In Summary

This section introduces the e-Governance Competency Framework (e-GCF) project and the purpose of the e-GCF Implementation Toolkit.

1.2   About this Document

The purpose of this document is to :

- Provide an introduction to the e-Governance Competency Framework (e-GCF)

- Describe the components of the e-GCF

- Bring out the benefits and applicability of the e-GCF

- Provide insights on how to implement the e-GCF at Ministries / Departments / States and UTs / MMPs, etc.

1.3   About National e-Governance Division (NeGD)

National e-Governance Division (NeGD) is an autonomous business division within Media Lab Asia, under the Ministry of Communications and Information Technology, Government of India.

It is tasked with providing programme level and technical support to DeitY for implementation and monitoring of the National e-Governance Plan (NeGP). It is also responsible for implementation of the Capacity Building Scheme (CB Scheme).

1.4   About the CB Scheme

The CB scheme was approved in 2008, and since then, several initiatives have been taken under the scheme. However, considering the scale, diverse needs and the varying organisational maturity levels across the centre and the states, it was felt that just developing and delivering training may not be adequate to meet CB objectives. To strengthen the CB scheme, a structured competency based approach is required. e-Governance Competency Framework (e-GCF) project is a step towards establishing a competency driven CB Scheme.

1.5   Background: e-Governance Competency Framework (e-GCF) Project

> "The e-GCF identifies and defines a set of competencies critical to job performance in e-governance project life cycle. The competencies are measurable or observable knowledge, skills and behaviours (KSBs) critical to successful job performance."

The Expert Committee on the HR Policy, constituted on the directions of the Prime Minister, in its report 'The Human Resources Policy Framework'[1] gave directions to provide a unified strategic framework to meet the following objectives:

1. Help ascertain and define the competencies required for the different roles to be played while implementing e-governance Projects.

2. Help in conducting gap analysis and writing job descriptions to select the right person(s) for the right role(s) to be played.

3. Help in training needs assessments based on the defined roles, thus assisting training planning, design and delivery.

The Expert Committee further recommends developing profiles for various roles required at different stages of e-governance projects and suggests that appropriate positioning of government and open market resources should be carried out for each profile / role and for different stakeholders including:

1. Civil Service leadership
2. Mission leaders and project teams implementing e-governance projects
3. IT professionals
4. Employees using e-governance applications for service delivery

The report also identifies the need for developing standard e-governance job profiles/ roles for conducting competency bench-marking and training needs analysis (TNA).

Discussions with a range of stakeholders implementing e-governance projects across the centre, states and MMPs reveal that almost everyone faces tremendous challenge in identifying and defining appropriate competencies required for successfully delivering the projects. There is unanimity on the importance of having adequately equipped human resources for running e-governance initiatives for which training frameworks may be needed.

In this regard, it may be noted that an e-governance competency framework can act as a baseline for developing training programmes under CB Scheme so that the right person is identified for the right training, and also so that the structuring of e-governance team is achieved on the basis of well-defined e-governance job roles.

Department of Personnel & Training (DoPT) recommends three main steps towards a competency-based approach:

· Identify the relevant competencies;

· Understand the roles and jobs; and

· Assign competencies and levels of proficiency to each role

National Training Policy (NTP), 2012, also stipulates that each Government Department/ Ministry should classify all its posts with clear job descriptions and competencies. The objective of moving towards a competency-based approach is to ensure that every job is performed by a competent person.

The e-GCF project shares the same views.

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1   Report of the Expert Committee on the HR Policy for e-Governance 2013

1.6 Methodology adopted for developing the Competency Framework

> " The objective of moving towards a competency-based system is to ensure that each e-governance job role is performed by a person who has the required competencies for that job role. "

A rigorous research and consultation driven approach has been taken to develop the e-GCF, involving more than 150 face-to-face consultations, numerous interviews, crowd-sourcing, surveys, a comprehensive review of international good practices and standards, and finally a range of reviews by subject matter experts (SMEs) to validate the job roles that were identified.

A range of e-governance projects across the country, including Passport Seva, e-Panchayat, e-District, MNREGA, CCTNS, Sewa yojana (Uttar Pradesh), Bhoomi, Mojini, Kaveri (Karnataka), Mee-Seva (Andhra Pradesh), HRMS (Gujarat), etc. which are at various stages of implementation, were taken up for detailed consultations during the development of the framework.

Below is a snapshot of the methodology and outcomes:

· Over 150 consultations held with Central & State Governments, academia, industry bodies, international thought leaders on the subject
· Online survey conducted: 95 responses received
· International best practices studied: UK, Germany and New Zealand; Skills Framework for the Information Age (SFIA) is identified as a reference framework
· 19 provisional e-Governance job roles and corresponding competencies identified.

1.6.1 Face-to-Face Consultation analysis

During the course of development of the framework, the NeGD team conducted meetings, consultations and interviews with several stakeholders including DeitY, various Central Government departments, State Governments, State e-Mission Teams, NIC officers, NISG officials, NeGD officials, members of the academia, industry representatives and associations, etc.

| Face to Face Consultations with a wide range of stakeholders | Leveraged international best practices, standards, methods and frameworks | Focused consultations by leveraging tainings: CIO Leadership meets & STeP | Online Jam: Survey to get inputs from a large Cross Section of stakeholders | Validation of each role |
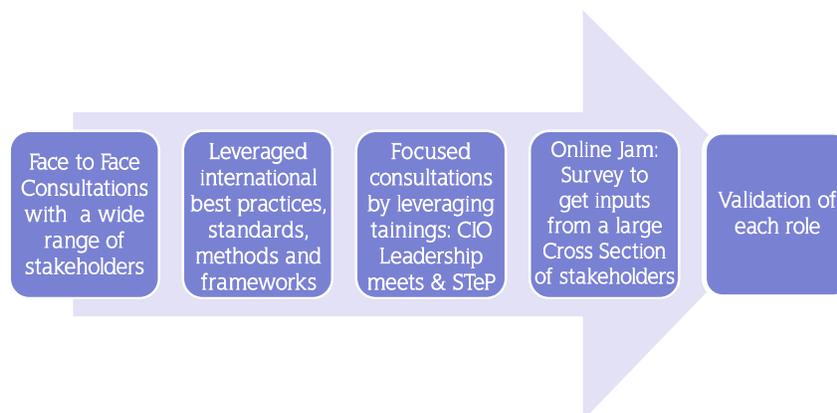
Figure 1 : e-GCF development methodology

Two concern areas came to the fore during this exercise:

   a. How to identify resource gaps and structure project teams (National PMUs, State PMUs, MMP teams, etc.)

   b. How to identify competency gaps (training needs analysis)

The consultations helped identify the human resource issues faced in projects and programmes, which in turn resulted in articulation of specific needs (competencies) for addressing those issues. These consultations were logged as statements (268 in all) and categorised for analysis. This process ensured that the toolkit was always in tune with ground realities. The consultations also pointed to certain key pain points sought to be addressed through the e-GCF through the e-GCF sought to be addressed through the e-GCF, which are illustrated in Figure 2

The analysis of the various issues and challenges reveals that Training Needs Analysis (TNA), recruitment and assessment are the most painful areas affecting e-Governance projects. In addition, the analysis identifies the need to provide clarity on the roles and responsibilities in tandem with the competencies.

1.6.2 Survey Analysis

Based on the findings of the initial consultations, a provisional list of 17 e-gov job roles was developed. Thereafter, for purposes of wider consultations and consensus building, an online e-GCF jam (or online collaborative discussion) was held. Jam is a proven technique for drawing on the wisdom of the crowd in a way that is not possible through traditional forms of consultation. The jam was hosted on the NeGP Collaboration Portal' where a survey with the 17 job roles was put up.

This resulted in a unique opportunity for
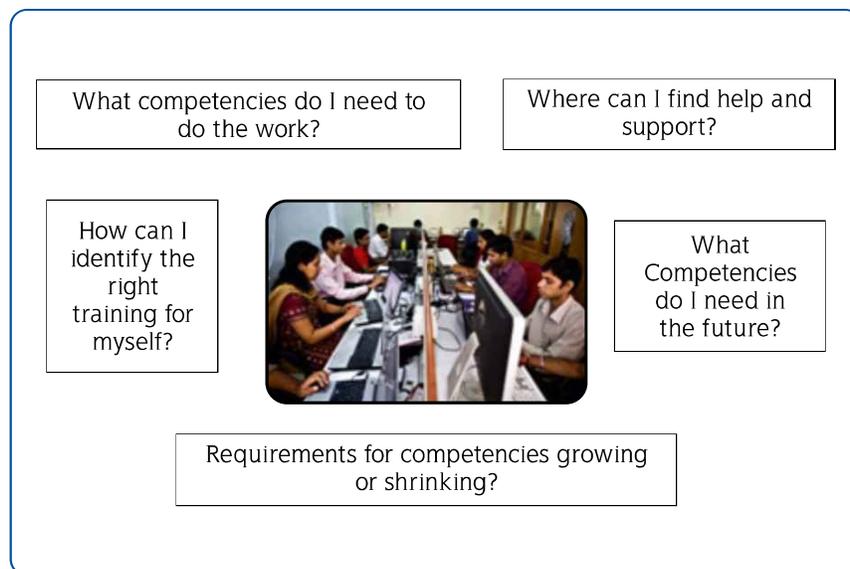
Figure 2 : Pain points for e-Governance practitioners

Categories of statements – issues people are facing
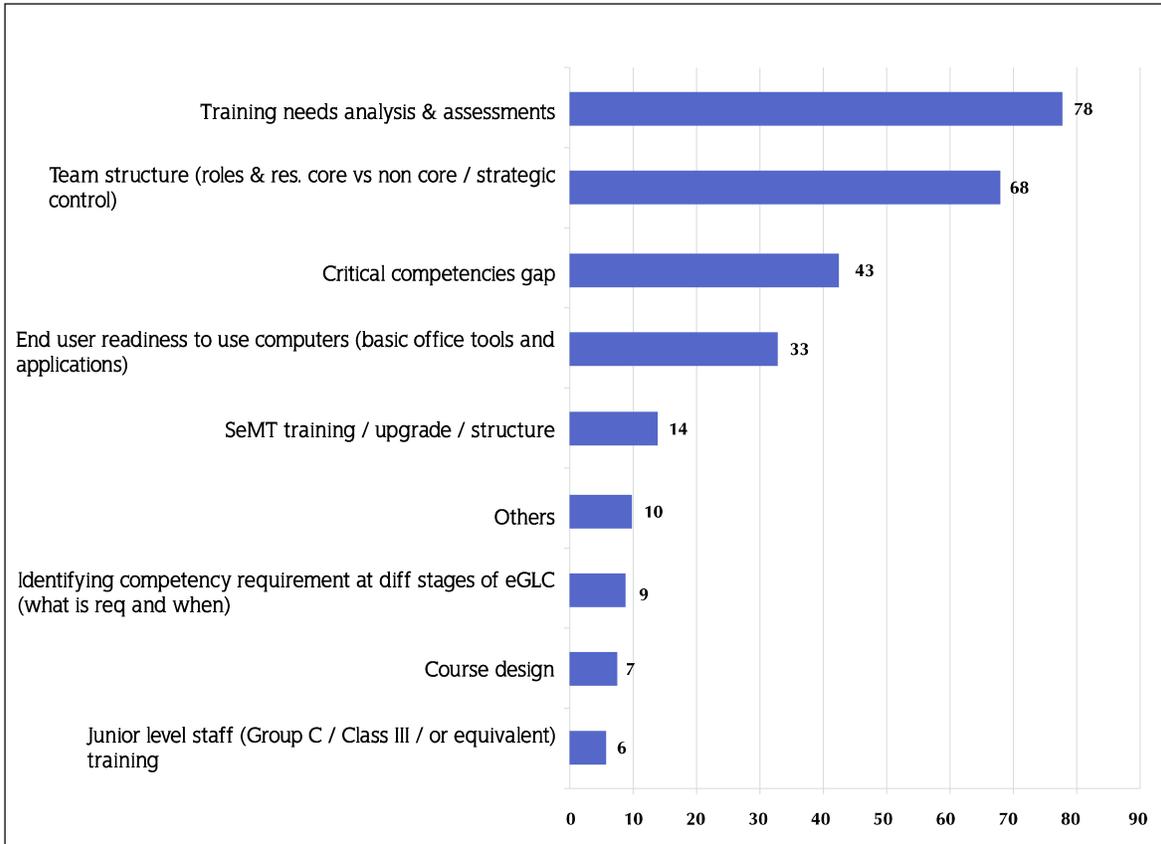
Figure 3 : Pain areas derived from 268 statements

information exchange with stakeholders from the government, SeMTs, industry, and academia. Valuable inputs were received in terms of more suitable nomenclature, modifications in profile/role definitions, addition and deletion of roles, distinction between core and non-core roles, etc. The suggestions were incorporated and two more roles were added to take the count of

provisional roles to 19.

The bar chart given at figure-04 presents the percentage acceptance of roles as core to government:

1.6.3 Validation process

A rigorous process was implemented for validating each role against corresponding competencies, skill sets and knowledge areas.

Each role was discussed with subject matter experts and also with people from the government and industry engaged in a related line of work. A cross section of the various comments / suggestions / feedback received can be seen in Annexure 3.

government's strategic control in e-governance project or programme life cycles.

The officers or officials performing these or similar roles today may or may not currently have the corresponding competencies. The e-
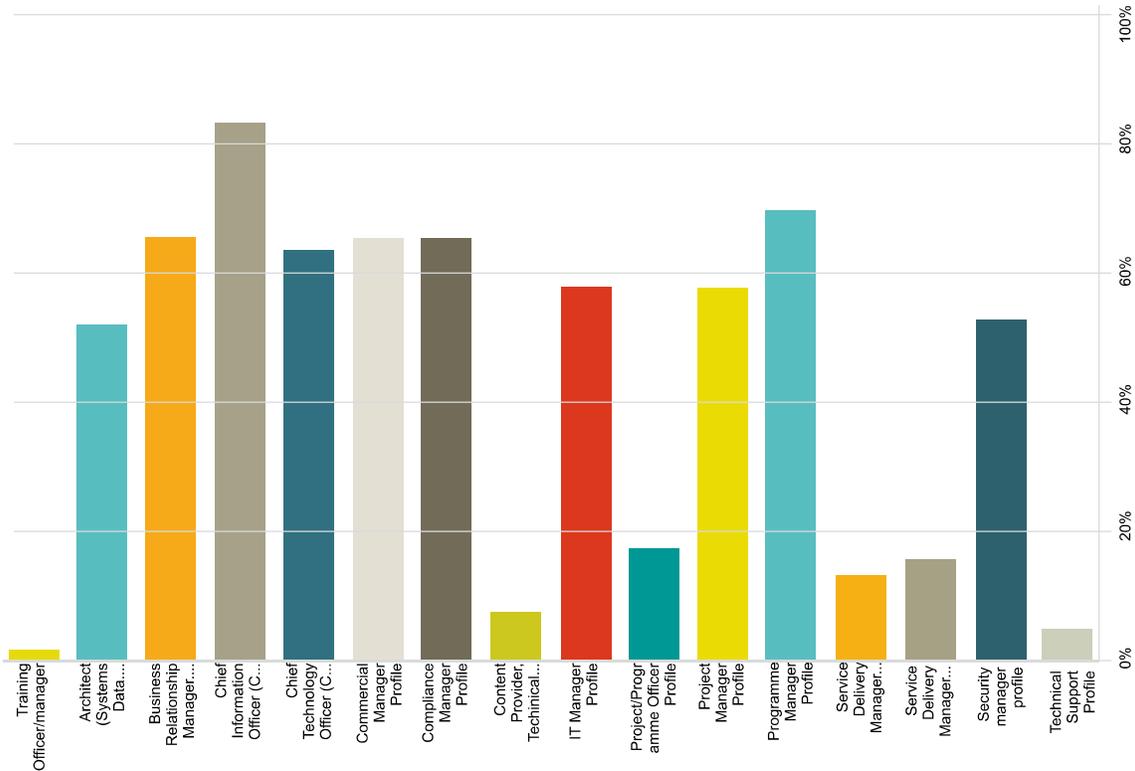
Figure 4 : Online Survey Graph

After these roles were developed, it was felt necessary to also demonstrate and ascertain the applicability and usability of the framework. This is elaborated in Section 3 of the toolkit.

1.7 About e-Governance Role Competencies

The 19 provisional e-governance roles are those that are required to be performed by either the government or by others under the

GCF can be used for developing the necessary training and skill-building programmes. The roles are designation, post, title or organisational structure agnostic.

Also, all possible competencies may or may not be required in all possible projects. The size and complexity of a project also determine the set of competencies required.

2. e-Governance Competency Framework (e-GCF)

2.1 In Summary

This section introduces the e-Governance Competency Framework (e-GCF) and its components.

2.2 The e-Governance Competency Framework

"The e-Governance Competency Framework (e-GCF) identifies and defines the competencies that are essential and critical to job performance in an e-governance environment."

The e-GCF aligns competencies along four dimensions:

1. Professional Skills Set
2. Knowledge Set
3. Behavioural Set (e-GCF refers to the Competency Dictionary from DoPT)
4. Training Courses / Certifications / Qualifications Set

2.3 e-Governance Job Roles

The e-GCF identifies a list of 19 provisional roles needed in a project team across the life cycle of an e-governance project. Eight (8) of these are **managerial/ administrative roles** and the remaining eleven (11) are **technical roles.** The e-GCF also identifies certain **end user knowledge** required for all government employees.
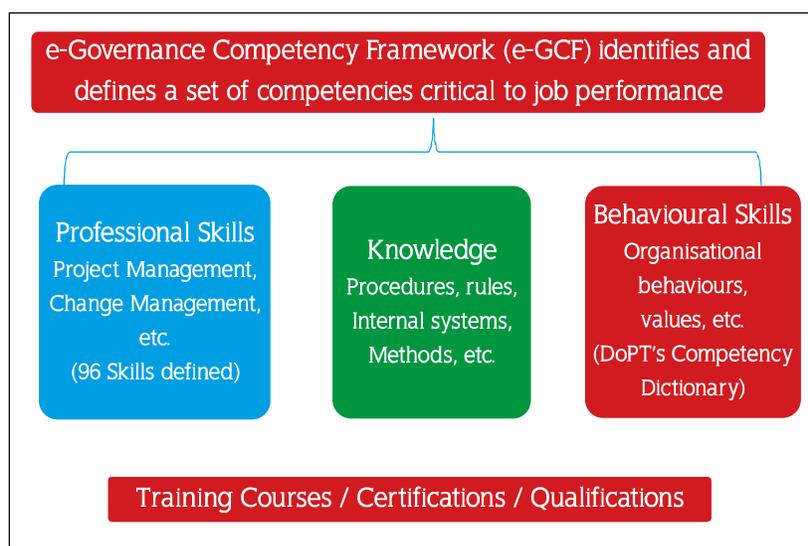
Figure 05: The e-Governance Competency Framework (e-GCF)

Role catalogue
Managerial/ Administrative

1. Leader role
2. Chief Information Officer role
3. Chief Technology Officer role
4. Project Management role
5. Domain Expert role
6. Change and Training Management role
7. Finance / Commercial Management role
8. Citizen Engagement Management role

Technical

1. Information Security Management role
2. Technical Architect role
3. Service Management role
4. Technical Support Management role
5. Testing and Quality Management role

6. Programming role
7. Knowledge and Content Management role
8. Network Support Engineer role
9. Database Administrator role
10. Security Administrator role
11. Project Support Coordination role

These roles also harmonize with the key roles and responsibilities of CIOs, mission / project leaders and dedicated project teams outlined in the HR Report. The mapping can be seen in Annexure 2.

“ It is important to note that the roles are title, position, person or designation agnostic. One person may perform more than one role. Alternatively, one role may be performed by more than one person. ”

e-Gov Lifecycle mapping with e-Gov Roles*
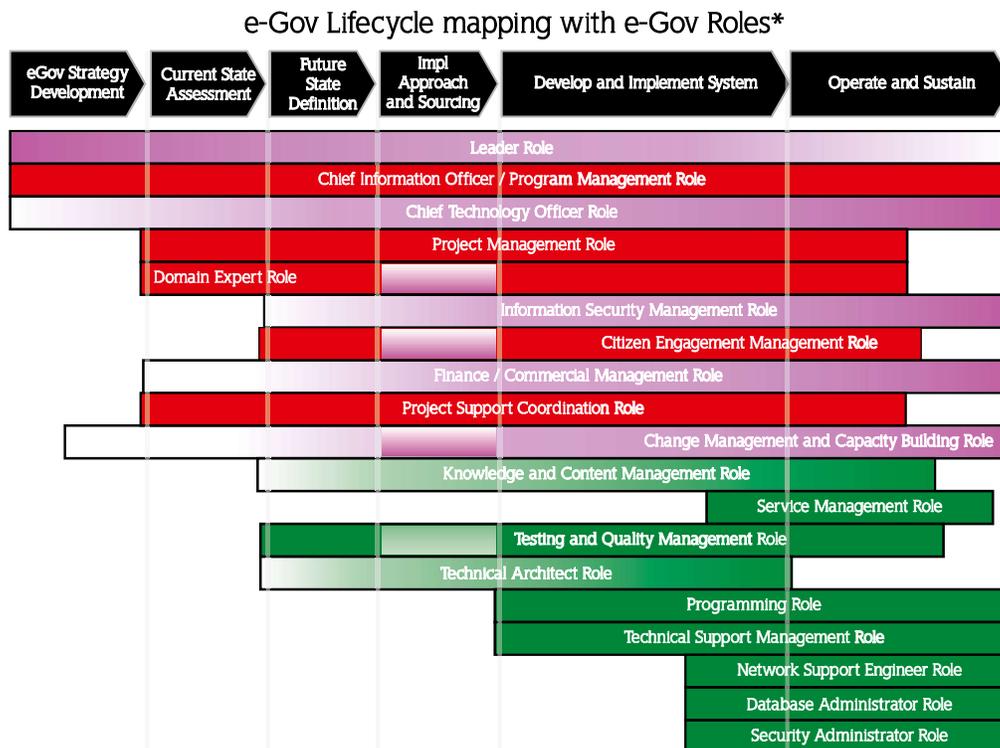
Figure 06: Mapping of e-Governance Job Roles with e-Governance Lifecycle (e-GLC)

* Note: Not all e-Governance Projects will require all roles. It depends upon the size and complexity of project

e-Governance Competency Framework (e-GCF) for Digital India with Implementation Toolkit

For example, in one MMP, there may be several people required in the Project Management role while in another MMP, one person may be required to perform the dual roles of Project Management and Domain Expert.

2.4 Mapping of e-Governance Job Roles with e-Governance Lifecycle (e-GLC)

The e-GCF has been mapped to the stages in the life cycle of an e-governance project[3]. The following diagram shows the mapping of various stages of e-governance life cycle with e-governance job roles.

2.5 Mapping of e-Governance Competencies with e-Governance Lifecycle (e-GLC)

The figures below shows the mapping of e-GLC activities and relevant competencies

required to perform those activities. This is a very effective way to understand what type of competencies will be required and when (i.e. at what stage of the e-Governance project life cycle).

2.6 Professional Skills

Professional skills are those defined specifically to outline a set of observable behaviours. Each e-Governance role has a set of critical professional skills (across various skill levels) that are certified or obtained academically, through training or by demonstrated experience. These include project management, change management, etc

2.7 Knowledge Levels

There are four knowledge levels to represent how deeply a person understands and
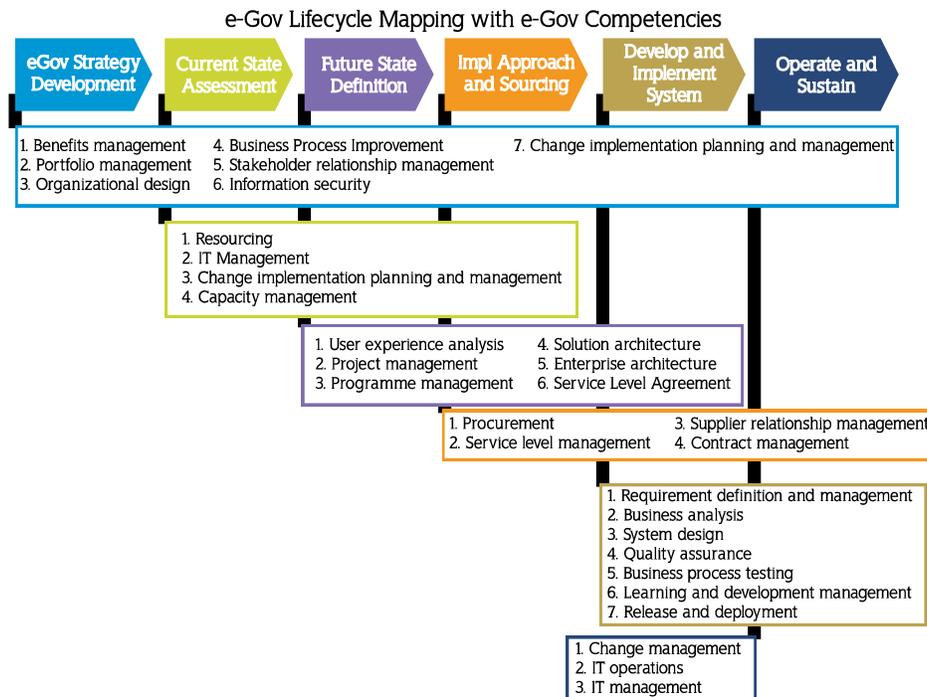
Figure 07: Mapping of e-Governance Competencies with e-Governance Lifecycle (e-GLC)

3   E-Governance Project Lifecycle Handbook;
https://negp.gov.in/repository/repository_result.php?flag=6&st=24&key=0
http://persmin.gov.in/otraining/Competency%20Dictionary%20for%20the%20Civil%20Services.pdf

practices a specific knowledge area:

- Expert: Has complete command over all aspects of the knowledge element. Generally known as a source of definitive guidance.
- Proficient: Is able to use the knowledge element and can advise or instruct others.
- Familiar: Has reasonable understanding of the knowledge element and can use it.
- Aware: Has only basic understanding of the knowledge area/element.

Business models, legislations, domain knowledge, e-Governance lifecycle, technologies, products/processes/services, internal systems, methods and tools are all examples of knowledge areas.

2.8 Behavioural Skills

e-GCF uses DoPT's Competency Dictionary for defining the 'behavioural' set of competencies.

2.8.1 DoPT's Competency Dictionary and e-GCF[4]

DoPT has prepared a Competency Dictionary for Civil Services to assist departments/ ministries/ training institutions in identification of competencies for various posts. The Competency Dictionary is not specific to any department/ ministry, function or post.

However, this could be useful for them while identifying behavioural competencies for various posts and levels within their organisations.

The 4 Es of behavioural competence are:

1. Ethos (5 competencies)
2. Ethics (4 competencies)
3. Equity (4 competencies)
4. Efficiency (12 competencies)

2.8.1.1 How e-GCF uses DoPT's Competency Dictionary

e-GCF refers to DoPT's Competency Dictionary for defining the behavioural set of competencies. DoPT's competency dictionary is a collection of 25 competencies.

The following table lists the behavioural competencies relevant for people working in e-governance teams:

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4   http://persmin.gov.in/otraining/Competency%20Dictionary%20for%20the%20Civil%20Services.pdf

1. Ethos

S N	Behavioural Competency	Definition
1.1	People First	Passion for serving people with special care for the marginalised and disadvantaged. Being approachable, welcoming, caring and rising above bias while interacting with people. Understands the needs of the people and constantly strives to improve the services.
1.2	Strategic Thinking	Ability to understand dynamic internal and external environments and their impact. Responds to the opportunities and challenges for the betterment of society.
1.3	Organisational Awareness	Understanding of the organisation's mandate, structure, policies, processes, norms and its interface with other organisations. It also includes an understanding of the organisation's informal structures, power dynamics and constraints.
1.4	Commitment to the organisation	Aligns behaviours and interest with the needs and goals of the organisation.
1.5	Leading Others	Ability to engage, energise, and enable the team to excel.

2. Ethics

SN	Behavioural Competency	Definition
2.1	Integrity	Consistently behaves in an open, fair and transparent manner; honours one's commitments and works to uphold the public service values.
2.2	Self-confidence	Belief in own capability to accomplish a task and being able to express confidence in dealing with challenging circumstances without being arrogant or boastful.
2.3	Attention to detail	Having an underlying drive to being thorough and meticulous and to comply with procedures, rules, guidelines, and standards. Digs deeper and strives to reduce uncertainties and errors.
2.4	Takes accountability	Takes ownership for outcomes (successes or failures) while addressing performance issues fairly and promptly.

3. Equity

SN	Behavioural Competency	Definition
3.1	Consultation and Consensus Building	Ability to identify the stakeholders and influencers, seek their views and concerns through formal and informal channels. Builds consensus through dialogue, persuasion, reconciliation of diverse views / interest and trusting.
3.2	Decision Making	Makes timely decisions that take into account relevant facts, tasks, goals, constraints, risks and conflicting points of view.
3.3	Empathy	Empathy is about being able to accurately hear out and understand the thoughts, feelings and concerns of others, even when these are not made explicit.
3.4	Delegation	Delegates responsibility with the appropriate level of autonomy so that others are free to innovate and take the lead.

	4. Efficiency	
SN	**Behavioural Competency**	**Definition**
4.1	Result Orientation	High Drive for achieving targets and competing against a standard of excellence.
4.2	Conceptual Thinking	Understanding a situation or environment by putting the pieces together and identifying patterns that may not be obviously related. Connecting the dots while resisting stereotyping.
4.3	Initiative and Drive	Contributing more than what is expected in the job. Refusing to give up when faced with challenges and finding or creating new opportunities.
4.4	Seeking Information	An underlying curiosity to know more about things, people, or issues. This includes "digging" for exact information and staying up-to-date with relevant knowledge.
4.5	Planning and Coordination	Ability to plan, organise and monitor work with effective utilisation of resources such as time, money and people.
4.6	Desire for Knowledge	Keeps up-to-date with relevant knowledge and technology, shares latest developments with others, and advocates the application of acquired shares.
4.7	Innovative Thinking	Open to change, approaches issues differently, offers alternate/ out of box solutions and strives for efficiency by working smartly.
4.8	Problem Solving	Understanding a situation by breaking it into small parts, organising information systematically and setting priorities.
4.9	Developing Others	Genuinely believes in others' capabilities to develop and take personal responsibility for their development. Creates a positive environment for learning and provides developmental opportunities for individuals and teams
4.10	Self-awareness and self-control	Identifies one's own individuals and teams triggers and controls one's emotional responses. Maintains a sense of professionalism and emotional restraint when provoked, faced with hostility or working under increased stress. It includes resilience and stamina despite prolonged adversities.
4.11	Communication Skills	Articulates information to others in language that is clear, concise, and easy to understand. It includes the ability to listen/ sense and understand spoken and unspoken feelings and concerns of others.
4.12	Team-working	Working together as a unit for a common goal. Building teams through mutual trust, respect and cooperation.

All behavioural competencies identified and defined by DoPT's Competency Dictionary have 5 levels of attainment. Guidance about how to map levels of attainment with government positions has been provided by DoPT.

For further guidance on levels of attainment and how to map levels with e-GCF roles, please refer the document of DoPT and/or visit section 4.5 ('Where to seek expertise and help while using or implementing e-GCF') in this toolkit.

2.9 Illustration: An example of an e- Governance Project Management Role

A person in an e-Governance Project Management role is tasked to manage the entire project with well defined timelines and budgets as an end-to-end activity. The various facets of implementation include documentation (like functional and non-functional requirements, technical design documents, SRS, test plan, test cases, etc.);

> " Project Management is one of the 19 roles identified in the e-Governance Competency Framework. "

procurement of hardware, site preparation, software licences, and any other infrastructure needs; "go live"; system and user acceptance testing; third party audit and certification; backup and recovery policy; hand-over; and strategic control of all assets and processes in a timely manner.

The Project Management role also envisages development and tracking of key performance indicators and other metrics to measure and track progress. This role also requires management of escalations and enforcement of the Service Level Agreements (SLAs). Besides keeping the leadership informed about the progress (time and budget), the role also requires tracking team

performance, identifying potential risks and issues, handling change management, scoping change in requirements, and identifying improvement opportunities. Inventory control issues, management of software assets like licences and Intellectual Property Rights (IPR) and supplier logistics, all form part of the Project Management role.

Using the toolkit, a vacancy announcement can be made or alternatively, an existing staff member may be adequately retrained for suitably playing that role. And all this can be achieved very quickly and easily by using the e-GCF toolkit.

Below is the snapshot of the Project Management role:

Project Management Role

A Person in a "Project Management Role"
1. Manages end to end project implementation within well defined timelines and budget covering all facets of implementation such as :
    a. Application Development and Documentation such as Functional and Non- Functional Requirements, Technical Design Documents, SRS, Test Plan, Test Cases etc
    b. Procurement of hardware, site preparation, software licences and any other infrastructure needs
    c. Go-Live
    d. System and User Acceptance Testing
    e. Third Party Audit and Certification
    f. Backup and Disaster Recovery Policy
    g. Handover to Support (Post implementation operations / Service Acceptance)
    h. Facilitates transfer or strategic control of all assets and process to the Government in a timely manner.
    I. Develops project metrics (Key Performance Indicators)
 	
2. Organizes audit and quality reviews
3. Manages escalations and enforces SLA
4. Keeps the leadership informed about the progress (time, budget), potential risks and issues, team performance, change management, scope changes (change in requirements) and improvement opportunities
5. Manages software assets (licences, IPR) and supplier logistics

2.9.1 Project Management Role, Knowledge, Skills and Suggested Certifications/ Courses

The framework identifies and defines the following knowledge, skills and suggested certifications / courses for a person who is doing a 'Project Management Role' in an e-Governance Project:

2.9.1.1 Knowledge

Knowledge areas club together the practical and theoretical aspects of different subjects. Knowledge includes the understanding of tools, technologies, products, processes and procedures of the ministry/ department, laws and government regulations, etc.

Some examples of knowledge areas are as follows:

- Domain knowledge of the Ministry/ Department including, policies, functions, processes and procedures
- General Financial Rules and PPP model
- e-Governance architecture
- IT Act 2000, IT Act amendments 2008. Right to Information Act - 2005.
- IT Service Management / Operations (ITIL), CMM (Capability Maturity Model), Six Sigma

The following table describes the knowledge requirements for a Project Management role:

Depth	Knowledge Areas
Expertise	• A recognised project delivery method such as PMI/PRINCE2 or Common Information Management Method (CIMM) • e - Governance Lifecycle • Programme Evaluation and Review Technique (PERT), Critical Path Method (CPM) • Estimation functional point analysis, bottom up/ analogous/parametric/three-point estimates

Proficiency	MS Project (or equivalent) • Master Services Agreement (MSA), Detailed Project (DPR), RfP (Request for Proposals) • MS Office Tools (Power Point, Excel, Word) • SDLC – Software Development Lifecycle, RAD (Rapid Application development) • Contract Management Body of Knowledge (BoK) • Risk Management – & Probability Impact Matrix, CRAMM or similar, Procurement procedures and policies
Familiarity	• Digital India vision and its pillars • Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • General Financial Rules and PPP model • e-Governance architecture • IT Act 2000, IT Act amendments 2008. Right to Information Act 2005. • IT Service Management/Operations (ITIL), CMM (Capability Maturity Model) , Six Sigma • Technology solutions such as Data Centre Hosting/Co-location Services, Managed Voice and IP solutions, Managed Infrastructure Services, System Integration services, Connectivity services, Managed IT services, etc.
Awareness	• TOGAF, Common programming languages, operating systems, web technologies, Cloud Computing, Big Data, Mobile, Social Media, Web • e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Indian Computer Emergency Response Team (CERT-In)

2.9.1.2 Skills and Certifications/Courses

Examples of professional skills include:

- Project management
- Government process re-engineering
- Procurement management
- Stakeholder relationship management, etc.

Certification and courses are formal processes leading to qualification of individuals in terms of particular knowledge or skills. Certification programs are often fostered or supervised by external and independent certifying agencies such as STQC, NISG and others.

Some examples are:

- Information Security Management System - Best Practices by STQC
- e-Governance Project Lifecycle by STeP
- TOGAF by Open Group
- Project Management Professional by Project Management Institute (PMI)

The following table highlights the professional skills and training courses/ certifications/ qualifications for a Project Management role:

Professional Skills (refer to the skills description)	
Primary	
01	Project management
02	Systems development management
03	Requirements definition and management
04	Business process improvement (GPR)
05	Quality Assurance and Management
06	Supplier relationship management
07	Service level management
08	Release and deployment
09	Service acceptance (transition)
10	IT Operation and Management
Desirable	
11	Continuity management
12	Testing
13	Conformance review

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	e-Governance Project Life Cycle (eGLC)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Secure Software Development Life Cycle Practices (SSDLC)	STQC (Standardisation Testing and Quality Certification)
03	Project Management	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
04	Detailed Project Report for e-Governance Projects	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
05	PMP (or equivalent)	PMI (Project Management Institute) or equivalent
Desirable		
01	ITIL Foundation	itSMF (IT Service Management Forum)

Note: Similarly e-GCF had defined 19 e-Governance Job Roles and the catalogue of the various roles have been placed in Chapter 5 to this Toolkit

2.10 Benefits of e-Governance Competency Framework

The framework helps in identifying resource and skill gaps. By using this framework, the critical aspect of finding the 'right person for the right job', and the 'right training for the right person' can be addressed.

2.10.1.1 Deploy Right (identify resource gaps)

The competency framework helps in structuring project/programme management teams (for e.g. National and State PMUs, etc.) It also assists in writing standard job descriptions, vacancy notices and putting out job advertisements, thus aiding in the recruitment of appropriate personnel suited to various roles. The right deployment strategy thus developed, using the e-GCF leads to understanding core and non-core job roles (and identifying roles which can be outsourced). As an important management action, it assists in sizing estimations for teams to be deployed.

2.10.1.2 Develop Right (identify competency gaps)

The e-GCF can be used by departments to develop relevant competencies by identifying competency gaps and developing suitable

Deploy right
- Structuring and sizing of project/ Programme Management Teams (Central PMU, State PMU etc)
- Writing standard job descriptions, job advertisements and recruitment
- Identification of roles that should be in strategic control of Government

Develop right
- Training Needs Analysis : Competency benchmarking & Skills gap identification
- Leads to Training Plan Development

Figure 08: Benefits of e-Governance Competency Framework (e-GCF)

training plans to bridge the gaps. The direct benefit of this framework would be in conducting training needs analysis (TNA) and developing training plans, which would ultimately lead to upskilling of those performing job roles in e-Governance projects/programmes.

Attract Right
- Objective job adverts
- Candidates know what is expected

Recruit Right
- External recruitment
- Internal Selection
- Skills gap (sourcing right skills)
- Assessment
- Reduced recruitment cycle

Deploy Right
- Resource allocation
- External vs Internal
- Skill Inventory

Develop Right
- Capacity building
- Training needs analysis
- Skills gap
- Career development, objective road map

Reward Right
- Performance management
- Transparent appraisals
- Promotion

Figure 09: Achieve 5 "Rights" through the e-GCF

The e-GCF is an effective tool for implementing periodic reviews of competency requirements and establishing any enhancements needed. It is also useful for planning mid-career training programmes.

PART II :
IMPLEMENTATION TOOLKIT

3. How to use the e-Governance Competency Framework

3.1 In Summary

This section explains how to implement the e-GCF at a Ministry/ Department/ State/ UT/ MMP. A validation exercise to demonstrate the usage of e-GCF was carried out across 4 e-Governance initiatives, and the experience is shared below in the form of 4 case studies.

The case studies help in understanding:
- How to structure and size an e-Governance team (NPMU, SPMU, etc.) (Resource Gap and Team Structure)
- How to identify training needs (Competency Gaps and TNA)

3.2 Usage of e-GCF: Some examples

The e-Governance Competency Framework provides an effective method to structure project teams dealing with e-governance projects. Using the generic approach, it is possible to identify key activities and map them to the pre-defined e-GCF roles for specific needs of a particular department or project.

This has been illustrated by using the following examples:

3.2.1 Case 01: Targeted Public Distribution System (TPDS), National Project Management Unit (NPMU) for Department of Food and Public Distribution, GoI (DoF&PD)

Need: DoF&PD required help to set up the CPMU for effective implementation of the MMP in Public Distribution. They outlined their needs as follows :

---

5   Work on this is in progress and consultations have been held in June 2014 onwards with DFPD, NIC and officers of PMU to undertake this case study. It has also mapped the Central and State PMU needs to e-GCF.

DFPD Pain Points / Issues	How e-GCF helps
· How to structure and size the National PMU for TPDS	· e-Gov Roles catalogue identifies and defines a range of roles required to set up e-Gov teams. The standard definitions help in quickly mapping activities with roles
· How to recruit the right team (job advertisements, job descriptions or JDs, key competencies ,etc)	· 19 readymade standard JDs with comprehensive competency requirements can be used off the shelf
· How to support State PMUs in developing their teams	· States can use e-Gov Roles catalogue. This will considerably improve standardisation across States/UTs

The following methodology was adopted to arrive at the CPMU structure:

Studied the MMP objective and scope

Studied similar Central PMUs

Mapped with eGCF & eGLC

Consulted stakeholders

Prepared recommendations
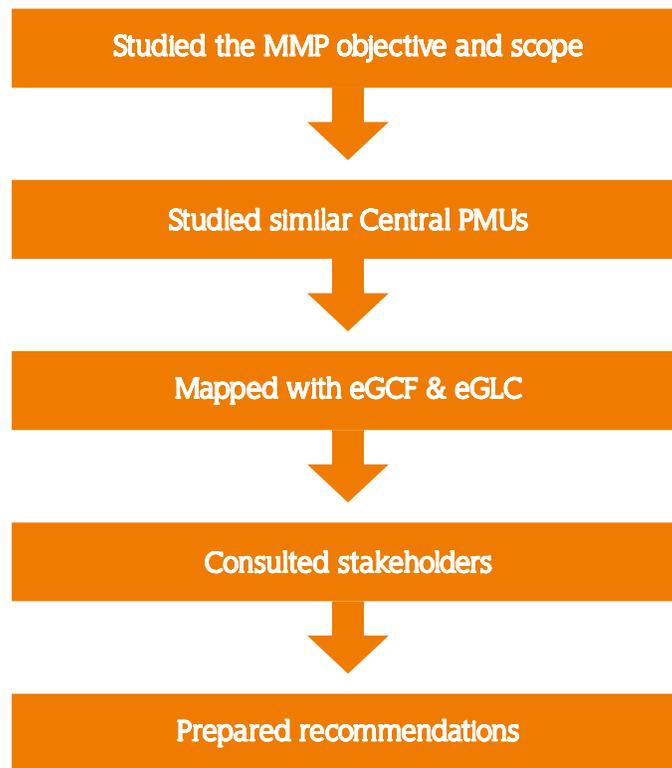
Figure 10: Methodology for developing CPMU structure

The structure proposed for the PMU and Technology team was as given below:

Proposed CPMU structure for TPDS
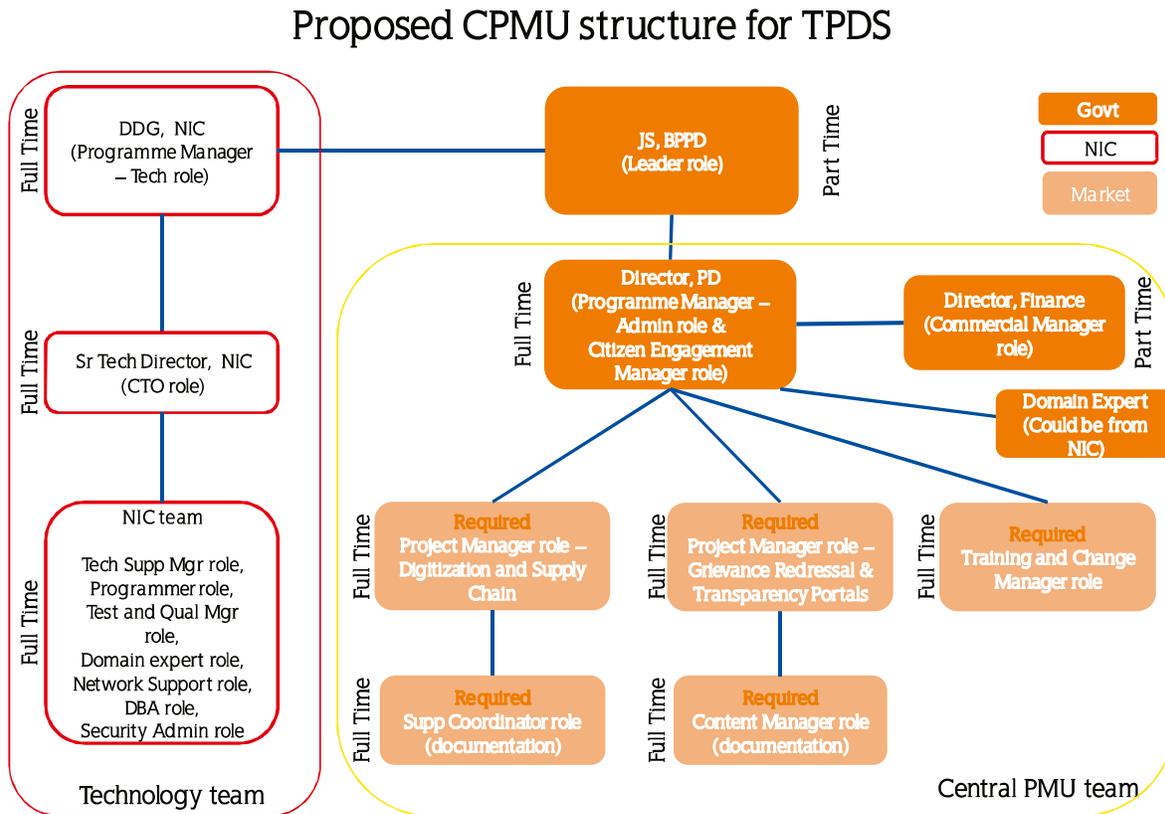
Figure 11: Proposed CPMU structure for TPDS

3.2.2 Case 02: Passport Seva

This was an exercise to identify resource and skill gaps, if any, in the Passport Seva project.

Pain points or issues	e-GCF interventions
· How to benchmark team structure and ensure there are no gaps in critical skills or roles	· A mapping exercise was carried out for Passport Seva using e-GCF. It was found that the CTO is responsible for more than 7 roles. He is too thinly spread.
· How to ensure consistent services and exercise right strategic control.	· The exercise found that there is no one directly responsible for at least three roles. This gap is an impediment to consistency in service delivery.
· May be I am doing too many roles and not able to do justice to any	· e-GCF has helped in quickly identifying and effectively communicating potential vulnerabilities

By mapping the current job titles with e-GCF, the resource gap was identified. The following illustration demonstrates the findings :
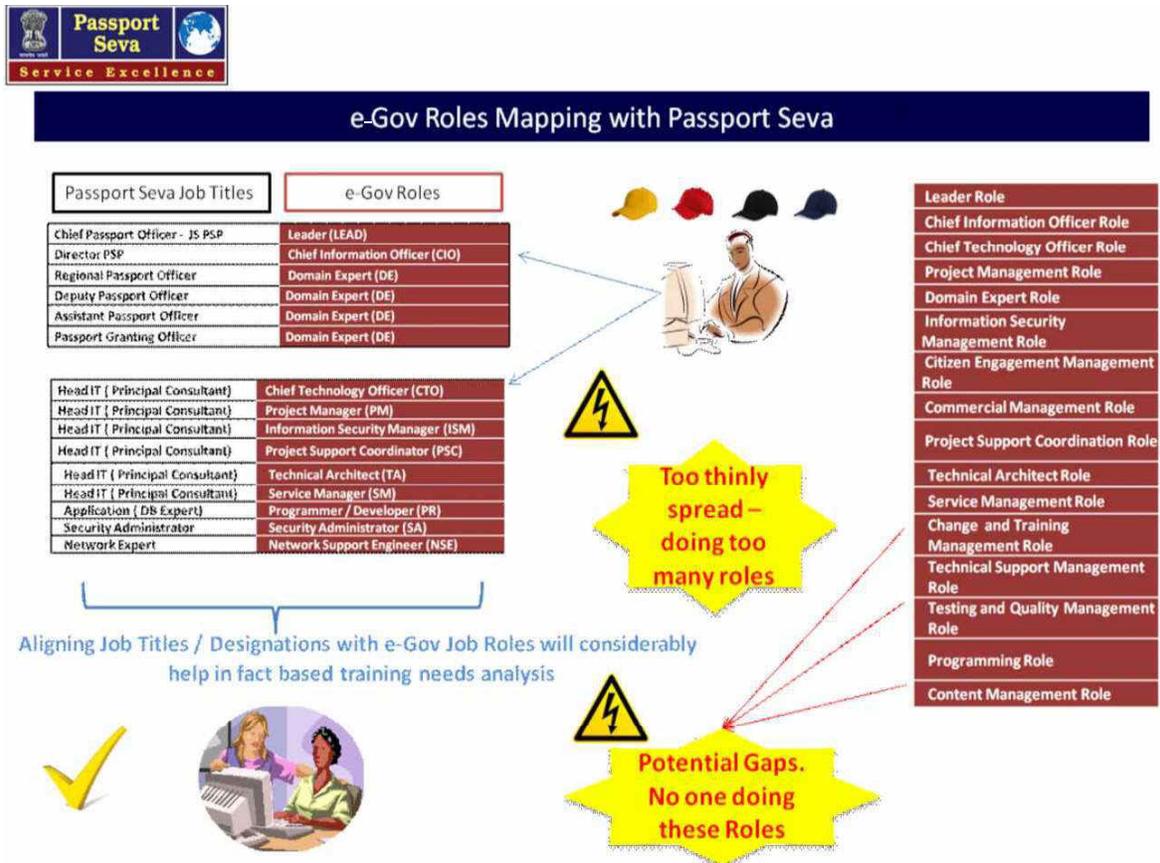
Figure 12: e-GCF role mapping with Passport Seva project

3.2.3 Case 03: Guidelines Issued by Haryana Government based on e-GCF

The IT Department of Government of Haryana used the e-Governance Competency Framework (e-GCF) to develop guidelines for engagement of IT professionals. The structural framework developed has been drawn from the early deliberations on the use of the e-GCF . The memo is available as a public document in the IT Department website of Haryana[6].

This memo describes the approach and methodology for engagement of IT professionals on consulting contracts for various e-governance projects (including for the Project e-Mission Teams) and remuneration thereof and structural framework for various levels of IT positions. The structural framework covers designations, qualifications, roles and

6   http://haryanait.gov.in/notifications/june172k14.pdf.

responsibilities, pay band with grade pay, nature of duties, academic qualifications and experience for various groups. It was notified for adoption at the departmental level as required.

3.3 How to Structure and Size the e-Governance Project Teams

Please note that the structures suggested in this section are for guidance purposes only. This toolkit does not suggest that the activity list is exhaustive.

3.3.1 Team structuring at National PMU

In general, most of the National Level Mission Mode Projects (MMPs) require setting up both National and State PMUs.

In this section, the key activities of the National PMU (NPMU) have been identified.

Key activities for NPMU
I. Define clear vision and objectives
II. Take decisions on policy matters, recommend policy / process related reforms
III. Exercise strategic control (monitoring and evaluation)
IV. Identify institutional structures and capacities for implementation, overall guidance, review, coordination and monitoring
V. Define funding requirements, manage project finances
VI. Undertake change management and communication
VII. Undertake training and capacity building
VIII. Provide technical guidance and advisories / technical roadmaps
IX. Ensure integration of various stakeholders
X. Preparation of DPRs / financial proposal for approval

NPMU should have following e-Governance roles			
S No	e-Gov Roles	Time commitment	Remarks
1	Leader	Part time	
2	Program Management	Full time	
3	Chief Technology Officer	Full time	Can be sourced from NIC
4	Domain Expert	Part time	Depending upon the scale of project
5	Training and change management	Full time	May be taken from market
6	Project Support Coordinator	Full time	May be taken from market

Additional e-Governance roles that NPMU may have			
S No	e-Gov Roles	Time commitment	Remarks
1	Citizen Engagement Manager	Part time	To engage citizen
2	Project Manager	Full time	Depending upon the scale of project
3	Content Manager	Full time	Where detailed documentation is required

3.3.2 Team Structuring at State PMU

Please note that the proposed set of activities is only indicative, and provided here for learning purposes only.

In general, most of the State Level MMPs require setting up State PMUs. In this section, the key activities of the State PMU (SPMU) have been identified.

Key activities for SPMU
I   Undertake project implementation at the State level
II   Prepare DPRs / Financial Proposals / detailed functional requirements for approval (programme management support)
III Perform project management activities
IV   Undertake communications and training
V   Assess training needs and ensure comprehensive training for staff
VI   Monitor the deployment and commissioning of necessary hardware at the SDC
VII Undertake user acceptance testing and subsequent 'Go live'
VIII Ensure audits and compliance

SPMU should have following e-Governance roles			
S No	e-Gov Roles	Time commitment	Remarks
1	Program Management	Full time	
2	Project Management	Full time	Implementation / execution
3	Training and change management	Part time	Depending upon the scale of project
4	Project Support Coordinator	Full Time	Can be sourced from market
5	Testing and Quality Management	Part Time	

Additional e-Governance roles that SPMU may have			
S No	e-Gov Roles	Time commitment	Remarks
1	Technical architect	Part time	To provide technical guidance
2	Domain expert	Full time	Can be clubbed with Testing and Quality Management
3	Service Management	Full time	Can be clubbed with Project Management role

3.4 How to identify Competency Gaps

The competency gaps can be identified by conducting training needs analysis as well as by reviewing the current roles and workloads on various officials executing e-Governance projects/ programmes. These roles may help bring to fore the capacity or ability to tackle issues at various levels or interfaces such as those related to management, technology, processes, or citizens.

Mid-career or need-based capacity development needs may also be identified in the annual self-appraisal forms which may be provided as a part of the strategic competency gap assessment methodology to existing functionaries such as government officers, experts from the private sector or consulting firms on lease to the project.

3.4.1 Training Needs Analysis

There are six major steps in conducting Training Needs Analysis. These include the following:

- Map key activities in the project teams with the e-GCF roles
- Identify the competencies required
- Assess individuals for their competencies based on identified roles.
- Analyse the scores and identify competency gaps
- Suggest training requirements based on the identified gaps
- Suggest training needs for the entire department by collating individual results.

3.4.2 Case 04: Example of Training Needs Analysis of a State e-Mission Team (SeMT)

As a test case, a Training Needs Analysis exercise was conducted for a State e-Mission Team (SeMT) role using e-GCF guidelines. As a first step, the allocation of the appropriate role from e-GCF had to be done. In this case, the Head SeMT was matched with the CIO role and was given a CIO-level web-based self assessment questionnaire. The responses were analysed in the areas of CIO skills, knowledge areas and training / certification courses.

The e-GCF Individual assessment report generated as result of this assessment clearly identified the competency gaps in the abovementioned areas and helped in taking corrective actions to ensure the competency gaps are addressed in order of priority.

In the following pages, test data of an Individual Assessment Report from e-GCF is provided as an example.

eGCF Assessment Report

Name: HDSMT1001 **Department/Area:** SeMT
Current Role: Head SeMT **Role Assessed:** Programme Management / CIO

Training Need Analysis					
High		**Medium**		**Low**	
1	Information Security	1	Resourcing	1	Supplier Relationship Management
2	Continuity Management	2	Professional Development	2	Service Acceptance
3	IT Governance	3	Organisation Design	3	Financial Management of IT

Professional Skills
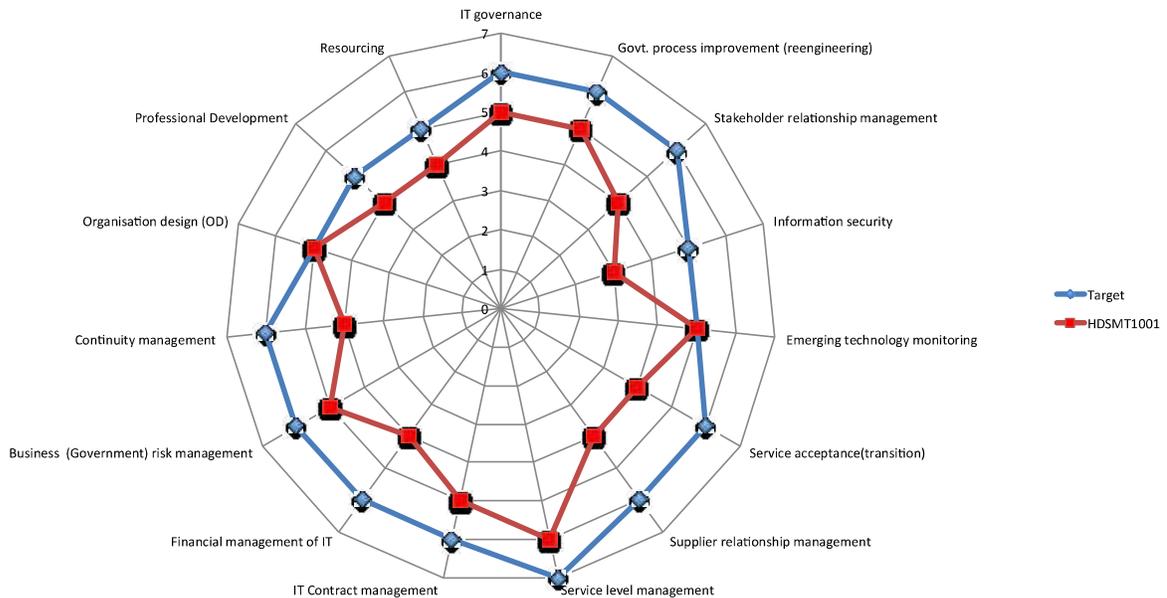
Knowledge & Certifications
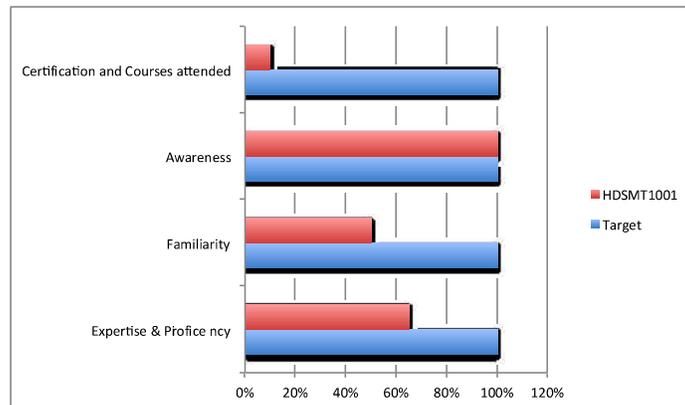
Detailed report

Knowledge Area Assessment	Required	Actual	Priority
Project management methodology	Proficient	Familiar	Low
e-Governance Project Lifecycle	Proficient	Proficient	NA
PERT / CPM	Proficient	Familiar	Low
Estimation	Proficient	Familiar	Low
Project Management Software	Proficient	Proficient	NA
Detailed Project Report or DPR	Proficient	Familiar	Low
Office tools such word, spreadsheets, etc	Proficient	Aware	Medium
Software Development Lifecycle	Proficient	No knowledge	High
Contract Management	Proficient	Familiar	Low
Risk Management	Proficient	No knowledge	High
Master Service Agreement (MSA)	Proficient	Aware	Medium
Request for proposal (RFP)	Proficient	Proficient	NA
Domain Knowledge	Familiar	Familiar	NA
Public-private partnership (PPP)	Familiar	Familiar	NA
e-Governance architecture	Familiar	Aware	Low
IT legislation such as IT Act 2000	Familiar	Aware	Low
IT Service Management system	Familiar	No knowledge	High
Technology Solutions	Familiar	Familiar	NA
Technical areas such as programming, operating systems, etc	Aware	No knowledge	High
e-Governance related International studies and publications	Aware	Aware	NA
e-Governance Projects Lifecycle by Step	Certification	Yes	NA
Secure Software Development Practices by STQC	Certification	No	High
Project Management by STeP	Certification	No	High
Preparation of DPR for e-Governance Projects by STeP	Certification	Yes	NA
Project Management Professional (PMP)® by PMI	Certification	No	High
ITIL Foundation by ITSMF	Certification	Yes	NA

Appendix

The report consists of the analysis of assessment which a candidate deputed on e-Governance project or going to be deputed on e-Governance project has given, primarily with a purpose of

- Identification of training needs
- Suitability for the assessed role

Training Need Analysis

The list of suggested trainings or gaps has been identified on the basis of responses given the candidate during assessment. Prioritisation indicates the areas which require immediate attention.

Professional Skills Assessment

Each professional skill requires an individual to demonstrate a set of observable behaviour. The graph exhibits the gap in each professional skill against the required observable behaviour. Greater the gap, more training or grooming is required in the area.

Knowledge Assessment

Knowledge areas consist of knowledge elements which can be categorised under following categories.

Knowledge level description
No idea: No idea about the knowledge element
Aware: Basic knowledge level
Familiar: Able to use the knowledge element
Proficient: Able to use the knowledge element and confident to advice and instruct others.

Based on the responses received from the candidate, gaps have been identified and appropriately marked in the report. A wide gap (for example No Idea against Proficiency) has been identified as a high priority training need.

Next steps:

- The content of this report is based on the information provided by the participants and/or interviewees, which may need to be verified as a future step in the process.
- Further validation should be performed, particularly where individual assessment results are unusual, or further discussion and analysis would be beneficial. This may include validation meetings with individuals.
- The training recommendations shown in this document need review and approval in order to finalise the training dates. Once the requirement is agreed, the elaborative training plan can be created, resources required and their availability, along with other variables which may impact progress, will influence how quickly they can be done.
- Identify and define requirements for subject matter advice to ensure the trainings needs identified during the assessment achieves the desired outcomes.

3.5 Where to seek expertise and help while using or implementing e-GCF

NeGD will be the focal point of reference for seeking expertise or help while implementing the e-GCF.

This toolkit on e-GCF has been prepared by NeGD to provide information and guidance for the usage of the framework. During the consultations, stakeholders were asked to suggest the approach/ method that would help in effective adoption and usage of the framework.

The following is a list of suggestions in decreasing order of preference:

- A web based implementation toolkit with a comprehensive set of easily accessible content

- A web based assessment engine with a complete question bank for conducting Training Needs Analysis (TNA)

- A mobile version (for mobile phones and tablets) of the implementation toolkit

It is proposed to develop the necessary web-based toolkit as and when the next phase of the e-GCF exercise is initiated.

4. e-Gov Role Catalogue

In Summary

e-Gov role catalogue has 19 roles. Each e-Gov role has three segments – first segment is a description of the role; second segment is a list of knowledge elements with expected depths; and the third segment provides a list of professional skills along with suggested certifications / qualifications / courses.

1. Leader Role
2. Chief Information Officer Role / Programme Management Role
3. Chief Technology Officer Role
4. Project Management Role
5. Domain Expert Role
6. Change and Training Management Role
7. Information Security Management Role
8. Citizen Engagement Management Role
9. Finance/ Commercial Management Role
10. Project Support Coordination Role
11. Technical Architect Role
12. Service Management Role
13. Technical Support Management Role
14. Testing and Quality Management Role
15. Programming Role
16. Knowledge and Content Management Role
17. Network Support Engineer Role
18. Database Administrator Role
19. Security Administrator Role

4.1 Leader Role

A person in a 'Leader Role'

1. Defines Digital India aligned e-Governance vision and objectives for a Ministry / Department / Programme / Mission with a focus on the final outcomes and benefits for the end-user / beneficiary / stakeholders;

2. Prioritises e-governance programmes and services and ensures monitoring & evaluation;

3. Ensures budgetary approvals, controls, laying targets and adherence;

4. Assesses the impact of legislation, potential risks, and actively promotes Government Process Re-engineering, innovation, quality and compliance;

5. Develops strategic relationships with other Ministries / Departments, key partners, industry leaders and governments of other countries to exploit learning, global standards, best practices, methods and frameworks.

6. Establishes an organisational structure to facilitate change (people, process, technology) and ensures capacity building policies for the organisation.

Depth	Knowledge Areas
Knowledge	☐ Digital India vision and its pillars ☐ Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures ☐ e-Governance Lifecycle ☐ Financial & Operational Models including PPP Models ☐ Budgeting & Costing
Familiarity	☐ IT Act & Rules, Right to Information Act - 2005 ☐ IT Service Management / Operations (ITIL), Capability Maturity Models (CMM), a recognised project management method (PRINCE 2 or similar) and Six Sigma ☐ Risk management tools and techniques ☐ e-Governance Architecture ☐ Project Management Software, Office Tools (Power point, Excel, Word), Email, Collaboration tools, eOffice

Awareness	☐ ISO 20001 , ISO/IEC 27001 (Information Security Management Standards) , ISO/IEC 20000 (IT Service Management Standards), IS - 15700 (Quality Management Systems Standards) or equivalent BS standards. ☐ Indian Computer Emergency Response Team (CERT-In) ☐ Cloud Computing, Big Data, Mobile, Social Media ☐ New and emerging technologies and common programming languages, operating systems and web technologies ☐ e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle), UN e-Governance report

Professional Skills	
Primary	
01	IT governance (Strategy)
02	Portfolio management (Project prioritisation)
03	Government process re-engineering (process improvement)
04	IT contract management & Procurement (budgetary)
05	Stakeholder relationship management
06	Benefits management (outcome management)
07	Organisation design and implementation
Desirable	
08	Business (Government) risk management
09	Innovation (management)

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	e-Governance Leadership Programme (eGLP)	Programmes under Capacity Building Scheme implemented by NeGD (Chief Information Officer Training Programme)
02	Government Process Reengineering (GPR)	Programmes under Capacity Building Scheme implemented by NeGD (Modules in Specialized Training in e- Governance Programmes STeP)
03	e-Governance Project Lifecycle (eGLC)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
04	Business Models and Public Private Partnership (BMPP)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
05	IT Service Management Awareness	STQC (Standardisation Testing and Quality Certification)

Note: The suggested Courses/ Certification are from the currently available training programmes under NeGD/ DeitY and other Govt bodies. There may be other bodies offering similar programmes. Development of modules and training programmes is a continuous activity and the above section should be used as a reference only.

4.2 Chief Information Officer / Programme Management Role

A person in a 'Chief Information Officer / Programme Management Role'

1. Plans, assists and oversees (in some cases implements) Digital India (e-Governance) activities across a Ministry / Department. Heads the Electronic Service Division – ESD for a Ministry or a cluster of Ministries;

2. Provides strategic and operational advice on an ongoing basis to the Leader on e-Gov issues and opportunities to use ICT to improve services to citizens, businesses and other entities as well as to improve the efficiency and effectiveness of departmental operations. Coordinates with key stakeholders such as DeitY, NeGD, NIC and key partners;

3. Conceptualises new ICT and e-Governance projects, prioritises existing projects, vets project proposals, and strengthens information security in line

with the directions, policies, and standards of Government of India. Publishes a list of public services to be delivered electronically. Ensures strategic control;

4. Manages and controls e-Governance / IT budget;

5. Functions as an independent and objective body that reviews and evaluates compliance issues / concerns within the Ministry's / Department's e-Governance programmes;

6. Formulates policies and standards for data, infrastructure & cyber security, interoperability, common infrastructure/ services, processes,

architecture and design and service delivery mechanism across various e-Governance initiatives;

7. Takes appropriate steps to build capacity for existing and new e-governance initiatives to ensure timely availability of talent. Equips staff with new tools and technologies to deliver best possible citizen centric services. Raises awareness;

8. Ensures continuous improvements / further enhancements, change management and support innovation.

Depth	Knowledge Areas
Expertise	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • e-Governance Lifecycle • Financial & Operational Models including PPP Models • IT Act & Rules, Right to Information Act 2005 • Budgeting & Costing
Proficiency	• IT Service Management/Operations - (ITIL), IT Controls (COBIT - Control Objectives for Information and Related Technology), CMM (Capability Maturity Matrix) • Recognised project delivery method such as PRINCE 2 or similar • Cloud Computing, Big Data, Mobile, Social Media, Data Centers, Managed Solutions • Risk management tools and techniques • MS Project (or equivalent), MS Office Tools (Power point, Excel, Word)

Familiarity	• Digital India vision and its pillars
	• Business Intelligence (Analytics) tools (Informatica, Business Objects or similar), Collaboration tools
	• Government Financial Rules and Regulations
	• ISO 20001, ISO/IEC 27001 (Information Security Management Standards), ISO/IEC 20000 (IT Service Management Standards), IS - 15700 (Quality Management Systems Standards)
	• Cyber Security
	• TOGAF (The Open Group Architecture Framework) and Six Sigma
	• New and emerging technologies
	• Common programming languages, operating systems and web technologies
	• MOOCs
Awareness	• e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle)
	• Indian Computer Emergency Response Team (CERT-In)
	• Software Process Improvement and Capability Determination (SPICE), Initiating Diagnosing Establishing Acting Learning (IDEAL)

Professional Skills	
Primary	
01	IT governance & management
02	Govt. process improvement (re-engineering)
03	IT Contract management
04	Service level management
05	Service acceptance(transition)
06	Stakeholder relationship management
07	Supplier relationship management
08	Information security

09	Emerging technology monitoring
10	Financial management of IT
11	Business (Government) risk management
12	Continuity management (Disaster Management)
Desirable	
13	Organisation design (OD)
14	Resourcing & PD

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	e-Governance Champions Programme (eGCP)/ Modules under STeP programmes	Programmes under Capacity Building Scheme implemented by NeGD (CIO Training programme / STeP)
02	Information Security Management (3 day)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
03	Change Management and Capacity Building for e-Governance Projects	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
04	ITIL Foundation	itSMF (IT Service Management Forum)
Desirable		
05	Implementing IT Governance: Foundation & Principles (CITGP)	International Board for IT Governance Qualifications (IBITGQ)

4.3 Chief Technology Officer Role

A person in a 'Chief Technology Officer Role'

1. Acts as a key technical advisor (technical subject matter expert) to the Ministry/ Department/ Programme on Digital India. Recommends and designs appropriate technology solutions to support the policies and directives issued by a Leader/ CIO. Plans for short and long-term technology strategies;

2. Develops enterprise architecture (as per the eGov architecture), IT technology standards, protocols and procedures in line with government requirements and industry best practices, and ensures adherence to the same;

3. Manages overall ICT operations. Oversees Application, Infrastructure, Cyber and Network Security, Authentication and Privacy. Leads development and support teams;

4. Recommends, develops, integrates, administers, and evaluates, policies, procedures needed to provide flexible and cost effective e-Governance solutions and services needed during the lifecycle of a project;

5. Ensures that Ministry / Department leverages technology and understands the potential and risks of emerging technologies and undertakes Technology Refreshment, mobile enablement and rapid deployment/replication;

6. Ensures use of standard products and reusable components and promotes software productisation;

7. Develops Business Continuity Planning and Disaster Recovery (BCP / DR);

8. Defines essential IT training required for the implementation, operation and maintenance of the e-Governance initiative of a Ministry / Department. Mentors technical staff;

9. Promotes research and development (R&D) initiatives;

10. Ensures the management of ICT Assets, management and support innovation.

Depth	Knowledge Areas
Expertise	• Enterprise Architecture Frameworks such as TOGAF (The Open Group Architecture Framework), ZACHMAN or similar • Standards associated with IT practice nationally and internationally. ISO 20001, ISO/IEC 27001(Information Security Management Standards), ISO/IEC 20000 (IT Service Management Standards), IS -15700 9126 (Quality Management Systems Standards) • Effort estimation for application development using methods such as function point analysis, lines of code, etc. estimating the number and type of servers and storage requirement • Defining and monitoring service level metrics for system and application uptime and response time • Applications and security testing tools and techniques including Open Web Application Security Project (OWASP) vulnerabilities, APPSCAN etc. • Data Centre hosting models, Cloud Computing (IaaS - Infrastructure as a service, PaaS - Platform as a service , SaaS- Software as a service), Big Data, Mobile, Gateway (payment, SMS etc), Social Media, Web Technologies
Proficiency	• e-Governance architecture • Application Development Methods, Techniques and Standards , software engineering processes (for example - SCRUM, RUP (Rational Unified Process), UML, relational data modeling) • Specialist in one or more of the following: C, C++, Java, .Net, J2EE, databases, ERP, Windows/Linux, Open source platforms • X86, Blade servers, EPIC or similar • RAID 0,1,5 • Document and content management (DMS & CMS) • New and emerging technologies including Green IT

Familiarity	• Digital India vision and its pillars
	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures
	• Financial & Operational Models including PPP Models
	• Govt. Financial Rules
	• IT Act 2000, IT Act amendments 2008
	• e-Governance programme, standards and practices
Awareness	• e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle)
	• Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Enterprise and business architecture development
02	Technical specialism (expertise)
03	Software development process improvement
04	Latest Technologies and Tools (BI & GIS tools etc) (methods and tools)
05	Project management
06	Technology audit
07	ICT Asset management
08	Information security & management
09	Network, design and planning
10	Emerging technology monitoring

11	Data management and reporting systems
12	Quality assurance
13	Business (Government) risk management
Desirable	
14	Research & development

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	Information Security Management System - Best Practices (Based on ISO 27001)	STQC (Standardisation Testing and Quality Certification)
02	Secure Software Development Life Cycle Practices (SSDLC)	STQC
03	e-Governance Project Lifecycle (eGLC)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
04	Best practices in Software engineering	Software Engineering Institute (SEI)
05	TOGAF	Open Group
Desirable		
06	Certified Internal Software Quality Auditor	STQC
07	Awareness on IS-15700 Quality Management in Public Organisations	STQC

4.4 Project Management Role

A person in a 'Project Management Role'

1. Manages end-to-end project implementation within well defined timelines and budget covering all facets of implementation such as:

   a. Application Development and Documentation such as Functional and Non- Functional Requirements, Technical Design Documents, SRS, Test Plan, Test Cases etc

   b. Procurement of hardware, site preparation, software licences and any other infrastructure needs

   c. Go-Live

   d. System and User Acceptance Testing

   e. Third Party Audit and Certification

   f. Backup and Disaster Recovery Policy

   g. Handover to Support (Post implementation operations / Service Acceptance)

   h. Facilitates transfer of strategic control of all assets and process to the Government in a timely manner

   i. Develops project metrics (Key Performance Indicators)

2. Organises audit and quality reviews

3. Manages escalations and enforces SLA

4. Keeps the leadership informed about the progress (time, budget), potential risks and issues, team performance, change management, scope changes (change in requirements) and improvement opportunities

5. Manages software assets (licences, IPR) and supplier logistics

Depth	Knowledge Areas
Expertise	• A recognised project delivery method such as PMI/PRINCE2 or Common Information Management Method (CIMM) • e - Governance Lifecycle • Programme Evaluation and Review Technique (PERT), Critical Path Method (CPM) • Estimation-functional point analysis, bottom up/ analogous / parametric / three - point estimates

Depth	Knowledge Areas
Proficiency	MS Project (or equivalent) ● Master Services Agreement (MSA), Detailed Project Report (DPR), RFP (Request for Proposals) ● MS Office Tools (Power Point, Excel, Word) ● SDLC - Software Development Lifecycle, RAD (Rapid Application development) ● Contract Management Body of Knowledge (BoK) ● Risk Management - Probability Impact Matrix, CRAMM or similar, Procurement procedures and policies
Familiarity	● Digital India vision and its pillars ● Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures ● General Financial Rules and PPP model ● e-Governance architecture ● IT Act 2000, IT Act amendments 2008. Right to Information Act 2005. ● IT Service Management/Operations (ITIL), CMM (Capability Maturity Model) , Six Sigma ● Technology solutions such as Data Centre Hosting / Co-location Services, Managed Voice and IP solutions, Managed Infrastructure Services, System Integration services, Connectivity services, Managed IT services, etc.
Awareness	● TOGAF, Common programming languages, operating systems, web technologies, Cloud Computing, Big Data, Mobile, Social Media, Web ● e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) ● Indian Computer Emergency Response Team (CERT-In)

Professional Skills (refer to the skills description)	
Primary	
01	Project management
02	Systems development management
03	Requirements definition and management
04	Business process improvement (GPR)
05	Quality Assurance and Management
06	Supplier relationship management
07	Service level management
08	Release and deployment
09	Service acceptance (transition)
10	IT Operation and Management
Desirable	
11	Continuity management
12	Testing
13	Conformance review

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	e-Governance Project Life Cycle (eGLC)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Secure Software Development Life Cycle Practices (SSDLC)	STQC (Standardisation Testing and Quality Certification)
03	Project Management	Programmes under Capacity Building Scheme implemented by NeGD (STeP)

04	Detailed Project Report for e-Governance Projects	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
05	PMP (or equivalent)	PMI (Project Management Institute) or equivalent
Desirable		
01	ITIL Foundation	itSMF (IT Service Management Forum)

4.5 Domain Expert Role

A person in a 'Domain Expert Role'

1. Provides domain expertise (process, functional knowledge, legislation, regulation, policy and field) to the e-Governance Leadership (Leader, CIO). Has in-depth understanding of Government Processes of the Ministry / Department;

2. Helps projects / programmes in process reengineering, statutory changes, work/ breakdown, change management and in documenting "As Is" processes;

3. Contributes to the strategy, design, architecture, planning and implementation of e-Gov initiatives within the Department / Ministry;

4. Identifies strategic opportunities for the Government to optimise its investment in a project/ programme through the introduction of additional functionality and integration with other business systems;

5. Provides help and support in framing guidelines and manuals for e-Gov application usage.

Depth	Knowledge Areas
Expertise	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • Business analysis techniques - functional business models, statistical process control, relational data modeling, use case • Document - Business Requirements Document (BRD), Systems Requirements Specification (SRS), Functional Specification Document (FSB) • Business modeling – Rational Rose / Use Case (or similar), Software Change Management - Requirements Traceability Matrix (RTM)
Proficiency	• Sig Sigma • eGovernance Lifecycle • Graphical Representation Tools - MS Visio (or similar), MS Office Tools (Powerpoint, Excel, Word) • IT Act 2000, IT Act amendments 2008, Right to Information Act – 2005. • Functional testing – User Acceptance Testing (UAT)
Familiarity	• Digital India vision and its pillars • e-Governance architecture • General Financial Rules and PPP • IT Service Management / Operations (ITIL), Capability Maturity Management (CMM)
Awareness	• Initiating Diagnosing Establishing Acting Learning (IDEAL) • TOGAF, operating systems, web, Cloud Computing, Big Data, Mobile, Social Media, Web • e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Open Source / APIs, Cyber Security • Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Government Process Re-engineering (process improvement)
02	Business analysis
03	Requirement definition and management
04	Stakeholder relationship management
05	Business process testing
06	Change implementation planning and management
07	Innovation
08	Project management
Desirable	
09	Business modelling
10	Conformance review
11	Quality assurance

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	e-Governance Life Cycle (eGLC)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Government Process Re-engineering (GPR)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
03	Regulatory Framework for e-Governance projects	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
04	Detailed Project Report for e-Governance Projects (DPR)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
05	Request for Proposal for e-Governance Projects (RFP)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
Desirable		
06	PMP (or equivalent)	PMI (Project Management Institute)
07	ITIL Foundation	itSMF (IT Service Management Forum)

4.6 Change and Training Management Role

A person in a 'Change & Training Management Role'

1. Supports e-governance leadership in meeting project / programme objectives through change management initiatives. Focuses on the system changes (organisatinal structure and roles and responsibilities), process changes and people change in consultation with the CIO/ CTO;

2. Devises the change management strategy and creates and implements change management plans that minimise employee resistance and maximise employee engagement. Identifies potential people-side risks and anticipated points of resistance and develops specific plans to mitigate or address the concerns;

3. Conducts and evaluates change readiness assessments and Training Needs Analysis (TNA);

4. Works with project teams to integrate change management activities into the overall project plan. Enables capacity building interventions at various stages of project / programme implementation within the Ministry / Department;

5. Develops training policy in line with the Government training policy. Plans and ensures budget for the training activities;

Identifies and recommends various models of delivery of training to different groups of stakeholders including inhouse and in sourced/ outsourced models;

6. Identifies and recommends the appropriate training medium (Instructor Led Trainings – ILTs, Computer Based Trainings - CBT / eLearning, or blended) to achieve affective learning objectives;

7. Creates, maintains and improves training programmes and preparation of training calendar aligned with the e-Governance Competency Framework. Ensures participation by managing key stakeholders;

8. Evaluates the development of the trainees by holding regular meetings with department heads, Leader, CIO, CTO, Project Manager, Domain Experts etc;

9. Prepares feedback reports on training groups, targets and accomplishments;

10. Ensures faculty and trainer development as an ongoing activity; Commissions production of training materials, manuals or documentation (including eLearning content) and regular updates;

11. Ensures new joiners / new to e-Governance project / people coming from outside Government attend a mandatory introduction to the relevant government functions in general and e-governance in particular.

Depth	Knowledge Areas
Expertise	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • Change management methods such as ADKAR (Awareness-Desire-Knowledge-Ability-Reinforcement) or equivalent) • Recognised project delivery methods such as PRINCE 2 or equivalent • E-Learning - Learning Management Systems (LMS). Open source LMS such as Moodle
Proficiency	• e-Governance Lifecycle • General Financial Rules and PPP model • MS Office Tools (Powerpoint, Excel, Word) • MS Project (or equivalent)
Familiarity	• Digital India vision and its pillars • e-Governance architecture • IT Act 2000, IT Act amendments 2008, rules under IT Act • Cloud Computing, Big Data, Mobile, Social Media, Web Technologies • Six Sigma, ITIL (IT Infrastructure Library) • People Capability Maturity Model, IDEAL (Identify, Determine, Evaluate, Act, Learn)
Awareness	• ISO 20001, ISO / IEC 27001(Information security management standards), ISO/IEC 20000 (IT Service management standards),-IS 15700 (Quality Management Systems standards) • New and emerging technologies • e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum- e Gov Reports, Global- e Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Planning and implementing Change
02	Organisational design and implementation
03	Stakeholder relationships management
04	Learning and development management
05	Learning delivery
06	Learning and development assessment
07	Benefits management
08	Professional development
09	Programme and Project management
10	Supplier relationship management
Desirable	
11	Business process improvement (GPR)
12	Information content authoring
13	Resourcing

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	Change Management and Capacity Building for e-Governance Projects	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Diploma in Training & Development	Indian society for Training and Development Management or equivalent
03	Lean and Six sigma training	APMG (APM Group)
04	Management of Change	Department of Personnel and Training (DoPT)

05	Trainer Development Programme (TDP)	Department of Personnel and Training (DoPT)
	Desirable	
06	Change management certification program	Prosci
07	Microsoft Certified Trainer (MCT) / equivalent	Microsoft
08	Certified Professional in Learning and Performance	ASTD (American Society for Training and Development)
09	Specialist Certificate in Change Management	BCS (Business Computer Society)

4.7 Information Security Management Role

A person in an 'Information Security Management Role'

1. Develops and implements policies and standards for Application, Infrastructure, Cyber and Network Security, Authentication, Access controls and Privacy;

2. Ensures Ministry / Department data and information security by implementing security standard operating procedures and appropriate security solutions;

3. Performs vulnerability audits and assessments and establishes an organisation-wide security stance through policy, architecture and training processes;

4. Responds to security incidents;

5. Introduces relevant latest developments in ICT Security including best practices and standards;

6. Keeps employees aware about the potential security threats and how to avoid them;

7. Ensures leadership is aware about the security risks, the implications and possible/ feasible mitigation strategies.

Depth	Knowledge Areas
Expertise	• e-SAFE • Information Security Management Systems (ISMS). Confidentiality, Integrity, Availability (CIA) of information assets • ISO/IEC 27001 (Information Security Management Standards): 2005, ISO 27002 Security Control • Cyber Security & Vulnerabilities • Penetration Testing (Vulnerability Assessments - VAs), IT Security Audit, Secure coding practices • Anti-virus, patching, Open Web Application Security Project (OWASP) — vulnerability and mitigation techniques • Protective Security, New emerging security threats and vulnerability of systems
Proficiency	• Business Continuity Management (BCP) and Disaster Recovery (DR), Risk Management Concepts and Approaches • Standards associated with IT practice nationally and internationally. ISO 20001, ISO/IEC 20000 (IT Service Management Standards), IS - 15700 (Quality Management Systems Standards) • e-Governance Lifecycle • Cloud Computing, Big Data, Mobile, Social Media
Familiarity	• Digital India vision and its pillars • e-Governance architecture • TOGAF (The Open Group Architecture Framework) • IT Act 2000, IT Act amendments 2008, Right to Information Act — 2005. • IT Service Management/Operations (ITIL) • Technology solutions — Data Centre Hosting / Co-location Services Cloud Services, Managed Voice and IP solutions, Managed Infrastructure Services, System Integration services etc • Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures

	• General Financial Rules and PPP
Awareness	• Software Process Improvement and Capability Determination (SPICE) • e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Information security
02	Security administration
03	Technical specialism
04	Enterprise architecture
05	Technology audit
06	Emerging technology monitoring
07	Quality standards
08	Stakeholder relationship management
09	Supplier relationship management
10	Conformance review
Desirable	
11	Project management
12	Research
13	Configuration management

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	e-Governance Life Cycle (eGLC)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Secure Software Development Life Cycle Practices (SSDLC)	STQC (Standardisation Testing and Quality Certification)
03	Information Security management system	STQC
04	Certified information security professional	STQC
Desirable		
05	PMP (or equivalent)	PMI (Project management Institute) or equivalent or Programmes under Capacity Building Scheme implemented by NeGD (STeP)
06	ITIL Foundation	itSMF (IT Service Management Forum)

4.8 Citizen Engagement Management Role

A person in a 'Citizen Engagement Management Role'

1. Ensures citizen centricity instead of process centricity and large scale public participation through enablement of ICTs. Increases citizen e-Participation;

2. Creates awareness by right training and continuous engagement with both the service provider as well as the service seeker to use new tools for better service and more effective interaction with public;

3. Encourages participation, exchange of ideas and flow of conversation to share information and make citizens a partner in decision making. Continually infuses citizen's priorities in policy making / project implementation. Also encourages citizens to participate in deliberation processes leading to decisions;

4. Takes appropriate measures to ensure that the citizens are aware of the new/changed e-Governance initiatives;

5. Leverages all possible and feasible mediums including the Social Media to increase participation;

6. Takes a holistic citizen view of the initiative. Continuously feeds back the user views into the design and development phases of e-Governance initiatives.

7. Undertakes the impact assessments (citizens) of e-Gov project;

8. Assesses inputs received from citizens for the eGov projects.

Depth	Knowledge Areas
Expertise	• Citizen Engagement Framework for e-Governance projects (DeitY) • Delphi Process (structured communication technique) • Matrix Scoring and Ranking • Citizen Report Card (CRC) • New Media Websites, Portals, Social Media sites, Mobile access devices
Proficiency	• Crowd Sourcing, Wikis • MS Office Tools (Power point, Excel, Word)
Familiarity	• Digital India vision and its pillars • IT Act 2000, IT Act amendments 2008, rules under IT Act • IPR related laws, Indian Contract act – 1872, Right to Information Act – 2005 • Ministry / Department functions , Citizens Charter, General Financial Rules, National Capacity Building Frameworks (NCBF) from MoPR • Existing Citizen Engagement Models and mechanism in other countries such as USA, Canada, Norway, UK, Australia • e-Governance Lifecycle, SDLC, RAD • PPP model • e-Governance architecture

Awareness	• Cloud Computing, Big Data, New and emerging technologies for example : Predictive Analytics, Biometric Authentication Methods, Consumer Telematics, Gesture Control • Cognitive learning methods • e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	User experience evaluation and analysis
02	Stakeholder relationship management
03	Brand management - Spreading awareness using multimedia channels
04	Information content publishing
05	Vendor (supplier) relationship management
06	Business process improvement for institutionalising citizen engagement
07	Business process improvement based on user experience analysis
08	Project Management
Desirable	
09	Training
10	Business modelling

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	e-Governance Life Cycle (eGLC)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Empirical and qualitative analysis – Statistical Package for the Social Sciences (SPSS), Delphi, etc.	IBM SPSS Products Courses / similar
03	Social media content management	Content Management : AIIM (Association for Information and Image Management) / similar Social Media: V-Skills, a Govt. of India initiative
04	Project management	PMI (Project Management Institute) or equivalent or Programmes under Capacity Building Scheme implemented by NeGD (STeP)
Desirable		
05	Government process reengineering (GPR)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
06	Business Models and PPP, contract management (BMPP)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)

4.9 Finance / Commercial Management Role

A person in a 'Commercial Management Role'

1. Manages all commercial aspects of e-governance project/programmes (including contractual relationships) as per the guidance and policies defined by the leadership

2. Activities include:

   a. Plan budget during DPR and thereafter

   b. Submit Utilisation Certificates in a timely manner

   c. Manage to get ACA and GIA funds from the relevant authorities and track target vs actuals

   d. Develop financial modeling for sustainable operations post go-live

   e. Support financial audit

   f. Plan for Capital Expense for technology infrastructure refresh

   g. Plan for operational expenses to ensure working capital

   h. Levy Service charges for the services provided (as applicable under the scheme)

i. Provide support in validating change requests

j. Ensure service penalties (as per the SLAs) are applied as applicable

3. Oversees procurement and contract work, advises leadership (Leader, CIO) on these and related aspects;

4. Negotiates contracts according to the principles of commercial risk management;

5. Develops operational relationships with vendors/ suppliers and gains materials/ resources. Keeps commercial operations and relationships accurate;

6. Continuously works to strategically expand, preserve or improve Government procedures, standards or policies while sticking to business ethics and regulatory guidelines;

7. Keeps the leadership informed about the day to day running of e-Governance related commercial operations;

8. Helps in the preparation of RFPs, tenders, e-Tenders and specifications.

Depth	Knowledge Areas
Expertise	• Procurement standards of the Ministry/Department/Division, Audit compliance, General Government Procurement processes • PPP model (BOO/BOOT Service Contracts, Management Contracts (Concessions), Lease Contracts (JVs)) • Price analysis – historical, market and published • Cost analysis – element by element examination of estimated or actual cost of contract to determine probable cost to vendor • Utilisation Certificates (UCs)
Proficiency	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • General Financial Rules • MS Office Tools (Power point, Excel, Word) • Cost and price analysis tools

Familiarity	• Digital India vision and its pillars • IT Act 2000, IT Act amendments 2008, rules under IT Act • IPR related laws, Indian Contract act – 1872, Right to Information Act – 2005 • Market rates/empanelled rates for various Hardware and Services • e-Governance Lifecycle (e-GLC)
Awareness	• Cloud Computing, Big Data, Mobile, Social Media • New and emerging technologies • e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Procurement
02	Financial management of IT
03	IT Contract management
04	Asset management
05	Quality assurance
06	Supplier relationship management
07	Service level management
Desirable	
08	Project management
09	Business process improvement (GPR)

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	Detailed Project Report for e-Governance Projects (DPR)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Request for Proposal for e-Governance Projects (RFP)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
03	Regulatory Framework for e-Governance projects	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
04	Business Models & Public Private Partnerships (BMPP)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
Desirable		
05	Project management	PMI (Project Management Institute) or equivalent /Programmes under Capacity Building Scheme implemented by NeGD (STeP)

4.10 Project Support Coordination Role

A person in a 'Project Support Coordination Role'

1. Provides administrative support to management infrastructure on large projects / programmes;
2. Manages and monitors RfPs, KPIs, and project / programmes plans as per the leadership guidelines;
3. Coordinates project funding submission processes, maintains submission schedules and organises sign-offs;
4. Maintains financial and administrative records pertaining to allocated projects and other associated programmes in accordance with specified deadlines and reporting timescales;
5. Ensures third parties supply all management information such as SLA reports, incident/ problem/ issue/ risks reports, in time and in prescribed formats.
6. Coordinates support for project related ICT infrastructure;
7. Coordinates the functioning of facilities and workshops.

Depth	Knowledge Areas
Expertise	• Document management and reporting • E-Governance Lifecycle
Proficiency	• MS Project (or equivalent), MS Office Tools (Power point, Excel, Word) • Master Services Agreement (MSA) • Detailed Project Reports (DPRs) • Request for Proposals
Familiarity	• Digital India vision and its pillars • ICT Infrastructure facilities, • A recognised project delivery method – PMI/PRINCE2 or Common Information Management Method (CIMM) • IT Act 2000, IT Act amendments 2008 • IT Service Management/Operations (ITIL)
Awareness	• Common programming languages, operating systems, web technologies, Cloud Computing, Big Data, Mobile, Social Media, Web • e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Indian Computer Emergency Response Team (CERT-In)

Professional Skills (refer to the skills description)	
Primary	
01	Service desk and incident management
02	IT Operations
03	Service level management
04	Supplier relationship management
05	Change management (IT Change)
06	Portfolio programme project support
Desirable	
07	IT contract management
08	Business process improvement (GPR)

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	e-Governance Life Cycle	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	MS Office tools	NIELET/similar
03	MS Project / similar	Standardisation Testing and Quality Certification (STQC)
Desirable		
04	ITIL foundation	itSMF (IT Service Management Forum)

4.11 Technical Architect Role

A person in a 'Technical Architect Role'

1. Devises data, application, and deployment architectures that support the business model. Works under the direct guidance of the CTO;

2. Creates optimum technical solution in the context of the government environment, requirements, and financial resources;

3. Ensures a quality system design which provides good system performance, an effective user interface, open standards based design to enable scalability, optimal operational cost, and flexibility for future change;

4. Acts as a focal point for all technical issues and initiatives on the project.

Ensures that all components of the technical architecture are properly implemented. Ensures complementary synthesis of all standards, models, designs and methodologies;

5. Establishes programming, design and other technical standards, trains team members, provides hands-on advisory and trouble-shooting support to maximise the productivity of the project team.

Different types of architecture are recognised (data, system, enterprise, infrastructure), but this profile can contain all the people whose primary role is architectural, irrespective of the context. They will all have different experiences and specialisations.

Depth	Knowledge Areas
Expertise	• Enterprise Architecture Frameworks such as TOGAF (The Open Group Architecture Framework), ZACHMAN, etc. • Principles and practices of good system design, e.g. loose-coupling, high-cohesion, abstraction, layering etc • Application of different development methods, e.g. agile (XP, TDD, SCRUM), iterative, spiral, waterfall • Technology solutions – Data Centre Hosting / Co-location Services, Cloud Services, Managed Voice and IP solutions, Managed Infrastructure Services, System Integration services, Connectivity services etc. • Expertise in one or more of the following - C, C++, Java, n-Tier Architecture, J2EE, .Net, Oracle, MS Technologies, databases, ERP, Open source platforms

Proficiency	• Cloud Computing, Big Data, Mobile, Social Media, Web Technologies, Mobile App development • MS Project (or equivalent), MS Office Tools (Power Point, Excel, Word) • Security and Privacy including Cyber Security, • New and emerging technologies • eGovernance Lifecycle • e-Governance architecture
Familiarity	• Digital India vision and its pillars • ISO 20001 , ISO/IEC 27001(Information security management standards) , ISO/IEC 20000 (IT Service management standards), IS -15700 (Quality Management Systems standards) • IT Act 2000, IT Act amendments 2008, Right to Information Act – 2005 • ITIL (IT Infrastructure Library)
Awareness	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • General Financial Rules • e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Enterprise and business architecture development
02	Solution architecture
03	Business process improvement (GPR)
04	Technical specialism
05	Software development process improvement
06	System design
07	Network design
08	Requirement definition and management
09	Database Design
10	Emerging technology monitoring
Desirable	
11	Project management
12	System integration
13	Release and deployment

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	TOGAF 9 (The Open Group Architecture Framework)	Open group
02	Certified IT Architect (CITA)	IASA
03	Specialist in change management	British Computer Society
04	Cisco certified design Expert (CCDE)	Cisco
05	Oracle certified Professional (OCP)	Oracle
Desirable		
06	PMP	Project Management Institute or equivalent
07	Open Group Certified Architect	Open group

4.12 Service Management Role

A person in a 'Service Management Role'

1. Acts as a single point of contact for all aspects of IT operations (infrastructure and applications) within a Ministry / Department;

2. Manages all aspects of the IT operations:

   a. Service Desk (helpdesk), Incident Management and Problem Management

   b. Change Management (ICT Change Requests)

   c. Service Level Management (SLAs, Operational Level Agreements- OLAs)

   d. *Availability (maximum uptime), Capacity Management and Asset Management (all ICT assets)*

   e. Configuration Management

   f. *Disaster Recovery and Business Continuity*

   g. *Third party service providers* (network, telephony, data etc)

3. Works closely with the project team to ensure seamless Go-Live, Service Acceptance, and Handover to Support;

4. Ensures Standard Operating Procedures, How To, Technical Specifications, Software Licences etc), knowledge

transfer take place in time with Go-Live and Handover to Support;

5. Ensures leadership is aware of all aspects of the IT operations (periodic Incident and Problem reports, Change reports, SLA reports, Capacity reports, Continuity reports etc.) by timely reporting;

6. Creates, owns and implements Service Improvement Plans (SIP) which include required upgrades to software and hardware

Depth	Knowledge Areas
Expertise	• ITIL (IT Service management) • Service Desk-Incident-Problem Management, Configuration Management tools • Methods and techniques for risk management, business impact analysis, counter-measures and contingency arrangements relating to the serious disruption of IT services • IT infrastructure (hardware, databases, operating systems, local area networks etc) • IT applications and service processes used within Ministry/Department
Proficiency	• Technology solutions like - Data Centre Hosting/Co-location Services, Cloud Services, Managed Voice and IP solutions etc • MS Project (or equivalent), MS Office Tools (Power Point, Excel, Word) • e-Governance Lifecycle • ISO 20001 , ISO/IEC 27001 (Information security management standards) , ISO/IEC 20000 (IT Service management standards), IS - 15700 (Quality Management Systems standards)

Familiarity	• Digital India vision and its pillars
	• e-Governance architecture
	• IT Act 2000, IT Act amendments 2008
	• Recognized project delivery method such as PMI/PRINCE2 or Common Information Management Method (CIMM)
	• Six Sigma, COBIT (Control Objectives for Information and Related Technology)
	• Cloud Computing, Big Data, Mobile, Social Media, Web
	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures
	• General Financial Rules
	• Kanban
Awareness	• PPP model
	• e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle)
	• Indian Computer Emergency Response Team (CERT -In)
	• Cyber Security, Open Source / APIs

Professional Skills	
Primary	
01	IT Operations
02	Service level management
03	IT management
04	Stakeholder relationship management
05	Project management
06	Continuity management
07	Service desk and incident management
08	Problem management
09	IT Change management
10	Capacity management
11	Supplier relationship management
Desirable	
12	Business process improvement
13	Asset management
14	Configuration management

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	ITIL Expert	itSMF (IT Service Management Forum)
02	Project Management	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
03	Request for Proposal for e-Governance projects (RFP)	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
04	ITSM Awareness Course as per ISO 20001	STQC (Standardisation Testing and Quality Certification)
Desirable		
05	Regulatory framework for e-Governance projects	Programmes under Capacity Building Scheme implemented by NeGD (STeP)

4.13   Technical Support Management Role

A person in a 'Technical Support Management Role'

1. Manages technical support of the infrastructure. Tasks include:

    a. Managing incidents (issues) such as troubleshooting system, application, network problems including hardware or software faults

    b. Taking care of staff or clients through a series of actions - either face to face or over phone - to help set up systems or resolve issues

    c. Managing additions/ deletions/ modifications of new/ existing user accounts and dealing with password-related issues

    d. Responding within agreed time lines to callouts

    e. Maintaining working relationships with vendors/ OEMs/suppliers

    f. Preparing repositories of warranties/ T&C of the OEM

    g. Verifying that the hardware and system software supplied are the ones which have been required in the RFP and committed by the bidder

2. Manages installations and configurations of computer hardware operating systems and applications to ensure smooth running of computer systems so that users get maximum benefits from them

3. Proactively maintains and monitors computer systems and networks;

4. Supports the rollout of new applications;

5. Keeps management informed about the

infrastructure related issues and risks. Prepares periodic management information reports about the supported infrastructure along with improvement suggestions/recommendations;

6. Ensures all technicians are capable of dealing with users, and all support technicians are exposed to a wide cross section of technical issues, in depth technical issues that arise in hands-on work.

Depth	Knowledge Areas
Expertise	• System hardware configurations. Examples: number of nodes, system capacity, synchronisation, link speeds, external interfaces, features and facilities • Installation, testing and commissioning of supplier specific equipment and software in all legitimate operational environments • "System" software which controls activities such as input, output, dynamic resource allocation, and error reporting, within the operation of a computer configuration. Examples: Windows NT, MVS, UNIX.
Proficiency	• Products and/or services supplied to own organisation by external suppliers. Examples: Maintenance of IT infrastructure, maintenance of IT applications, internet connectivity services, system development, software products. • Different types of database architecture and the products which use each type. Examples: relational, hierarchical, matrix, object-oriented • Programming languages such as C, C++, Java
Familiarity	• Digital India vision and its pillars • Latest trends/specifications in hardware (inc servers and network devices) technologies • Technology solutions – Data Centre Hosting/ Co-location Services, Cloud Services, Managed Voice and IP solutions, Managed Infrastructure Services, System Integration services, etc • ITIL • Cloud Computing, Big Data, Mobile, Social Media, Web Technologies • MS Office Tools (Power point, Excel, Word) • Cyber Security, Open Source / APIs

Awareness	• IT Act 2000, IT Act amendments 2008, Right to Information Act – 2005
	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures
	• e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle)
	• Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Technical specialism
02	Application support
03	Problem management
04	Testing
05	Service desk and incident management
06	System integration
07	Systems installation/ de-commissioning
08	Network support
09	Database administration
10	Security administration
Desirable	
11	Information security
12	Emerging technology monitoring
13	Project management

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	CCNA (Cisco Certified Network Associate), CCNP (Cisco Certified Network Professional) /equivalent	Cisco/equivalent
02	ITSM Awareness Course as per ISO 20001	STQC (Standardisation Testing and Quality Certification)
03	ITIL Foundation	itSMF (IT Service Management Forum)
Desirable		
04	Information Security Management System – Best Practices (Based on ISO 27001)	STQC (Standardisation Testing and Quality Certification)
05	Secure Software Development Life Cycle Practices (SSDLC)	STQC (Standardisation Testing and Quality Certification)

4.14 Testing and Quality Management Role

A person in a 'Testing and Quality Management Role'

1. Creates and executes test strategy and test approach. Implements business scenario testing of end to end Government processes;

2. Designs test cases, develops test scripts, manages test execution, creates test result reports and maintains issue list;

3. Defines, maintains and adapts quality assurance processes. Drives sustained increase in quality and consistency of testing and related defect management across projects;

4. Manages testing resources across test tasks. Develops macro level plan, dashboard, and communications around testing schedule, quality, priorities and options across the project/programme;

5. Identifies and implements improvements to the testing process and tools to ensure testing remains efficient and aligned with the agreed testing standards. Recommends relevant tools for improving efficiency;

6. Ensures reliable delivery of the testing services function in accordance with the agreed Service Level Agreement (SLAs) and Operational Level Agreement (OLAs);

7. Maintains up-to-date knowledge of industry wide testing regimes and tools

Depth	Knowledge Areas
Expertise	• Organisation standards for testing, planning & estimating, test efficiency and effectiveness measurement • Testing techniques used to plan and execute software tests of all application components (functional and non-functional). • Testing methodologies - acceptance testing, automated testing, benchmark testing , black box and white box testing, conformance, exploratory, integration, load and regression testing, system and unit testing etc • Capture replay tools, data preparation tools, debugging tools, load test tools, security penetration test tools, requirements test tools
Proficiency	• Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • IS -15700 (Quality Management Systems standards) • Testing tools (Selenium / Finesse / Quality Centre / Quick Test Professional/ Rational Clear Case/ or similar), • Management of the processes, systems and functions to package, build, test and deploy changes and updates • E-Governance Lifecycle
Familiarity	• Digital India vision and its pillars • IT Act 2000, IT Act amendments 2008 • ISO 20001, ISO/ IEC 27001 (Information security management standards), ISO/ IEC 20000 (IT Service management standards) • Six Sigma, ITIL • PPP model • MS Office Tools (PowerPoint, Excel, Word)
Awareness	• C, C++, Java, n-Tier Architecture, databases, ERP, Unix, Linux, Open source platforms • e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys,

	e-Participation Surveys, Gartner Hype Cycle)
	• Indian Computer Emergency Response Team (CERT-In)

Professional Skills	
Primary	
01	Testing
02	Conformance review
03	Methods and tools
04	Business process testing
05	Stakeholder relationship management
06	User experience analysis
07	Service acceptance (transition)
08	Quality assurance
09	Quality standards
10	Project management
Desirable	
11	Release and deployment
12	Business analysis

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	CTAL (Certified Tester Advanced Level)	ISTQB (International Software Testing Quality Board)
02	Certified Manager of Software Testing (CMST)	QAI
03	Implementing Quality Management in Public org	STQC (Standardisation Testing and Quality Certification)
04	Foundation certification in ISO/IEC 20000	British Computer Society
05	Certified software test manager	STQC
Desirable		
06	Certified User Experience Analyst (CXA)	Human Factor International
07	Certificate in Benefits Management and Business Acceptance	ISEB (Information System Examination Board)

4.15 Programming Role

A person in a 'Programming Role'

1. Creates or modifies computer programs by converting project requirements into code/ programming sequence;

2. Follows agreed coding standards, naming conventions, security policies, and performance guidelines. Always keeps the end-user environment / context in mind while coding;

3. Confirms the requirements by reviewing application objectives, input data (for developing test cases), and output requirements with the CTO/ Architect, Service Manager, and Citizen Engagement Manager;

4. Validates program operation by conducting tests; modifying code/ program sequence;

5. Prepares reference for system users by writing operating instructions. Maintains historical records by documenting program development and revisions;

6. Ensures operation of equipment by following manufacturers' (OEM – Original Equipment Manufacturer) instructions; troubleshooting malfunctions; calling for repairs; evaluating new equipment and techniques;

7. Keeps updating professional and technical knowledge by attending educational workshops; reviewing professional publications; establishing personal networks; participating in professional societies.

Depth	Knowledge Areas
Expertise	• At least one of the following programming languages: C, C++, Java, C#, VB • Scripting languages (bash/ksh/perl/Windows Powershell) • Web languages (ASP - Active Server Pages/ PHP) • Tools which assist in modeling a logical entity model, and generating a physical database. Example: Oracle Designer or similar • Different types of database architecture and the products which use each type Examples: relational, hierarchical, matrix, object-oriented
Proficiency	• Cloud Computing, Big Data, Mobile, Social Media, Web Technologies • Web design • E-Governance Lifecycle • Technology solutions – Data Centre Hosting/Collocation Services, Cloud Services, Managed Voice and IP solutions, Managed Infrastructure Services, System Integration services, etc. • Cyber Security, Open Source / APIs
Familiarity	• n-Tier Architecture, databases, Unix, Linux, Open source platforms, etc. • Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • New and emerging technologies
Awareness	• PPP model • e-Governance related International studies and publications(such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle)

Professional Skills	
Primary	
01	Technical specialism
02	Programming/ software development
03	Solution architecture
04	Systems design
05	Network design
06	Data analysis and Management
07	System integration
08	Application support
09	Problem management
10	Testing
Desirable	
11	Information security
12	Emerging technology monitoring
13	Service acceptance (transition)

Certifications / Courses		
Primary		
SN	Name	Indicative list of Bodies
01	Java, SOA, SQL certification	multiple
02	BPM courses	multiple
03	Microsoft certified solution developer (MCSD)	Microsoft
04	ITIL Foundation	itSMF (IT Service Management Forum)
Desirable		
05	Certified Integration Developer	IBM
06	Rational Unified Process (RUP)	multiple

4.16 Knowledge & Content Management Role

A person in a 'Knowledge & Content Management Role'

1. Designs, structures and prepares information in multimedia format for publication on paper, online and other media for the allocated e-Gov projects or programs;

2. Maintains a consistent look and feel across all channels (paper or online);

3. Plans and implements KM and content management strategy for systematic storage and retrieval of e-Gov project resources. Assures paper based as well as web-based information is archived for future needs and reference;

4. Maintains up-to-date knowledge of the relevant global industry standards and best practices. Keeps current with emerging web and other relevant multi-media technologies;

5. Maintains consistency in terms of process, customer experience design and production;

6. Oversees suppliers/freelancers, including writers, copyeditors and community outreach organisers;

7. Oversees advertisement campaigns, newsletters, brochures, training films, etc.

8. Tracks and reports on all web based metrics.

Depth	Knowledge Areas
Expertise	• Content Management Systems (Joomla, Drupal, Convio, Kintera, Concrete5, Expression Engine or similar) • Social publishing platform like Wordpress, etc.
Proficiency	• Search engine optimisation practices and web analytics tools (Google Analytics). • HTML • Adobe Photoshop or similar tool • MS Office Tools (Power point, Excel, Word)
Familiarity	• Multiple Indian languages • eLearning good practices and methodologies (such as Learning Management Systems, Storyboarding etc) • Domain knowledge of the Ministry / Department including, policies, functions, processes and procedures • e-Governance Lifecycle, Software Development Life Cycle (SDLC) • IT Act 2000, IT Act amendments 2008, Right to Information Act – 2005 • Digital India vision and its pillars
Awareness	• ISO 20001, ISO/IEC 27001(Information security management standards), ISO/IEC 20000 (IT Service management standards) • Cloud Computing (IaaS, PaaS, SaaS), Big Data, Mobile, Social Media, Web Technologies • e-Governance related International studies and publications (such as NASSCOM Reports on Indian IT, World Bank e-Gov Reports, World Economic Forum e-Gov Reports, Global e-Readiness Surveys, e-Participation Surveys, Gartner Hype Cycle) • Cyber Security, Open Source / APIs

Professional Skills	
01	Information content authoring and publishing
02	Requirement definition and management
03	Information content publishing (leveraging Use of multimedia – Audio, Video, print and new media – mobile and internet)
04	Stakeholder relationship management
05	User experience evaluation

Suggested Certifications / Courses		
Primary		
SNo	Name	Indicative list of Bodies
01	e-Governance Life Cycle	Programmes under Capacity Building Scheme implemented by NeGD (STeP)
02	Web publishing (Joomla, Wordpress or similar)	multiple
03	Adobe Photoshop or similar tool	multiple
Desirable		
04	SCORM (Shareable Content Object Reference Model), Tin Can or similar	

4.17 Network Support Engineer Role

A person in a 'Network Support Engineer Role'

1. Is responsible for network management, integration and troubleshooting as per agreed guidelines;

2. Maintains maximum uptime of network and applications running on the network

3. Investigates all faults in a timely manner and solves them within agreed SLAs;

4. Performs basic operational tasks (running scripts, batch jobs etc) at low level and acts as a technical specialist at higher levels;

5. Installs and maintains communications and general IT resources;

6. Troubleshoots network access problems and implements network security policies and procedures;

7. Implements and manages security solutions, audits systems and makes recommendations for improving server integrity and security.

Depth	Knowledge Areas
Expertise	• Operating systems and commands, TCP/IP, Web applications, http and diameter protocol • LAN/WAN technologies, Load balancing technologies, Firewall, Network management systems (NMS), • Technology solutions – Data Centre Hosting/ Co-location Services, Cloud Services, Managed Voice and IP solutions, Managed Infrastructure Services, System Integration services etc • Configuration management • Open Systems Interconnection (OSI) Standards
Proficiency	• IT networking standards – 802.11, 802.11(x), Internet standards, wireless networking standards
Familiarity	• IT Service Management/Operations (ITIL), Service level management • Real-time operating system • MS Office Tools (Powerpoint, Excel, Word) • Cyber Security, Open Source / APIs

Awareness	• Standards associated with IT practice nationally and internationally. ISO 20001 , ISO/IEC 27001(Information Security Management Standards) , ISO/IEC 20000 (IT Service Management Standards), IS -15700 (Quality Management Systems Standards) • IT Act 2000, IT Act amendments 2008, rules under IT Act including implications of the IT Act 2000 on Indian Penal Code, IPR related laws, Indian Evidence Act, Indian Contract Act – 1872, Right to Information Act – 2005.

Professional Skills	
Primary	
01	Network support
02	Systems integration
03	Systems installation /decommissioning
04	Porting/ software integration
05	Capacity management
06	Problem management
07	IT operations
08	Service desk and incident management
Desirable	
09	Availability management
10	Network design
11	Continuity management
12	Change management (IT)

Certifications / Qualifications / Courses		
Primary		
SN	Name	Body
01	Certified Information Security Professional	STQC
Desirable		
02	CCNA, CCNP	Cisco
03	Certified Novell Engineer	Novell
04	ITIL Foundation certificate	itSMF

4.18   Database Administrator Role

A person in a 'Database Administrator Role'

1. Implements data models and database designs, enables applications with efficient back-end access and processing;

2. Develops and implements database maintenance plans, including performing integrity checks, updating statistics and monitoring security and hardware resource utilisation;

3. Analyses long-term database performance trends to optimise database and application performance;

4. Guides performance monitoring, charting and enhancement, determines the rules of access to the data and monitors its security;

5. Responds to and resolves database access and performance issues. Monitors database system details within the database, including stored procedures and execution time, and implements efficiency improvements.

Depth	Knowledge Areas
Expertise	• Relational database management systems, object oriented database systems, XML database systems like Oracle, MySQL, DB2, Informix, Oracle RAC • Database servers like – Windows server 2003, 2008; SQL 2008, 2012 • Database replication models, log shipping, database mirroring, virtualisation • Performance tuning, load balancing, Hot and cold failover technologies, CPU resource utilisation • Database monitoring tools like RedGate, Quest, etc.
Proficiency	• Data management tools – MS server management studio, sequel pro • ANSI-SPARC standard, DBMS architectures
Familiarity	• IT Service Management/Operations (ITIL), Service level management • Real time operating system • Graphical Representation Tools - MS Visio (or similar), MS Office Tools (Powerpoint, Excel, Word) • Cyber Security, Open Source / APIs
Awareness	• Standards associated with IT practice nationally and internationally. ISO 20001 , ISO/IEC 27001(Information Security Management Standards) , ISO/IEC 20000 (IT Service Management Standards), IS - 15700 (Quality Management Systems Standards) • IT Act 2000, IT Act amendments 2008, rules under IT Act including implications of the IT Act 2000 on Indian Penal Code, IPR related laws, Indian Evidence Act, Indian Contract Act – 1872, Right to Information Act – 2005

Professional Skills	
Primary	
01	Database/repository design
02	Technical specialism
03	Data analysis
04	Information security
05	Capacity management
06	Continuity management
07	Problem management
Desirable	
08	Service desk and incident management
09	Solution architecture
10	Data management

Certifications / Qualifications / Courses		
Primary		
SN	Name	Body
01	Certified Information Security Professional	STQC
Desirable		
02	Oracle Certified Associate, Oracle Certified Expert, Oracle Certified master	Oracle
03	Microsoft Certified Database Administrator (MCDBA)	Microsoft
04	IBM DB2	IBM
05	Certified Oracle RAC DBA	Oracle

4.19 Security Administrator Role

A person in a 'Security Administrator Role'

1. Performs user and access administration on designated systems and applications in accordance with the defined policies, standards and procedures;

2. Maintains system security administration on designated technology platforms, including operating systems, applications and network security devices;

3. Installs and configures management of security systems and applications, including policy assessment and compliance tools, network security appliances and host-based security systems;

4. Performs threat and vulnerability assessments, in some cases followed by appropriate remedial action, to ensure that systems are protected from known and potential threats and are free from known vulnerabilities;

5. Collates security incident and event data to produce monthly exception and management reports.

Depth	Knowledge Areas
Expertise	• Network security • Compliance and operational security • Application data and host security • Access control and identity management • Access control tools like Centrify • Access control and security policy of the ministry / department / division • Security administration tool for network administration(SATAN) or equivalent tool
Proficiency	• Negotiating security threats and vulnerabilities • Cryptography • Cyber Security, Open Source / APIs
Familiarity	• MS Office Tools (Powerpoint, Excel, Word) • IT Service Management/Operations (ITIL), Service level management • Real time operating system
Awareness	• Standards associated with IT practice nationally and internationally. ISO 20001 , ISO/IEC 27001(Information Security Management Standards) , ISO/IEC 20000 (IT Service Management Standards), IS – 15700 (Quality Management Systems Standards) • IT Act 2000, IT Act amendments 2008, rules under IT Act including implications of the IT Act 2000 on Indian Penal Code, IPR related laws, Indian Evidence Act, Indian Contract Act – 1872, Right to Information Act – 2005

Professional Skills	
Primary	
01	Security administration
02	Problem management
03	Information security
04	Safety engineering
05	System software
06	Porting/ Software integration
07	Systems installation/ decommissioning
Desirable	
08	Service desk and incident management
09	Change management
10	Availability management
11	Capacity management

Certifications / Qualifications / Courses		
Primary		
SN	Name	Body
01	Certified Information Security Professional	STQC
Desirable		
02	Windows security administrator	Microsoft
03	CCNA, CCNP	Cisco
04	CompTIA Security +	compTIA

End User (Government Only) Knowledge

Mandatory for all
Basic Level

Computer Fundamentals: Concepts relating to the use of computers, basic computer terminologies, file creation and management, networks and data security, health and safety guidelines while using computers.

Basic Computer Security: *Basic overview of what is computer security and why it is important, what are various security threats and their potential implications, how to keep personal and professional data safe, and how to be safe online, including secure social media use.*

Web Browsing and Communication: *Basic concepts of web browsing, effective information search, online communication and e-mail*

Basic Word Processing: *Basic skills required to accomplish everyday tasks associated with creating, formatting and finishing word processing documents, such as letters, notes, and other documents.*

Basic Spreadsheets: *Basic skills required to perform tasks associated with developing, formatting, modifying and using a spreadsheet, to use standard formulas and functions, and to competently create and format graphs or charts.*

Basic Presentations: *Basic skills required to perform tasks associated with creating, formatting, modifying and preparing presentations using different slide layouts for display and printed distribution.*

Suggested Certifications / Courses		
Primary		
SN	Name	Indicative agencies
01	Basic Computer Courses (BCC)	NIELET
02	Course on Computer Concepts (CCC)	NIELET

e-GCF role catalogue is a working document and it will be modified from time to time based on the relevant feedback and comments received from stakeholders and users.

Annexure 1: Frequently Asked Questions (FAQs)

Question	Answer
1. What are the benefits of Competency Framework?	The e-Governance Competency Framework helps all throughout the talent management pipeline. It identifies and defines the critical competencies required for a successful job performance. It can thus be used in: • Building the right project teams for e-Governance projects • Sizing and estimation of the project teams • Training needs analysis • Sourcing strategy from the private sector
2. What is a job role?	A professional role is not a job. It is not an answer to the question "what are you working at?" It is an answer to the question "what are you?"
3. What is a skill set?	Set of competencies possessed by an individual that help him or her to perform on the job. Competencies are measurable or observable knowledge, skills, abilities and behaviours critical to successful job performance.
4. How many roles have been identified?	19
5. Can I allocate more than one person for same e-GCF job role?	Yes. That depends on the scale of the project you are in. For example, there can be a case where more than one Project Managers may be required. There can also be a case where you would need more than one CTO. e-Governance Competency Framework doesn't prescribe the number of roles that a project should have. It helps in identifying the key roles along with the set of competencies corresponding to each role.
6. Do I need all the roles at all times in my project team?	No. You do not need all the roles at all times in the project team. It depends mainly on what stage of e-Governance Project Life Cycle (e-GLC) your project is. Competency framework suggests the competencies and roles required at various stages of the project. e-GCF is not prescriptive in nature. It is left to the discretion of the policy makers to actually decide which roles they need and which they do not. It helps in taking effective decision.
7. How do I know what roles I need in my project	The e-Governance Competency Framework helps you in finding the roles you need. It defines a set of 19 roles. Roles are defined with a set of activities that they perform in the project teams. The role description

team?	helps in finding the roles that are required in the project teams.
8. What if I don't have so many people in my project team?	You still get to know the roles that are needed and the competencies that are associated with each and every role. In case you don't have enough number of people in the team — people may be allowed to take care of more than one role. That would solely depend on the competency the team members possess. Targeted training can be performed to up-skill identified team member for the role. Alternatively, the competency framework gives you a valid business case to go for sourcing or recruitment. It helps in finding the right candidate objectively as the competencies that are required to take over a role are well defined.
9. All my work is outsourced to a service provider. What do I do with e-GCF?	With the help of Competency Framework, you know what roles are needed in the project team. You can assess your service provider in terms of whether all roles are provided and whether the team has competent people.
10. Are there any prerequisites to implement or use e-GCF?	No. The e-Governance Competency Framework doesn't prescribe any prerequisite to be implemented or used.
11. I already have a Project Manager. How is it different from the Project Manager role in e-GCF?	If you already have a person in a role in your project team, you can use e-GCF to assess whether the person is competent for the role. He or she should show evidences of the competencies corresponding to the role. Critical gaps identified can be bridged with the help of right training.
12. What is the approach I should take to implement or use e-GCF?	Understand and appreciate the importance and relevance of competencies rather than individuals in building an e-Governance project team.
13. Do I need any additional resource to implement e-GCF?	No. It is easy to understand and implement. Additional resource to implement e-GCF is not required.
14. Where should I go if I need further help?	Get in touch with the Capacity Building team of National e-Governance Division. The NeGD owns the competency framework.
15. How can I assess competencies defined for a	The competencies are defined with the help of observable behaviours. The candidates for the role should demonstrate the observable behaviours.

	particular job role?	Alternatively you can assess the people for their competencies with the help of online tools available.
16.	How are job roles different from job designations or titles?	Job roles define the actual function of the particular individual in the group or organisation whereas designation refers to the name of the position in the organisation.
17.	Can I use e-GCF in my exiting project team implementing the e-Governance project, or can it be used in formation of new teams only?	Yes. e-GCF can be used in existing teams as well. You now definitively know the different roles that are needed in your project team, with the help of e-GCF. It helps you locate the gaps in terms of the roles that are hitherto not taken care of. Alternately, you might find people in the team who are overloaded with multiple roles. Running a quick assessment for the competencies that the team members possess corresponding to the roles they adorn, can help you in mitigating risks.
18.	How will e-GCF help in training analysis?	e-GCF identifies the set of competencies that a person should possess to take up a particular role. Assessing for the competencies listed in the e-GCF helps in identifying the gaps. And a definitive training needs analysis is developed. e-GCF thus helps in performing an effective training needs analysis as you now know definitively what competencies a person should possess to take over a role in e-Governance project.
19.	What support will NeGD offer?	NeGD will provide the training and support for the implementation of e-GCF.

Annexure 2: Harmonization with HR Expert Committee Report

An analysis on how e-Governance Competency Framework (e-GCF) harmonizes with the Expert Committee Report

The objective of the Expert Committee Report was to develop an HR Policy Framework for fulfilling HR related requirements of e-Governance initiatives. The Report outlines key roles and responsibilities of CIOs, mission / project leaders and dedicated project teams. These outlines are fully considered and taken as an input by the e-GCF project while developing the Leader, CIO, CTO and other roles. It is important to note that the HR Report only provides outlines of a few roles while e-GCF covers a comprehensive set of roles which may be required by almost any e-Governance initiatives. The e-GCF roles also have a detailed set of professional skills, knowledge, certifications and behavioural skills.

The making of e-GCF has taken full account of all relevant recommendations of the HR Committee Report.

Mapping of e-GCF with Annex IV of the Expert Committee Report

SN	Annex IV – Expert Committee Report	e-Governance Competency Framework
1	(A) CIO framework and functions and the details of role and relationship with the Mission Leader	e-GCF project has taken CIO framework and functions and the details of role and relationship with the Mission Leader while developing Leader and CIO roles.
2	(A 1) In chapter 5, the Committee has recommended the creation of a CIO role in the Central Line Ministries. While the bigger Ministries would have a dedicated CIO, some of the smaller Ministries will be formed into clusters with a common CIO, on the lines of Integrated Financial Advisor model.	e-GCF roles are agnostic of organisation setup. This means e-GCF roles can be used in any set up if the activities expected out of a position/title match with e-GCF roles. See Case Studies in Section 3 e-GCF roles may be played by one or more persons, and one or more roles can be played by the same person; depending upon the size and complexity of the Ministry/Department.
3	(A.2) It has been recommended that the CIO would be of the rank of an Additional Secretary/ Joint Secretary and will be supported by a CTO / Head Technology and a small team of experts. The NIC team, which is present in the Ministry, would be part of the CIO	As explained above (SN 01), e-GCF roles are organization-structure agnostic. For mapping the ranks of CIO, CTO (Head of Technology) and other ESD staff, Expert Committee recommendations may be used.

	structure and an EDS Division would provide secretarial support for compliance of the provisions of the EDS Act, as indicated below.	
4	(A.3) The position of CIO and of the Expert team would be filled through open competition with officers from the Government, PSUs, and Autonomous bodies (including SPVs) and from the open market based on defined competencies.	e-GCF is very helpful in writing market based standard job advertisements and job descriptions because e-GCF defines a comprehensive set of skills required by a CIO and the Expert Team. e-GCF role catalogue has 19 role definitions including CIO covering nearly all aspects of an e-Governance initiative
5	(A.4) While the primary reporting of the CIO would be to the Secretary of the Administrative Ministry where posted, he/she would also have a dual reporting to the Secretary, DeitY.	This is considered while developing CIO and Leader roles. The e-GCF derived organizational structure follows the Expert Committee Guidelines. See Case Studies Section 3
6	(A.5) The roles and responsibilities of CIO are envisaged as follows: a. Providing strategic and operational advice on an ongoing basis to the Secretary(ies) of the Ministry(ies) on e-Governance issues and opportunities to use of ICT to improve services to citizens, businesses and other entities as well as to improve the efficiency and effectiveness of departmental operations. b. Publishing the list of public services to be delivered electronically and periodically reviewing the list. c. Signing off on significant ICT project plans (including expenditures) within the department. d. Ensuring use of the common infrastructure and shared services. e. Ensuring Strategic control over the information assets and applications. f. Security of information,	All the details are fully taken into account while developing the CIO role. See e-Gov role catalogue Section 4

	including formulation of security related policies and guidelines, raising awareness of information security issues, and methodologies to assess and address risk. g. *Developing synergies between projects, policies, standards, reengineering of processes across projects and ensuring that standards and policies are aligned to those prescribed by the DeitY.* h. *Increasing awareness of and compliance with Government-wide strategy, policy, architecture, plans and standards.* i. *Capacity building for e-Governance within the Ministry and change management.* j. *Carrying out Impact Assessment. Creating feedback mechanisms for continuous improvement and further enhancements.* k. *Other activities to support the needs of the Ministry such as implementation of a standardized desktop, e-mail, collaboration tools, web-services and tools, etc.* l. *Participating as a member of the Steering/Empowered e-Governance Committee (chaired by the Department Secretary) for major ICT-enabled projects including the MMPs and as a member of the Council of Mission Leaders.*	
7	*(A.6) The CIO will be closely aligned with the Mission Leader and will provide specialized support for implementation of the project at every stage. The CIO would also provide inputs on behalf of the Ministry to the DeitY and participate in the Council of Mission Leaders and*	*This is considered while developing the CIO and Leader roles. The e-GCF derived organizational structure (See Case Studies inSection 3) follows the Expert Committee Guidelines.*

	CIOs.	
8	(B) Roles/Responsibilities of the Mission Leader and Dedicated Project Team:	All the details are fully taken into account while developing the e-GCF Leader (Mission Leader) role
9	(B.1) 1The actual implementation of a project would be the responsibility of the Mission Leader of the Project / Project Leader who would be assisted by a Dedicated Project Team. The Mission Team would closely interact with the CIO and his team during the various phases of the project.	Considered while developing the Leader and Dedicated Project Team roles (see mapping of functional divisions)
10	(B.2) Large MMPs/projects with an outlay of more than Rs. 500 Cr. would have a dedicated Mission Leader/Project Leader at the level of Additional Secretary/Joint Secretary. While the Mission Leaders will continue to be placed through the Central Staffing Scheme, the DoPT would select officers with defined competencies, aptitude and track record of implementation of e-Governance projects. The members of the Dedicated Project Team would be selected through a selection process from amongst officers of the Government, PSUs, autonomous bodies and the open market.	e-GCF roles may be played by one or more persons, and one or more roles can be played by the same person; depending upon the size and complexity of the project.
11	(B.3) 3. The roles and responsibilities of the Mission Leader and the Dedicated Project Team are envisaged as under: a. Overall ownership of the ICT project. Responsible for finalizing the project objectives, defining the scope of work and implementation of the project within budget. b. Process Reengineering in the project, statutory changes and Change Management in close consultation with the CIO and with the help of Domain, Legal and Process experts. c. Obtaining Budget and Cabinet	Considered while developing the Leader and Dedicated Project Team roles See e-Gov role catalogue Section 4

	approval	
	d. End to end project implementation within well defined timelines and budget covering all facets of implementation such as:	
	• Application development and Documentation such as Technical design documents, SRS, test cases etc.	
	• Procurement of hardware, site preparation etc.	
	• Go-Live of the Software Application	
	• System and User Acceptance testing of the software application	
	• 3rd Party Audit and Certification of the Software Application	
	• Backup and Disaster Recovery Policy	
	• Facilitate transfer of strategic control of all assets and processes to the Government in a timely manner.	
	e. Project management, including development of project metrics, enforcement of SLAs, incident tracking & resolution, changes in requirements, periodic project audit and quality reviews	
	f. Resolution of any matter that is escalated, either from the Service Provider or any other stakeholder	
	g. Designing, implementing and monitoring the manner of delivery and quality of services in the MMP	
	h. Reviewing and recommending changes to program components and continuous improvement opportunities	
	i. Capacity Building for the project- Periodic assessment of capacity building requirements & effectiveness through	

	feedback etc. j. Creating awareness and devising communication strategies k. Providing guidance and support to State Departments, agencies and other stakeholders and monitor implementations. l. Finalizing and entering into an MoU with NIU/Directorate (if any)	
12	(B.4) The comparative assessment of the envisaged roles and responsibilities of the CIO and the Expert Team vis-a-vis the Mission Leader and the Dedicated Mission Team is as under: Refer to Expert Committee Report Annex IV for details	Considered while developing the Leader and Dedicated Project Team roles
13	(C)Chief Technology Officer (CTO)/Head Technology- Roles and Responsibilities	Considered while developing the CTO / Head of Technology role
14	(D) Key Functional Roles in e-Governance	See Annex IV Section (D) mapping below
15	I. Expert Committee Report's Recommendation 10 is about "Competency Benchmarking". It states: 10.1 – Competencies required for performing work in each post should be laid down and each job should be performed by a person who has the required competencies for the job 10.2 – Competencies of all positions in e-Gov shall be defined	e-GCF clearly identifies a set of competencies which can be used for any type of competency benchmarking exercise (recruitment, development/ training needs etc). Under e-GCF, Recommendation 10 on the LHS is fully achieved. .
16	ESD roles	All ESD roles are mapped with the e-GCF.

<table>
<tr><td></td><td>The ESD roles are defined at a very high level and the report talks about the sizing of following only:

1. SeMT (5 to 13 staff)
2. State NIC (5 to 20 staff)
3. District NIC (2 to 3 staff)

As per the report, ESD should have a CIO, CTO, Finance Office, Expert team and a small number of secretarial staff (there is no mention of any specific numbers).</td><td></td></tr>
</table>

Annex IV Section (D) mapping

Following is a mapping of HR Report's suggested set of Key Functional Divisions with e-GCF roles. Key Functional Division, as defined by the HR Report, may have one of more corresponding e-GCF roles:

HR Report Key Functional Divisions	e-GCF Roles
Strategy and Domain Expert	Domain Expert role, CIO/Programme Management role
Organisational Expert	Change Management role
Quality Expert	Testing and Quality Management role
Finance and Legal	Commercial/Financial Management role
Security Expert	Information and Security Management role
Technology Expert	CTO role, Technical Architect role, Programming role, Service Management role In addition, e-GCF defines Technical Support Management role, Network Support Engineer role, Database Administrator roles, Security Administrator role.

Annexure 3: How e-GCF fits in the wider context?

The following is a diagrammatical representation of how e-GCF fits in the wider context.

For example, DoPT's Competency Dictionary[7] can be interlocked with the e-GCF as 'Government Standard Behaviours & Competencies'. The e-Gov Roles can be applied to Government positions and designations.
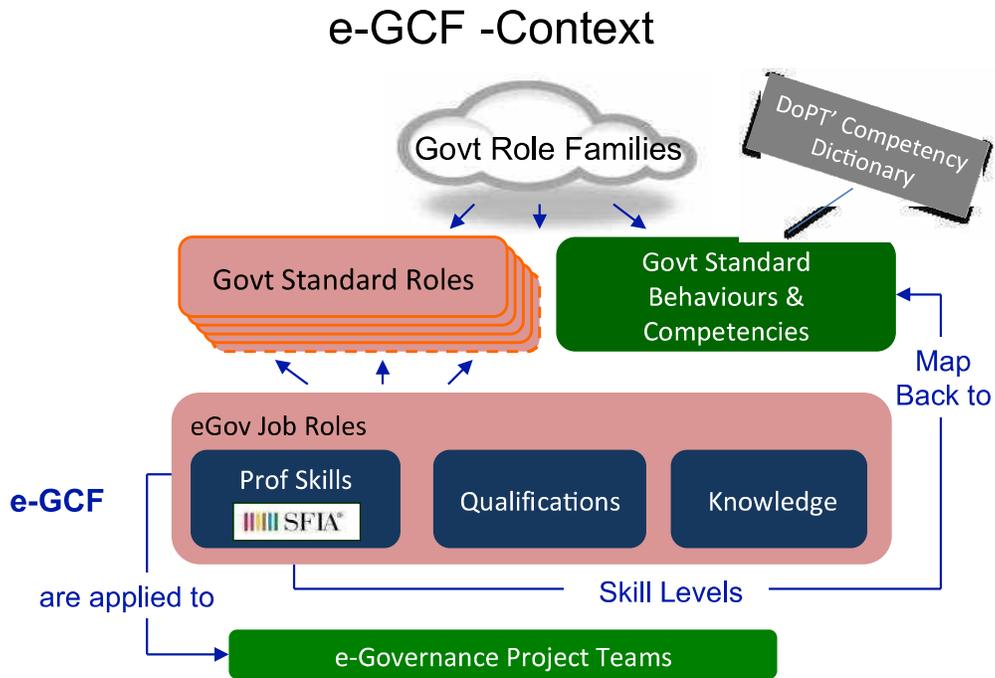
e-GCF -Context

Figure 13: e-GCF in context

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[7]DoPT calls a list of Behavioural Skills as Competency Dictionary, however, throughout this toolkit, the term Competency and Behavioural skills have been distinctly defined, and used as per international definitions of these two terms.

e-Governance Competency Framework
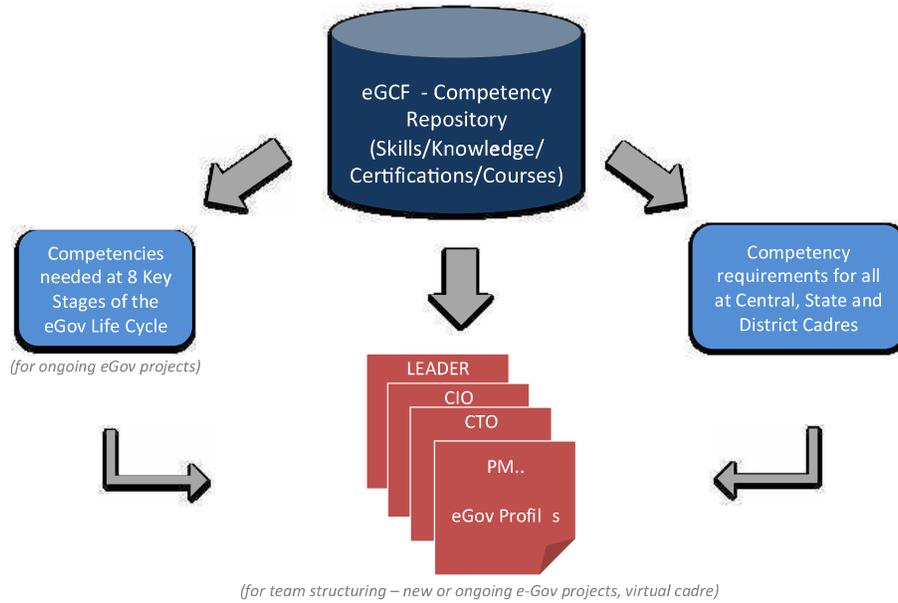
Figure 14: e-GCF repository view

Annexure 4: Survey – suggestions and observations

Survey Comments :

"IPRs for all the e Gov projects in different states should be with the government, which will ensure the replicability of the project in other states. The projects should not be person specific but people oriented. The piloting of the projects must be done at different places to ensure sustainability."

"There is need for additional roles such change management expert and training & development manager in government project implementations."

"Overlap in functions of some of the roles. Civil Servants, only if they have required qualifications and experience, can be deployed in these roles."

"The e-Governance job profiles listed in the survey are comprehensive and very relevant. The technical/domain and behavioural competencies required for these job profiles can be collected separately from the survey responders … with an indicative list provided for the skill sets and certifications relevant for the job profiles..."

"The most important profiles happen to be of CIO & Program Manager at strategy level and Content Manager/Web Publisher and Technical Profiles at executive level. There should be long term hires from the market (perhaps, permanent) for these positions for dedicated and long term support..."

"More clarity should be brought out on the job profiles/roles. These should be more relevant for the present IT and e-Governance scenarios. It is very difficult for the government to understand these types of overlapping roles."

"We should participate in this survey as there is a strong need of e-GCF for better TNA and other perspectives like better structuring, right job allocations etc. Apart from that I would like to share that there is good level of learning in completing this survey. It enables enormous introspection while filling and answering questions."

"The term Business Relationship Manager is ambiguous. Domain Expert is a more appropriate term. Yes, domain experts are required especially for developing complex IT systems in Government. At times, the need for a domain expert is fulfilled by the counterpart team of the respective department. Also, the IT Manager role as head of the IT Dept is overlapping with that of CIO or CTO. The term Service Administrator is also ambiguous and does not exist in the IT sector"

"Good Survey System"

"An e-Governance organization within a government department should be headed by a senior management person, some sort of a CIO/CTO. This person should be assisted by middle-level positions to look after procurement/contract management, programme management, trainings/capacity building etc. All these middle-level positions should have operational personnel to manage individual projects/contracts etc. There should also be people looking after IT application development and maintenance needs of a government department because not everything can be outsourced and also as an option to encourage better quality and responsiveness from vendors existing in the market, most of whom themselves are not adequately equipped to develop robust and effective e-governance solutions."

"A good initiative to gather wide views. Effort should be made to identify and collect people who have the exposure and hands-on experience in providing consulting services to governments and organization around the globe."

"It's a good initiative"

"1. Business Relationship Manager may be named as e-Governance Functional Manager.   2. As described, CIO & CTO profiles look redundant.   3. Commercial Manager may be named as Business Relationship Manager.   4. A separate job for Compliance Manager may not be required. Related activities may be completed as follows: - External compliance should be done by Commercial Manager   - Internal Compliance should be done by Project team / HR.   5. The IT Manager profile looks similar to the Mission Leader profile. If Mission Leader is being created, the hierarchy may be defined as follows: - Mission Leader --> One or more Program Manager --> One or more Project Manager.   6. Project Officer may be called as Project coordinator."

Annexure 5: List of Consultations

A.5.1 Individual & face to face meetings

Names in chronological order

Sr. No	Name	Organization	Job Title/Function
1.	Ms. Deepa Sengar	NeGD	Ex-Director, CBMC
2.	Dr. Vashima Shubha	NeGD	Senior Consultant, NeGD
3.	Mr. Vinay Thakur	NIC	Previously Senior Tech Director(NIC), now Director (NeGD)
4.	Dr. Piyush Gupta	NISG	AVP, Capacity Building
5.	Ms Ayaluri Sridevi	NISG	GM, Capacity Building
6.	Mr. Kiran Saha	NISG	Director (Rtd), DoPT
7.	Prof. Dr. Tino Schuppan	International Academy	The IfG eGovernment Competence Center , Potsdam, Germany
8.	Ms. Sonitha Aniruth	International Government	Principal Advisor Government ICT, System Transformation, The Department of Internal Affairs, New Zealand
9.	Mr. Om Prakash Srivastava	Government	Dy Secretary, MP
10.	Mr.Bhasker Subramanian	Industry	Infosys – MCA21
11.	Mr. Brajendra Bhardwaj	Government	Dy SP- CCTNS, UP
12.	Mr. Sumanthra Rao	HATRON	IT Consultant , Govt. of Haryana
13.	Mr. Abhishek Kumar	SeMT (CS AP office)	Programme Management Consultant
14.	Mr. P Ajith Kumar	Government	Asst Superintendent
15.	Mr. Upkar Singh	Government	Director, DIT
16.	Mr. Ajay Sood	Government	Asst to Director DIT
17.	Mr. Indra Pal Singh	SeMT	Chandigarh
18.	Mr. Manjul Vaidhya	SeMT	Chandigarh
19.	Mr. Yudhisthir	SeMT	Chandigarh
20.	Mr. Manish	SeMT	Financial Consultant, Chandigarh
21.	Mr. Harish Bhatih	SeMT	Chandigarh
22.	Mr. Vineet Kumar Verma	SeMT	Chandigarh
23.	Mr. Rajnish Agarwal	SeMT	Head SeMT, Punjab
24.	Mr. Vivek Vatsa	SeMT	Punjab

25.	Mr. Manpreet Singh	SeMT	Punjab
26.	Mr. Ankit Agrawal	SeMT	Punjab
27.	Mr. Devesh Sharma	SeMT	Punjab
28.	Mr. Rajneesh	SeMT	Punjab
29.	Mr. Kapil	SeMT	Programme Manager, Chandigarh
30.	Mr. Sanjay Jaju	Government	Secretary Dept of IT, AP
31.	Prof. Subhash Bhatnagar	Academics	IIM – Ahmadabad
32.	Prof. M.P.Gupta	Academics	IIT – Delhi
33.	Ms. Rama Vedashree	NASSCOM	NASSCOM
34.	Mr. Sunil Chhabra	Government	JD IT Dept RJ
35.	Mr. Gunalan Ilaventhan	SeMT	Head SeMT, AP
36.	Mr. Anoop Singh	Government	Special Secretary, Dept of IT, AP
37.	Mr. Satya	SeMT	SeMT, AP
38.	Mr. Muniram	Government	Director, Capacity Building, DeitY
39.	Mr. Gaurav Dwivedi	Government	Director, e-Governance, DeitY
40.	Dr. Shafqat Majid Khan	Government	Health Officer, Health & Urban Dev Dept, Srinagar
41.	Mr. Noreshwar Raghunath Rao	Government	Joint Director, Urban DevDept, Srinagar
42.	Mr. Prakash Ganpat Rao	Government	Joint Director, Urban Dev, Nasik
43.	Mr. Sarvajit Kumar	Government	Under Secretary, Rural Dev Dept, Delhi
44.	Mr. T V Parsarathy	Government	Director, IT
45.	Dr. Aqil Ahmed	Government	Executive Engineer, Delhi
46.	Mr. T Gnanavel	Government	Dy Director, Ministry of Home, Delhi
47.	Ms. Rimpy Ohri	Government	Collector, Revenue, J&K
48.	Dr. Amitabh Awasthi	Government	Deputy Secretary, MP
49.	Mr. Saroj Kumar Mishra	Government	Deputy Secretary to Government Panchayati Raj Department, Odisha
50.	Mr. Brajesh Kumar	Government	Additional Secretary Panchayat and Rural Development
51.	Mr. Dilip D. Pawar	Government	Deputy Director Employment & Self-Employment
52.	Mr. Nagesh Vithalrao Nhavkar	Government	Central Project coordinator e-Courts, Bombay High Court
53.	Ms. D. Chanchala Devi	Government	Deputy Director, Tribal Welfare

54.	Er. Sunil Kumar Nema	Government	Dy. G.M-cum- Joint Director MP
55.	Mr. Debasis Pal	Government	Deputy Secretary (BRGF), Ministry of Panchayati Raj, Delhi
56.	Mr. Razukhru D Vasa	Government	Assistant Director, Directorate of Rural Development, Nagaland
57.	Mr. E. Naveen Nicolas	Government	Deputy Director, Tribal Welfare O/o Deputy Director (TW),
58.	Mr. Krishan Kumar Sharma	Government	Dist Employment Officer, Labour& Employment, HP
59.	Mr. Rajinder Kumar Gupta	Government	Regional Passport Officer, Regional Passport Office, JK
60.	Mr. Rajeev Kumar Yadav	Government	Asst. Director (Employment) Kanpur
61.	Mr. Amit Parikar	GIL	Gujarat
62.	Mr. B A Shah	Government	OSD-HRMS, Gujarat
63.	Mr. Dhananjay Dwivedi	Government	Director, GAD, Gujarat
64.	Dr. Neeta Shah	GIL	Director, GIL, Gujarat
65.	Mr. J N Hathi	Government	Director, IFMS, Gujarat
66.	Mr. Ravi Saxena	Government	Additional Chief Secretary, Gujarat
67.	Mr. Amit	Industry	Project Manager, RWDMS, TCS
68.	Mr. Nirmal Iyengar	SeMT	Head SeMT, Mumbai
69.	Ms. Sonia	SeMT	Financial Consultant, Mumbai
70.	Mr. Rajesh Agrawal	Government	Secretary, IT Maharashtra
71.	Mr. Virendra Singh	Government	Director, IT Maharashtra
72.	Mr. Sreedhara C. Nanjundaiah	Government	Deputy Director Survey, Settlement & Land Records,
73.	Dr. Rajendra Prasad M.N	Government	Assistant Commissioner, Revenue Department, Bhoomi Monitoring Cell
74.	Mr. Bhagwan Sahai Ladla	Government	Senior Accounts officer, Department of Panchayati Raj, Rajasthan
75.	Mr. Bhagvaan Patil	Government	COO – CSC
76.	Mr. Nagendra	SeMT	Head SeMT, UP
77.	Mr. Rajeev Chawla	Government	Previously Bhoomi Karnataka
78.	Dr. S. B. Singh	NIC	SIO – NIC
79.	Mr. Jeevesh Nandan	Government	Principal Secretary UP
80.	Mr. GS Naveen Kumar	Government	MD, UP Electronics Corporation (prev. DM Banda)

81.	Mr. Vipin Singh	Government	IFS – EDCS Karnataka
82.	PWC – Service manager	Industry	PWC – Service manager
83.	Mr. Ravindran	Government	CEO – CeG Karnataka
84.	Mr. Ishaq	SeMT	Change Manager SeMT Karnataka
85.	IT Secretary meet organized by DeitY	Government	Key observations taken for framework
86.	Mr. Atul Karwal	Government	DG, Police training academy , Gujarat
87.	Ms. Kavitha Seth	Government	JD, SPIPA, Gujarat
88.	Mr. Ramendra	Industry	Principal Consultant, Accenture
89.	Ms. Vineeta Dixit	NeGD	Principal Consultant
90.	Mr. Amit Jain	NeGD	Sr Consultant
91.	Mr. Pawan Mangal	NIC	DIO – Greater Noida
92.	Dr. Rajesh Narang	NeGD	Principal Consultant
93.	Mr. Golok Simli	Government	Principal Consultant, Passport Seva
94.	Mr. Rakesh Malik	NISG	NISG
95.	Ms Triveni Mehta	NISG	GM, HR
96.	Mr. Veerraju Naidu	NISG	NISG
97.	Dr. Aniruddha V Deshpande	Government	Assistant Director – Health Services
98.	Mr. Prem Kumar Boda	Government	Deputy Director (Admin.)
99.	Mr. Nehru Pothuri	Government	Executive Engineer
100.	Mr. Manoj Kumar Jha	Government	Deputy Director (Admin.)
101.	Dr. Monika Rana Datta	Government	Chief Medical Officer (NFSG), State Programme Officer – Delhi State Health Mission
102.	Mr. Sanjay Kumar	Government	Deputy Director
103.	Mr. Sinivas Shankar Kikkeri	Government	Joint Director (State Demographer)
104.	Mr. Arumugham Mahalingam	Government	Controller of Examinations
105.	Mr. Alok Kumar Verma	Government	Director – CD Statistics
106.	Mr. Gulshan Kumar	Government	Joint Director (Evaluation)
107.	Mr. Manjot Singh	Government	Nodal Officer (e-Gov), Hardware

			Supervisor
108.	Mr. Mahendra Prakash Sharma	Government	Medical Officer
109.	Mr.Santosh Chandrasekharan	Government	State Programme Manager (HMIS)
110.	Mr. Farooq Ahmad Wani	Government	Executive Engineer IT
111.	Dr. Jayan Chandrasekharan	Government	Additional Professor & Nodal officer for Computerization
112.	Dr. Sachin Appasaheb Desai	Government	Assistant District Health Officer
113.	Dr. Pachuau Lalmal Sawma	Government	Nodal Officer, ICT, DHS
114.	Dr. M.C.Longai	Government	Deputy Director
115.	Dr. Vizolie Suokhrie	Government	Nodal Officer (IT) & Joint Director
116.	Dr. Bishnu Prasad Mohapatra	Government	Deputy Director of Health Services
117.	Dr. Susanta Kumar Swain	Government	Deputy Director
118.	Dr. Ajit Kumar Prasad	Government	Deputy Director (Admin.)
119.	Dr. S.K.Thirunavukkarasu	Government	Deputy Director
120.	Dr. Saroj Naithani	Government	Joint Director / Nodal Officer Immunization
121.	Mr. Govind Singh, IPS	Government	Police Department
122.	Dr. Sanjay Hindurao Shinde, IPS	Government	Police Department
123.	Mr. Mukesh Sahay, IPS	Government	Police Department
124.	Dr. Ajit Kumar Singla, IPS	Government	Police Department
125.	Mr. Raj Kumar Mallick, IPS	Government	Police Department

126.	Mr. Rupesh Kumar Meena, IPS	Government	Police Department
127.	Mr. Attili Sudhakar Rao, IPS	Government	Police Department
128.	Mr. S.J.M.Gillani, IPS	Government	Police Department
129.	Mr. Satyendra Kumar, IPS	Government	Police Department
130.	Mr. P.Prakash, IPS	Government	Police Department
131.	Mr. Shashank Anand, IPS	Government	Police Department
132.	Mr. C.Zorammuana, IPS	Government	Police Department
133.	Mr. Lallian Mang Khaute, IPS	Government	Police Department
134.	Mr. Shakeel Ahmed, IPS	Government	Bureau of Immigration, Ministry of Home Affairs
135.	Mr. K.Balamurugan, IFS	Government	Central Passport Organization, Ministry of External Affairs
136.	Mr. Jatin Narwal, IPS	Government	Police Department
137.	Mr. Rajesh Bansal	Government	UIDAI
138.	Mr. Ambrish Kumar	Government	UIDAI
139.	Ms Kavita Garg	Government	Director, e-Governance, Department of Administrative Reforms and Public Grievances
140.	Mr Deepak Kumar	Government	Joint Secretary, Department of Food & Public Distribution
141.	Mr Nitish K Sinha	Government	Director PD, Department of Food & Public Distribution
142.	Mr Bhagwan Patil	SPV	COO, CSC-SPV
143.	Ms Ranjana Nagpal	Government	DDG, NIC
144.	Mr Merentoshi R Jamir	Government	Minister
145.	Mr Tovihoto Ayemi	Government	Parliamentary Secretary

146.	Er Kropol Vitsu	Government	Parliamentary Secretary
147.	Mr Mmhonlumo Kikon	Government	MLA & Chairman
148.	Mr Toyang Changkong Chang	Government	MLA & Chairman
149.	Mr Khekaho Assumi	Government	MLA
150.	Mr Imjung M Panger	Government	Additional Secretary
151.	Mr Tongtiliba Longkumer	Government	Deputy Director
152.	Mr Sabou Yashu	Government	Program Officer
153.	Ms Asono Mor	Government	Program Officer
154.	Mr Daniel Krocha	Government	Program Officer
155.	Ms Akumla Aier	Government	Project Engineer
156.	Ms Inatoli Sumi	Government	Project Engineer
157.	Mr Bokato Swu	Government	PA to Parliamentary Secretary IT&C
158.	Mr. Kuldeep Singh, IPS	Government	Punjab
159.	Mr. Vineet Pandey	Government	Govt. of India
160.	Mr. Bibhash Kumar Thakur, IFS	Government	Madhya Pradesh
161.	Mr. Sanjeev Kumar, IAS	Government	Govt. of India
162.	Mr. Vinit Kumar Jayaswal	Government	Govt. of India
163.	Mr. Sanjeev Gupta, IAS	Government	Govt. of India
164.	Mr. Harish Kumar Sharma	Government	Govt. of India
165.	Mr. Hans Raj Sharma	Government	Govt. of India
166.	Mr. Rajiv Kumar Bora, IAS	Government	Assam
167.	Dr. John Berchmans Ekka, IAS	Government	Assam

168.	Mr. Vivek Balkrishna Kamat	Government	Goa
169.	Mrs. Mona Mukesh Kumar Khandhar, IAS	Government	Gujarat
170.	Mr. Punamchand Parmar, IAS	Government	Gujarat
171.	Mr. Sanjeev Kumar Jha, IAS	Government	Madhya Pradesh
172.	Mr. Khriesalie Duolhou Vizo	Government	Nagaland
173.	Mr. Alok Kumar, IAS	Government	Uttar Pradesh
174.	Mr. Atul Sinha	Government	Bihar
175.	Mr. Rajendra Kumar Mishra, IRS	Government	Karnataka
176.	Mr. Rudra Narayan Palai	Government	Odisha
177.	Dr. K.Venkatesh	Government	Andhra Pradesh
178.	Mr. Rahul Sharma, IAS	Government	Jharkhand

A.5.2 Online Survey

Sr. No	Name	Organisation	Job Title
1.	Mr Surender Rana	Industry	Practice Partner, Wipro Consulting Services
2.	Prof. M.P.Gupta	Academia	Professor-IIT Delhi
3.	Ms Meenakshi Subramaniam	SeMT	Sr. Consultant - Change Management
4.	Mr Prafull Goel	NeGD	Consultant
5.	Prof. Amit Prakash	Academia	IIIT-Bangalore
6.	Mr Avaneesh Srivastava	Industry	Senior Consultant
7.	Mr Anjaneyulu Gourishetty	Industry	Head - Program Governance
8.	Mr Sanjay Bhattacharya	Industry	Senior Manager - Public Sector Consulting
9.	Mr Tuhin Banerjee	SeMT	Consultant, Program Management
10.	Mr Prabhakara	SeMT	AIGR
11.	Mr Akilur Rahman	NeGD	Sr. Consultant, NeGD
12.	Mr Sandeep Ahlawat	SeMT	Head SeMT, Delhi
13.	Mr Mangala Nagaraj	SeMT	Head - SeMT (Goa)
14.	Mr Sanjay Sinha	SeMT	Consultant-Finance, SeMT, Himachal Pradesh
15.	Dr Aniruddha Deshpande	Government	Epidemiologist
16.	Mr Sudam Gawali	Government	Deputy Commissioner, e-Governance Project (MAHAVIKAS), Maharashtra Sales Tax Department
17.	Mr Noreshwar Raghunathrao Shende	Government	Joint Director
18.	Mr Dilip D. Pawar	Government	Deputy Director
19.	Mr Nagesh Vithalrao Nhavkar	Government	Central Project Coordinator
20.	Mr Sarvajit Kumar	Government	Under Secretary
21.	Mr Sreedhara C Nanjundaiah	Government	Deputy Director
22.	Mr Rajendra Prasad Neelakanta	Government	Assistant Commissioner
23.	Ms D.Chanchala Devi	Government	Deputy Director
24.	Mr Debasis Pal	Government	Deputy Secretary
25.	Ms Veenus Nathalia	Government	Assistant Engineer, IT
26.	Mr E. Naveen Nicolas	Government	Deputy Director

27.	Mr Shafqat Majid Khan	Government	Health Officer
28.	Mr Prakash Ganpatrao Bhukte	Government	Joint Director
29.	Mr Bhagwan Sahai Ladla	Government	Senior Accounts Officer
30.	Mr Saroj Kumar Mishra	Government	Deputy Secretary
31.	Mr Brajesh Kumar	Government	Additional Secretary
32.	Er. Sunil Kumar Nema	Government	Dy. General Manager cum Joint Director MP STePs (under Department of Science and Technology)
33.	Mr Razukhru Duporu Vasa	Government	Assistant Director
34.	Mr Rajeev Kumar Yadav	Government	Asst. Director (Employment)
35.	Mr Krishan Kumar Sharma	Government	District Employment Officer
36.	Mr Rajinder Kumar Gupta	Government	Passport Officer
37.	Ms Sheetal Nanda	Government	Additional Secretary
38.	Ms Saugat Biswas	Government	Managing Director
39.	Ms Niharika Misra	Government	Manager-Business HR
40.	Ms Bharat Hinduja	NeGD	Consultant- Program Management
41.	Ms Pranjal Kalita	NeGD	Consultant-A&C
42.	Mr Amit Jain	NeGD	Sr. Consultant
43.	Mr Sanjay Sharma	SeMT	Sr. Consultant(FM)
44.	Mr Deepak	SeMT	Senior Consultant
45.	Mr Santosh Kumar	SeMT	Change Management (Consultant)
46.	Mr Shreyansh Verma	SeMT	Consultant – Technology Management
47.	Mr I Gunalan	SeMT	Head-SeMT (A.P.)
48.	Mr Rajeev Gujral	SeMT	Sr. Consultant
49.	Mr Arun Prasad Vinayagam	SeMT	Change Management and Capacity Building Consultant
50.	Dr.Vashima Shubha	NeGD	Sr. Consultant (CB)

There were 95 respondents to the survey however some chose not to provide their individual details.

National e-Governance Division