

Case Study

eAbgari

Strategic administrative reform initiative of West Bengal State Excise Directorate leveraging state-of-the-art modern technology

**Excise Directorate, Finance Department
Government of West Bengal**

URL- <https://excise.wb.gov.in/>

TABLE OF CONTENTS

	Contents	No.
I.	Executive Summary	3
1.	Introduction	4
2.	Overview of the Champion and the team	5
3.	Project overview/history of project	5-6
4.	Situation in Champion's State/District	7-9
	4.1. Problems Identified	
	4.2. Strategy Adopted	
	4.2.1. Implementation model	
	4.2.2. Communication and dissemination strategy and approach used	
5.	Modalities of the New System (Solution)	9-18
	5.1. Technology Platform Used	
	5.1.1. Description	
	5.1.2. Interoperability	
	5.1.3. Security Concerns	
	5.1.4. Issue with the technology used	
	5.1.5. Service Level Agreements (SLAs)	
	5.2. Citizen Centricity	
	5.2.1. Impact on effort, time and cost incurred by user	
	5.2.2. Grievance Mechanism	
	5.2.3. Audit Trails	
	5.2.4. Interactive platform for service delivery	
	5.3. User Convenience	
	5.3.1. Service delivery channels	
	5.3.2. Completeness of information provided to the users	
	5.3.3. Accessibility	
	5.3.4. Distance Travelled to Access Points	
	5.3.5. Facility for online/offline download and online submission of forms	
	5.3.6. Status Tracking	
	5.4. Efficiency Enhancement	
6.	Impact on the Stakeholders/Beneficiaries	19-20
	6.1. To organisation/Government	
	6.2. To citizens	
	6.3. Other stakeholders	
7.	Future Roadmap/ Sustainability	20
8.	Teaching Notes	21-26
9.	Abbreviations and Acronyms	27-28

I. Executive Summary

eAbgari Project is a strategic administrative reform initiative of West Bengal State Excise Directorate leveraging state-of-the-art modern technology. It has enabled seamless online communication among all excise officials across the State, all licensees, administrative departments & other stakeholders through workflow based systems hosted on state excise portal.

eAbgari has been the single most transformational factor in which the Excise Department functions has greatly increased the department's enforcement and regulatory capabilities through ICT driven process reengineering. The implementation of eAbgari was a challenge as it was a real time transition of large supply chain management system. Transparency has improved across the excise ecosystem – both within and between the Directorate and the relevant stakeholders. While enforcement activity centrality remains at the core of the initiative, eAbgari actively partners in the socio-economic development sector through a robust revenue generation apparatus and effective tax administration.

Through successful implementation of eAbgari, West Bengal has become the lead State in the country to implement online State excise eco-system.

1. INTRODUCTION

The West Bengal Excise Directorate plays twin role of mobilizing resources for the State, and managing a sector which has a significant social and public-health import. Prior to 2012-13, the Directorate had been operating on legacy manual-based systems, using procedure that had not been changed for decades.

The processes involved in handling service requests were cumbersome and time consuming. For example, the service delivery time required for grant of an Import Permit was around 15 days to one month. Likewise, the process of label registration would require around 20 days to sometimes over a month. The processes involved in the grant of new Excise licenses often took months to almost a year.

Therefore, a system needed to be developed which could fulfil the following key objectives:

1. Enabling the department in generating actionable information for effectively dealing with spurious intoxicants for safeguarding public health.
2. Improved Management Information System (MIS) for control over the movement of intoxicants for maintaining the security, peace and harmony in society.
3. Enabling effective, efficient and equitable revenue collection through greater traceability, transparency and accountability in tax administration and detection of tax evasion by ensuring all liquor available in the State is sourced and sold through legal channels.
4. Having a robust grievance redressal system to enable collection of complaints, thereby increasing enforcement activities against manufacture, supply, distribution and sale of illicit and spurious intoxicants.
5. Enabling execution of key internal functions of department in a timely, simplified transparent, accessible manner through Government Process Reengineering (GPR) of relevant processes.

2. OVERVIEW OF THE CHAMPION AND THE TEAM

Sri H.K Dwivedi is presently serving as Additional Chief Secretary, Finance Department, Government of West Bengal. He has also been the Chairman of the West Bengal State Beverages Corporation Ltd. since its inception during January, 2017. During his career of more than 30 years, he has strived to enable citizen partnership in governance. He has endeavoured to enhance economic and social opportunities through ICT driven government process re-engineering thereby ensuring ease of access to service information and service delivery. He has been a pioneer in the field of e-Governance projects in West Bengal. He has pioneered, conceptualized and implemented landmark e-Governance programmes in State Finance including projects in Excise Directorate (eAbgari), Commercial Tax Directorate, Land Registration Directorate, State Budget and office of the DDOs, Integrated Financial Management System (IFMS) etc. He received the National Award on eGovernance (Govt. of India) for e-Taxation in Commercial Taxes during 2014-15 and again for eAbgari of the Excise Directorate during 2017-18.

Sri Randhir Kumar is the Excise Commissioner, West Bengal. He also holds charge of the West Bengal Lotteries Directorate and Finance Department, Government of West Bengal. He has also been the Managing Director of the West Bengal State Beverages Corporation Ltd. since its inception.

Other team members include Sri Mainak Mukhopadhyay, Technical Director, NIC, Sri Kunal Biswas, Sri Gautam Ghosh and Sri Rajarshi Chakraborty, all Additional Commissioners of Revenue, and Sri Subhamoy Goswami, Deputy Commissioner of Revenue.

3. PROJECT OVERVIEW/HISTORY OF THE PROJECT

Situation before launching of eAbgari may be summarized as follows:-

From Citizen perspective –

- Lack of easily accessible grievance lodging system
- Limited access to excise procedures & norms
- No mechanism to know authenticity of liquor
- Tedious procedure for procurement of Narcotic drugs or spirits for medicinal, industrial or research purposes

From Government perspectives:-

- Lack of actionable information for taking effective actions against hazardous excisable substances and illicit liquors for protection of the people from harmful effects
- Deficiency of data for policy making leading to delay in action process
- Entailed lot of response time to exigencies - required continuous monitoring at different levels
- Incapability to generate 360 degree profile of excise licensees for combating duty evasion
- Lack of transparency & control over movement of excisable goods leading to increased illicit liquor production & loss of revenue

- Public perception of lack of transparency & inefficiency about state excise
- No means with administration to know pockets of inefficiency & delay in dealing official levels
- Acute staff constraint
- Zero IT capability

From Excise Official perspectives:-

- Collection & storing of records in paper formats
- Cumbersome time consuming & error-prone record retrieval & compilation processes
- Loss/misplace/deliberate destruction of documents during transit
- Physical visits to excise establishments for most management processes
- Restricted ability to know excise licensees accurately & completely from manual system
- Lack of data for analysis & decision making
- Lack of intelligent data on excise crime & enforcement activities leading to inefficiency in regulatory capabilities

From Licensee/Business perspectives:-

- Physical Application forms for License, Label Registration of packaged liquor, Permits/Passes and other services
- Physical presence required for submission of applications
- Multiple visits to excise offices to get the work done
- Multi-level movement of applications plagued with red-tapism leading to time & cost overrun
- Run from post to pillar to know fate of application
- Time consuming processes relating with requested services from excise offices
- Tedious tax payment processes

Apart from this, the hooch tragedy at Sangrampur in South 24 Parganas in late 2011 which claimed over 170 lives acted as an immediate trigger for the Government to start thinking of replacing and re-engineering the activities of the Directorate in order to give more teeth to the Excise administration.

Since 2011, there has been a renewed stress to augment the State's Own Tax Revenue in West Bengal. The Revenue target for the Excise Directorate was increased from Rs.1,700 Crores in 2010-11 to Rs.2,400 Crores in 2011-12 and to Rs. 2,800 Crores in 2012-13. Keeping the revenue-potential of the Directorate and the sensitivity of the liquor-sector in mind, and to bring in efficiency and transparency in its functioning, the Government embarked on a major process-reengineering initiative for the Excise Directorate in 2013-14.

4. SITUATION IN CHAMPION'S STATE/ DISTRICT

4.1. Problems Identified:

- The administrative processes were too much dependent on human intervention
- Lack of standardised processes
- Neither the officials responsible for service delivery nor the recipients of services were clear of the procedures involved. This resulted in officials interpreting the statutes in their own way and as a consequence there was a lot of ad-hocism in the system
- Lack of data which adversely impacted administrative intervention and policy formulation
- Inaccuracies and revenue leakages
- Time consuming processes
- Lack of IT capabilities
- Lack of transparency
- No information on the status of service requests to stakeholders
- No mechanism for monitoring of pendency and traceability of decisions

4.2. Strategy Adopted

4.2.1. Roll out/Implementation model

Keeping in mind the lack of IT capability in the-then scenario and to ensure the adaptability of reengineered system, the Directorate decided to follow the Gartner's 4-phase e-Governance model.



In line with the above, West Bengal State Excise portal www.wbexcise.gov.in was launched as initial step. Subsequently, eAbgari has been launched to deliver e-Services.

During interim period, excise officials of all levels were given extensive training on basics of computer & internet in State/District Centres of NIC, State Administrative Training Institute (ATI) and in State Excise Headquarters. The excise officials were trained to operate email system, surf internet and work online applications of Income Tax, IRCTC etc.

The project is developed, deployed and is being maintained by In-house team of State excise under the supervision of National Informatics Centre.

Before final roll out of the project the same was piloted in select districts and fine-tuned as per stakeholder requirements.

All stakeholders and Directorate officers were sensitized and extensively trained before the project was finally rolled out. Training of Trainers (TOT) was also carried out and resource persons identified in various Districts.

Regular training sessions are held, both centrally and at regional training centres.

eAbgari implementation phase was one unique project as number of stakeholders in the project was very high and stakeholders were diverse in terms of skills, education & knowledge levels.

The project management team addressed various challenges by adopting Work Break Down structure method and creating granular activities for each of the stakeholders during implementation and transition. Also, PMU team, created communication channels for each of the stakeholders and conducted detailed workshops & training programs to train stakeholders on each scenario in the application. The implementation of eAbgari was a challenge as it was a real time transition of large supply chain management system.

4.2.2. Communication and dissemination strategy and approach used

The success of a project, lay in, not only developing a good technology enabled solution, but also in ensuring that the solution is citizen centric and the stakeholders reap benefits from the outcomes.

The project team recognized the importance of regular communication with all the stakeholders to understand their expectations and also to engage them for using its varied features. eAbgari based its approach and methodology on the principles of USAGE that involved:

- ✓ **Uniformity:** Uniform interpretation of law & procedures
- ✓ **Simplification:** Simplification & Standardization of Backend & Frontend processes
- ✓ **Accessibility:** Services at the doorsteps of Citizens/Licensees – any time any where
- ✓ **Good Governance:** Robust framework for enforcement activities and revenue reconciliation
- ✓ **Empowerment:** Empowering the Citizens with information in transparent manner

eAbgari engages with its stakeholder through various channels viz.

- A dedicated comprehensive web based Portal <https://excise.wb.gov.in> for delivery of services.
- Helpdesk, email services and Document Management system to manage physical letters
- An Online Grievance Module is available for the benefit of members or citizen, through the eAbgari website.
- Proactive dissemination of Information through SMS. (More than 10.5 lakhs SMS have been sent to the stakeholders)
- Seminars and Workshops conducted by eAbgari implementation team throughout the State for spreading awareness of the functionalities available through eAbgari
- Training provided to Directorate officers/officials about the functioning and facilities available through eAbgari
- E-tutorials and User Manuals for accessing various functionalities of eAbgari have been published on the web portal
- Constant interaction/feedback with the Directorate officials working with eAbgari of the field formations.

- Regular training and interactive sessions are held with stakeholders centrally and also at the district level offices.
- Efforts have been made to popularise the project with the innovative use of social media like Facebook, Twitter and Youtube.



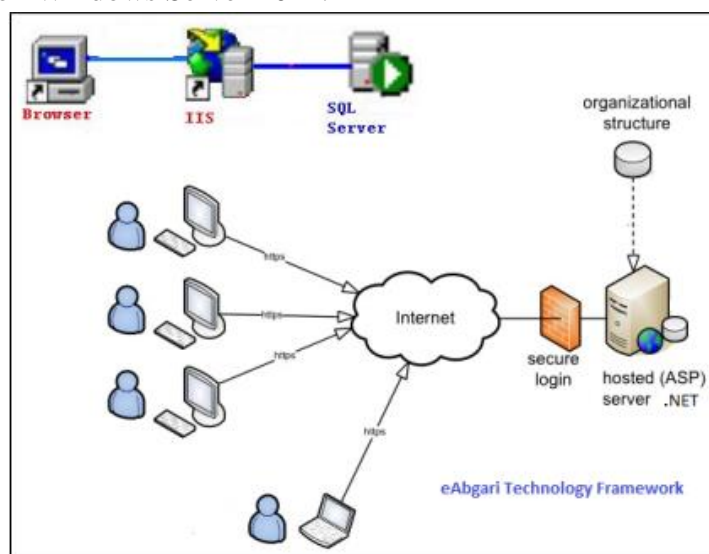
5. MODALITIES OF THE NEW SYSTEM (SOLUTION)

5.1. Technology Platform used:

5.1.1 Description

eAbgari is developed as web enabled application and initially hosted in the IDC, Shastri Park, New Delhi. From April, 2017, it was made operational from WB-SDC (West Bengal State Data Center), Kolkata. The project is developed with ASP.NET 4.5 as Frontend and MS SQL Server 2014 as Backend Database.

Database is mounted on Windows Server 2012.



The related ICT solution constitute of Java Script, CSS, Open source reporting library iTextSharp, NIC SMS gateway, Android based Java Application, Adobe Flash Player, IIS Web Server 7.0, XML and Service Oriented Architecture (SOA).

eAbgari is accessible through web browsers from PCs, Smart Phones. The entire solution is hosted in a state-of-the-art data centre with a robust infrastructure.

5.1.2. Interoperability

The web based eAbgari system is deployed at a central location and is easily accessible by all the stakeholders, anytime and anywhere through any web browser from any platform. eAbgari is designed in such a way so as to allow flexibility to scale up horizontally or vertically based on future needs and requirements of stakeholders.

eAbgari reaches to its stakeholders through Windows/Mac/Linux PC, an Apple iPad or an Android phone – Online or through Mobile App. The contents of eAbgari are rendered to the stakeholders through web browsers in the form of html/html5, PDF, multimedia file formats (picture, video files). Through integration with NIC SMS Gateway, messages/alerts & process tracking information are served through PUSH/PULL SMS.

5.1.3. Security concerns

eAbgari is developed & deployed as per guidelines for Open Web Application Security Project (OWASP). It was initially hosted at IDC, Shastri Park, NIC (Hqrs.), New Delhi and it was made available at <https://www.wbexcise.gov.in>. From April 2017, eAbgari is hosted in WB-SDC, Kolkata. As per policy, eAbgari is made live only after getting Cyber Security Clearance Certificate from CERT-In empanelled agencies (i) STQC, (ii) KPMG followed by Cyber Security Division (CSD), NIC (Hqrs.).

The major features of WB-SDC are Storage Area Network (SAN), Rack based Infrastructure, Automated Backup & Restore, State of Art Security, High Speed Redundant Internet Connections ensuring high availability and quick scalability. WB-SDC has Disaster Recovery facility with DR sites located in IDC, Shastri Park, New Delhi. Asynchronous replication over WAN using FC-IP protocol and seamless connectivity with DR site over 1 Gbps line (NKN) minimizes any negative impacts to eAbgari operations.

eAbgari data is co-located in WB-SDC servers in a highly secured environment, where all the security policies are under implementation. N/w Monitoring S/w (NMS-Network Monitoring Software) is in place. There is a provision of firewalls and anti-virus servers to protect application & database against virus and hacking.

eAbgari Portal uses standard Web technologies and techniques such as Secure Sockets Layer (SSL), HTTP redirects, cookies, JavaScript and strong symmetric key encryption (MD5 Hashing) both in code level & database level, role-based access to deliver the service. All HTML and URL outputs are encoded.

It is security-audited initially by CERT–In empanelled agency STQC and re-audited by KPMG to ensure that it is not vulnerable to emerging application security threats. For faster processing needs and security measures, eAbgari is developed to allow view-based access control.

At the organizational level, following measures are taken:-

- Excise Directorate has established definite security roles and responsibilities to identify which employee can have access or modification rights to the business information and set up responsibilities for such employees.
- The Directorate WB-SDC has set up an access control list, which allows eAbgari administrator to control which stakeholder has access to the system or certain parts of the system.
- User credentials are sent to the users through SMS at his/her registered mobile number. Users cannot proceed to work with the system unless he/she changes the system generated password. Besides, eAbgari follows password policy as prescribed by NIC Cyber Security Division.
- It is ensured by Excise Directorate to use Internet security programs (antivirus software) on each computer. Scheduled updating of antivirus software is mandatory.
- Regular training programs for user awareness on cyber risks are conducted by the Training Cell of Excise Directorate.

5.1.4 Any issue with the technology used

eAbgari is developed as web enabled application with centralized architecture to make it accessible 24x7 by its stakeholders from any location.

The major issues faced during implementation of eAbgari are related to: -

- Lower bandwidth & intermittent Internet connectivity.
- Interrupted power supply in different excise locations throughout the State, particularly in rural areas.
- Providing Seamless e-Services to thousands concurrent stakeholders 24x7.
- Providing multiple real-time transaction status reports at various levels.

To overcome aforesaid challenges, following measures are initiated: -

- Mobile App to capture eAbgari transactions in text format with the facility to store it temporarily in Mobile Device Storage and upload the data when Mobile Network is available.
- Offline preparation of data for uploading to Central Server as per user convenience
- State of the Art Web Server, Application Server and Database Servers installed at WB-SDC with disaster recovery facilities are being used for providing seamless e-Services to the external stakeholders.

- Measures are taken at application level to generate database view-level MIS reports on real-time transactions.

5.1.5. Service level Agreements (SLAs)

1. Development, Testing, Deployment & Implementation of eAbgari

eAbgari is developed by NIC while the testing & implementation processes are carried out by the Excise Officials & Stakeholders (Licensees, selected members of citizen). Relevant System Study (SRS), Design (SDD), Testing (both Blackbox & Whitebox), System Manuals and Implementation roadmaps are well documented in-house by IT Cell with NIC. So, the SLA is not applicable for application software matter.

2. PCs & Peripherals, Network equipment in State Headquarters & Excise Offices

Aforesaid items are covered under extended AMC. Besides, the IT facilitation Cell at State Excise Headquarters provides needful service to ensure the items are operational without any problem.

3. Internet Connectivity in Excise Offices across the State

High-speed Multi Protocol Label Switching (MPLS) is developed by West Bengal Government for usage by the Land Reforms Department, Finance Department and Excise Directorate towards implementation of e-Governance initiatives. This MPLS covers excise nodes across the State. The related SLA is there between Finance Department & the Vendor.

5.2. Citizen Centricity

5.2.1. Impact on effort, time and cost incurred by user

The implementation of eAbgari project resulted in significant savings to all stakeholders, in terms of effort, time and cost.

- Businesses and citizens can now access the Directorate's services from anywhere and at any time, by submitting their service-requests online or lodging grievance/feedback demanding for enforcement activities. They no longer have to make repeated visits to the Directorate's offices to submit their applications and to follow up on the status of their applications.
- The licensees of the Directorate do not have to visit banks to pay their taxes and fees to the Directorate, and do not have to visit the Directorate's offices to produce their tax/fee-receipts; all payments to the Directorate are processed online.
- The time taken for the fulfilment of service-requests by the Directorate has been reduced significantly. Applications for services like the grant of permits and licenses have been reduced from 15-60 days to 1-3 days.

- Electronic validation processes built into the system, online flow of information and the data generated through the system has significantly reduced the time and effort required by the Directorate's officials to process service requests.
- One of the most significant aspects of eAbgari has been that no project specific equipment or hardware had to be procured by the service recipients. The basic computer hardware already used at businesses could be re-purposed for accessing the services offered under the project. For all practical purposes the costs incurred by the service recipients for project access have been zero.

5.2.2. Feedback/grievance redressal mechanism

To ensure that the Citizens & Excise Licensees get responsive, accountable and transparent administration, redress of citizens' grievances and ensuring robust feedback channel are most important initiatives of West Bengal Excise Directorate.

Both Feedback and Grievance modules are made available online establishing 2 distinct channels of communication with the members of citizens intending to draw attention of excise authorities for enforcement measures or G2B (Government to Business) services.

The Public Grievance Monitoring System (PGMS) has been made available in Excise Directorate Portal as an integrated part of eAbgari with an objective of speedy redressal and effective monitoring of Grievances.

- Online Registration of Grievance
- Generation of Grievance ID & Acknowledgement
- Auto-SMS to the Complainant acknowledging receipt of Grievance
- Auto-SMS Alert to Officer-In-Charge with which Grievance is related

1	ON-LINE REGISTRATION OF GRIEVANCE (Through e-Grievance which is available under e-Services at www.wbexcise.gov.in)
2	Ensuring authenticity of Complainant through 'One Time Password (OTP)' sent to his/her Mobile No. by PGMS system required for Submission of Grievance
3	Generation of Grievance Id. & Acknowledgement
4	Auto-SMS to the Complainant acknowledging receipt of Grievance
5	Auto-SMS Alert to the Nodal Officer of concerned Excise Office
6	Recipient Excise Officer logs on to PGMS to (a) Assessment of Grievance (b) Examines / Initiates to Redress (c) Prepares a Reasoned Reply / Action Taking Note OR (d) Forwards it to other office for Prompt Redress
7	Auto-SMS sent to Complainant informing Action Taken by Office
8	Complainant may view Online the Grievance Status / Action Taking Note
9	Complainant can also <i>PULL</i> information from '9231025205' through SMS to know the Grievance Status / Action Taking Note. For this, Complainant may send SMS to 9231025205 in the following format:- <WBGET>Blank Space<PGMS><Numeric part of Grievance Id.>. For example: WBGET PGMS 1299

5.2.3. Audit Trails

In eAbgari project, audit trails are in place to maintain a record of system activity by application processes and by user activity of applications modules of eAbgari. This has been effective in detecting security violations, performance problems, and flaws in applications modules of eAbgari.

The entities which are maintained in eAbgari audit trail are: - Date & Time Stamp, User ID, IP Address of Client machine, name of web page operated upon and operation type.

The screenshot displays the 'User Log' interface of the Excise Department. At the top, there is a header with the Government of West Bengal logo and the text 'EXCISE DEPARTMENT'. Below the header is a navigation menu with links: Home, DirectoryData, MasterData, TransactionData, LicenseeMaster, LabelRegistration, MIS, HKeeping, UserManual, and LogOut. The main content area features a search form with the following fields: 'From Date' (11/09/2015), 'To Date' (11/09/2015), 'Select First Letter Of User Id' (ALL), and 'Select User Id' (ALL). There are radio buttons for 'Successful Login' (selected) and 'Unsuccessful Login', and a 'Submit' button. Below the form is a table with the following columns: User Id, Date and Time, Ip Address, Status, and Process.

User Id	Date and Time	Ip Address	Status	Process
10/2015/0036/02	Sep 11 2015 2:46PM	117.205.163.88	Viewed	HKeeping_PL_Duty_Transaction.aspx
09/2008/0026/01	Sep 11 2015 2:46PM	220.227.61.141	Log Out	
08/2013/0017/02	Sep 11 2015 2:46PM	117.214.11.131	Log Out	
09/2006/0026/01	Sep 11 2015 2:46PM	220.227.61.141	Viewed	Return_MonthYear.aspx
10/2015/0036/02	Sep 11 2015 2:46PM	117.205.163.88	Currently Login	
09/2006/0026/01	Sep 11 2015 2:46PM	220.227.61.141	Log In	
05/2007/0071/01	Sep 11 2015 2:46PM	117.218.13.83	Viewed	Lic_IP_PFL_Prepare_RequisitionDP.aspx
mainak	Sep 11 2015 2:46PM	182.74.108.2	Currently Login	
Dec/17/01	Sep 11 2015 2:46PM	117.201.123.210	Currently Login	
03/2007/0030/02	Sep 11 2015 2:46PM	103.249.6.92	Log Out	
30/2006/0174/01	Sep 11 2015 2:46PM	59.97.218.107	Currently Login	
09/2012/0012/01	Sep 11 2015 2:46PM	220.227.61.141	Log Out	
10/2015/0036/01	Sep 11 2015 2:46PM	117.205.163.88	Log Out	
05/2007/0071/01	Sep 11 2015 2:45PM	117.218.13.83	Currently Login	
08/2013/0017/02	Sep 11 2015 2:45PM	117.214.11.131	Viewed	HKeeping_PL_Duty_Transaction.aspx
03/2007/0030/02	Sep 11 2015 2:45PM	103.249.6.92	Log In	
21/2008/0002/01	Sep 11 2015 2:45PM	223.30.152.234	Currently Login	
09/2012/0012/01	Sep 11 2015 2:45PM	220.227.61.141	Viewed	Return_MonthYear.aspx
08/2013/0017/02	Sep 11 2015 2:45PM	117.214.11.131	Log In	
09/2012/0012/01	Sep 11 2015 2:45PM	220.227.61.141	Log In	

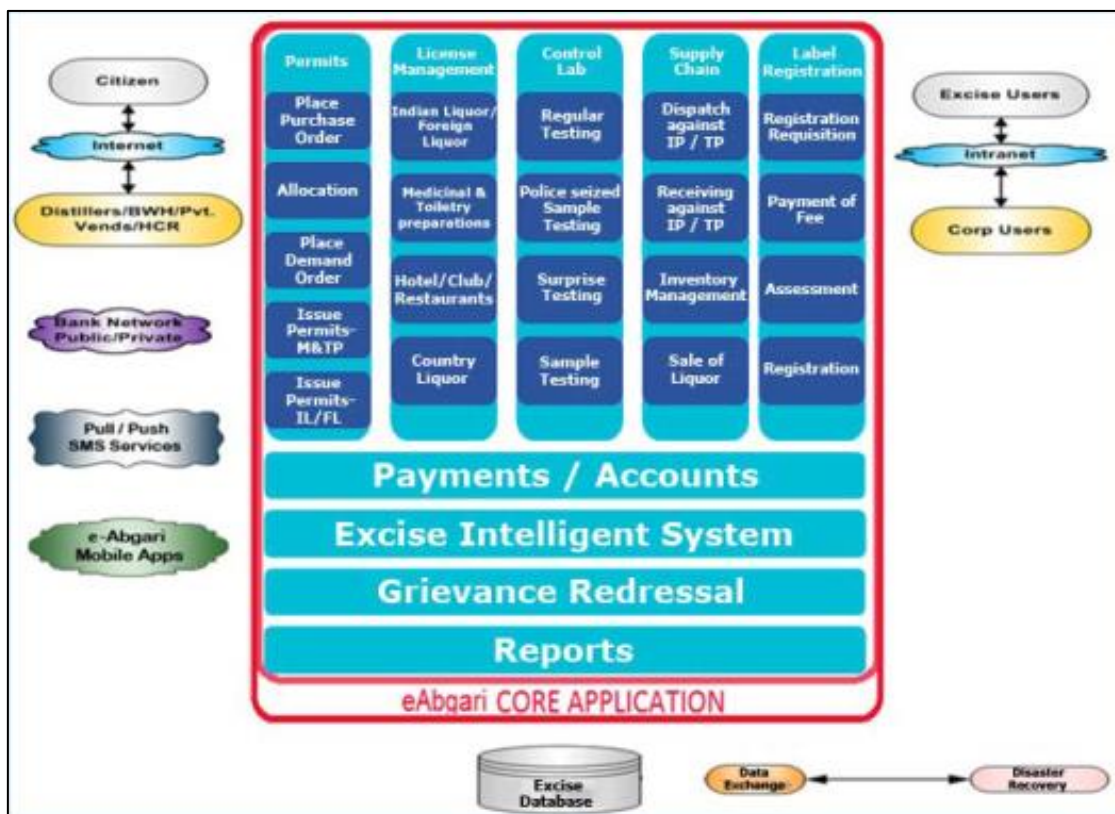
At the bottom of the page, there is a footer with the text: 'Contents provided by the Department of Excise, Government of West Bengal. Site Designed, hosted and maintained by National Informatics Centre. Best viewed in Internet Explorer 8.0 or later. Legal Disclaimer.'

Citizens and businesses lodge their service requests to the Directorate online, using the access-privileges assigned to them, and the requests are processed online by Directorate officers across the decision-making hierarchy, using their role-based access privileges. This leaves a clear and traceable audit-trail, and every user of the system can be tracked and held responsible for the activities they perform on the system. By informing eAbgari users that they are personally

accountable for their actions which are tracked by an audit trail that logs user activities, proper user behaviour are established.

5.2.4. Interactive platform for service delivery

The entire project has been designed to ensure that citizens and clients can interact with the Directorate, without the need to be physically present at the Directorate’s offices.



Central to the project is an interactive web-based platform for the delivery of the Directorate’s services.

Services are requested and delivered online, and any query that either a citizen/business or a Directorate official may have in respect of a particular service-request is communicated using built-in web-based mechanisms.

SMS alerts generated by the system to inform businesses/citizens regarding the status of their service-requests and to inform Directorate officers regarding pending actions, add another platform of interactivity.

5.3. User convenience

5.3.1. Service delivery channels

The entire services under the project are delivered over the Web through the Directorate’s website hosted at <https://www.wbexcise.gov.in>.

Also, SMS Gateway services are integrated with the eAbgari project and stakeholders receive SMS alerts / notifications on status of service requests round the clock.

Financial Year	Count of e-Services rendered <i>(data from eTaal)</i>
FY 2016-17 [April to March]	95,11,53,367
FY 2015-16 [April to March]	48,89,25,277

Financial Year	Portal Hit Count	Login Page Hit Count
FY 2015-16 [April to March]	84,51,725	98,23,593
FY 2015-16 [April to March]	54,39,572	26,31,037

5.3.2. Completeness of information provided to the users

Information regarding provisions of the statute, administrative process involved in handling service requests and process flow are made available to users prior to making service requests. Validations have been built into the system in order to ensure compliance.

For example, a citizen willing to make an application for a new excise license has to access the eService available at the Directorate's website and register using a Mobile number. An OTP is automatically sent to the registered number using which the applicant logs in. At log in, all necessary information like statutory restrictions, applicable fees with mode and manner of payment, requisite documents to be furnished, administrative process flow involved in handling the eApplication are made available to the user beforehand. Also, the application status with details can be tracked online across the process chain by the user.

So far as the Directorate officers are concerned, pendency checker for tracking process pendency at all hierarchical levels is available through smart dynamic dashboard built into the system with SMS alerts to officers at service delivery nodes.

5.3.3. Accessibility

The services under the eAbgari project are being delivered over the Web. There is no time restriction involved; users can access the services 24 x 7 from the comfort of their homes or offices.

5.3.4. Distance required travelling to Access Points

eAbgari is accessible online through the World Wide Web at the website of the Directorate of Excise, Government of West Bengal hosted at <https://www.excise.wb.gov.in> which means users can access the services offered under the project as per their convenience without having to travel to any specified access point. Practically anyone anywhere with an internet connection has access to the services.

5.3.5. Facility for online/offline download and online submission of forms

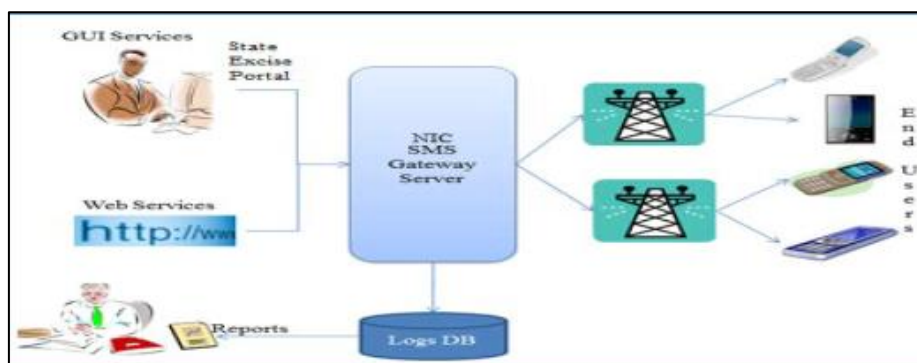
All service request forms are available online which users can fill up and submit on real time. Some select forms are also available for work in the offline mode like those under the critical eReturn

module whereby liquor retailers and wholesalers can download the monthly transaction return utility files, populate the data offline, and then upload the same to the system.

5.3.6. Status tracking

Status tracking facilities are available to all stakeholders. Users making service requests can track and trace the status of such requests using the automatically generated service request unique IDs both online and using the integrated PUSH and PULL SMS Gateway services.

Also, pendency checker through smart dynamic dashboards enable the Directorate office to monitor and track status of service requests across the hierarchy.



Integration with NIC SMS Gateway for PUSH & PULL SMS Service to deliver Process Status



5.4. Efficiency Enhancement

- (i) Volume of transactions processed: The e-transactions executed through eAbgari are simultaneously recorded in eTaal site through web services. e-transaction count since 15th October, 2015 are 2,77,10,36,434 (as on 8th August 2018, 1305 hrs.).
- (ii) Coping with transaction volume growth: As per best practices to cope with transaction volume growth, necessary measures are taken in eAbgari. eAbgari has the feature of scaling up as per requirements of processing capacity & storage. So even during peak hours, when transaction volume seems to explode, the eAbgari system never crash.

From April 2017, eAbgari has been shifted to WB-SDC at Kolkata to ensure uninterrupted access of eAbgari.

Load-Balancing & Always-On methodologies are implemented for the Application and Database (DB) Servers (2 + 2) at WB-SDC.

Besides, necessary measures are taken at application software code level (e.g. efficient indexing & tuning of database, view based access in database level, session management, rendering services through web services etc.) to cope with concurrent service delivery requests within minimum response time.

(iii) Time taken to process transactions: eAbgari has increased the speed significantly with which data is input, processed and generate output. This, in turn, facilitates to handle the process transaction in efficient manner.

Process / Scenario	Pre-eAbgari period	Now
Issuance of Permits / Passes	15 – 30 days	3 – 48 hours
Label Registration of Packaged Liquor	20 – 45 days	3 – 72 hours
Permission for importing life-saving drugs	20 – 30 days	3 – 48 hours
Payment of duties and fees	Time consuming, cumbersome and during office hours on working days	Instant and 24 x 7
Status of Service Requests by stakeholders	Lack of transparency	Instant – both online and through SMS

(iv) Accuracy of output:

- eAbgari has helped to make the processing and output of information more accurate. With inbuilt tight controls & validations in the software as per business logic of state excise, the accuracy in output data has been improved to larger extent in comparison to past manual system.
- Necessary measures are also taken at software code level to block the loopholes for data manipulation and introducing vulnerabilities. White Box & Black Box testing were carried out thoroughly for all modules before pilot run, followed by roll out.
- eAbgari software is audited to check such vulnerabilities at code level by STQC & KPMG followed by Cyber Security Division (CSD) of NIC (HQs.). Besides, at organizational level, regular ICT awareness programs and training on eAbgari modules are conducted to ensure fundamental accuracy of source data and of the data capture process.

(v) Number of delays in service delivery: With eAbgari, delays in service delivery are minimized significantly in comparison to manual system. Only in rare instances, service delivery was hampered for short period of time due to network related issues at State level and in New Delhi, where the server in which eAbgari is hosted, is located.

6. IMPACT ON THE STAKEHOLDERS/BENEFICIARIES

6.1. To Organization

- Administrative processes have been standardized and scope for discretion minimised.
- Holistic and integrated governance model.
- Transparent and accountable administration.
- Minimal human intervention and reduced chances of error.
- No burden of physical document management.
- Digital archiving of documents/information and easy data retrieval process.
- Intelligent M.I.S data available for effective administrative intervention and policy formulation.
- Ease of transaction by liquor manufacturers, wholesalers and retailers with the Government leading to enhanced business and augmentation of State Excise revenue. The collection of Excise revenue has gone up from Rs. 2101.95 crores in 2011-12 to Rs. 5781.38 crores in 2017-18, registering a Compound Annual Growth Rate (CAGR) of 18.37 %, mainly on account of better monitoring and regulatory practices.
- Effective enforcement activities on account of enhanced monitoring and reduced risk to public health from spurious and counterfeit intoxicants.

6.2. To citizen

- Reduced risk of public health hazards owing to enhanced monitoring and effective enforcement activities of the Directorate.
- Delivery of life saving drugs to CCUs within 90 % reduced time and ease of availability.
- Reduced discretion of local offices and faceless governance.
- Drastic reduction of service delivery times.
- Availability of all relevant information regarding the statute, rules and procedures and ease of business with the Government.
- Availability of service request status information both online and through SMS.
- Ease of transaction of business with the Directorate for liquor manufacturers, wholesalers and retailers. Licensing and procurement of life saving narcotics medicine by Hospitals/CCUs made easy and hassle free.
- Procurement of spirits for medicinal and academic purposes by Hospitals and Educational Institutions made easy.
- Round the clock and universal accessibility of eServices offered by the Directorate over the World Wide Web.

6.3 Other stakeholders

- Employees of the Directorate no longer need to take the burden of physical document management.
- Record retrieval and data compilation is easy and error free leading to reduced burden for employees.

- Other Government departments/organisations like the Commercial Taxes Directorate have greatly benefited from the project due to data sharing on manufacture and distribution of taxable goods that fall jointly under the purview of both the departments.
- Online payment of State Excise Duties and Fees leading to reduced burden on Banks.

7. Future Roadmap/ Sustainability

eAbgari project is built in the statutory guidelines of West Bengal State Government. In case of positive externalities in the area of digital inclusion, no such hindrances have been faced yet. Cultural, language and demographic differences do not apply here as State Excise related operations (which include all states of India involving Import, Export, and Transport of excisable commodities) are conducted in English.

A significant feature of eAbgari project is that it did not involve significant additional infrastructure creation exclusive to the project.

The existing ICT infrastructures (Hardware, System Software, Network) available at the State & National levels are used for the implementation of the project. Internet Data Centre (IDC), Shastri Park of NIC (Headquarters) - New Delhi, West Bengal State Data Centre (WB-SDC), NICNET and the State owned MPLS are backbone infrastructure of eAbgari project.

The existing IT hardware and network connectivity created through budgetary allocations at the Excise offices of West Bengal were re-purposed for the implementation of the project. The Directorate did not engage the services of an external agency to develop or implement the project.

Engagement of additional manpower specific to the project has been limited to hiring a set of software developers & software support personnel to develop, operationalize and troubleshoot the software under the supervision of NIC.

This methodology of in-house software development under the supervision of NIC has minimized the gap between the user department and the application software development team, commonly seen in most e-Governance initiatives involving external agencies, and thus helped to avoid the recurring expenses towards frequent changes in software design needed in line with the Government decisions.

The project is specific to the regulatory environment and licensing regime in West Bengal in respect of a highly-controlled commodity viz. alcohol. But the system is flexible enough to handle most changes in the regulatory system.

eAbgari is designed in modular fashion with tight integration among all modules. The project is highly scalable because of its design and it has been proved in course of time since the last 2 years.

Teaching Notes

eAbgari

Strategic administrative reform initiative of West Bengal State Excise Directorate leveraging state-of-the-art modern technology

1. OVERVIEW

The West Bengal Excise Directorate plays the twin role of mobilizing resources for the State, and managing a sector which has a significant social and public-health import. Prior to 2012-13, the Directorate had been operating on legacy manual-based systems, using procedure that had not been changed for decades. The Directorate displayed the typical hallmarks of an inefficient, over-bureaucratic organisation.

The processes involved in handling service requests were cumbersome and time consuming. For example, the service delivery time required for grant of an Import Permit was around 15 days to one month. Likewise, the process of label registration would require around 20 days to sometimes over a month. The processes involved in the grant of new Excise licenses often took months to almost a year.

Therefore, a system needed to be developed which could fulfil the following key objectives:

1. Enabling the department in generating actionable information for effectively dealing with spurious intoxicants for safeguarding public health.
2. Improved MIS for control over the movement of intoxicants for maintaining the security, peace and harmony in society.
3. Enabling effective, efficient and equitable revenue collection through greater traceability, transparency and accountability in tax administration and detection of tax evasion by ensuring all liquor available in the State is sourced and sold through legal channels.
4. Having a robust grievance redressal system to enable collection of complaints thereby increasing enforcement activities against manufacture, supply, distribution and sale of illicit and spurious intoxicants.
5. Enabling execution of key internal functions of department in a timely, simplified, transparent, accessible manner through GPR of relevant processes

2. TEACHING OBJECTIVES

➤ Learning Objectives

- As-is situation analysis and identification of pain points in the existing delivery process.

- Importance of innovation and technology to bring transparency and proper accountability.

➤ **Challenges/Issues Faced**

- The administrative processes were too much dependent on human intervention
- Lack of standardised processes
- Neither the officials responsible for service delivery nor the recipients of services were clear of the procedures involved. This resulted in officials interpreting the statutes in their own way and as a consequence there was a lot of adhocism in the system
- Lack of data which adversely impacted administrative intervention and policy formulation
- Inaccuracies and revenue leakages
- Time consuming processes
- Lack of IT capabilities
- Lack of transparency
- No information on the status of service requests to stakeholders
- No mechanism for monitoring of pendency and traceability of decisions

➤ **Ways to Improve the Situation**

Major Features-

1. Seamless online communication among all excise officials across the State, all licensees, administrative departments & other stakeholders through workflow based systems hosted on State excise portal <https://excise.wb.gov.in>
2. Technology oriented Government Process Re-engineering.
3. Granting and regulating licenses for the manufacture, wholesale and retail sale of liquor & spirits.
4. Authorizing the manufacture and / or sale of brands of bottled liquor in the State, through a process of registration of brands of foreign liquor, colored and flavored spirit, and country spirit, and of the labels under which they can be manufactured and/or sold.
5. Regulating the movement of liquor and spirits used for the manufacture of liquor, into, throughout and from the State, through the grant and administration of relevant import, export and transport passes.
6. Monitoring and maintaining records of inventories of liquor, and spirits used for the manufacture of liquor, at all the liquor-manufacturing, wholesale and retail locations in the State.
7. Operating mechanisms for collection of State excise duties on liquor, and fees and other levies charged and imposed by the Government on the manufacture, distribution, and sale of liquor.

8. Data Collection, Aggregation & Monitoring of enforcement activities against the manufacture, distribution, sale and possession of narcotics – Breach Case, Criminal Case and Illegal Activities.
9. Regulating the manufacture, supply, distribution and sale of spirits and narcotic drugs for medicinal and industrial purposes, by issuing and administering relevant licenses, permits and passes.
10. Focusing on enforcement activities, arresting revenue leakage and revenue reconciliation using Business Intelligence (BI).
11. Providing multiple channels of communication, with several closer access points for user convenience including Pull/Push SMS, e-mail, Mobile Apps, Helpdesk and Online services.
12. Online collection of data from the lowest level in State excise supply chain to build centralized databank containing relevant information of regulatory activities, licensees, registered liquor brands, production and movement of excisable goods and transaction of revenues.
13. Reconciliation of every drop of spirit imported or manufactured.
14. Automated supply chain management for excisable goods.
15. Pendency checker for tracking process pendency at all levels.
16. Ensuring supply of life saving drugs to CCUs within 90% reduced time
17. Supply of medicinal spirits for manufacture of homeopathic and ayurvedic preparations.
18. GIS tracking of tankers carrying bulk spirit.
19. Online dynamic dashboards enabling easy monitoring & tighter administrative control through better inventory management, decision making, policy changes, and timely and intelligent report generation.
20. Role-based access control for users to ensure security by mandating organizational hierarchy-based authorization.
21. Extracting process status information or authentication of permits/ passes or SKUs of packaged liquor on the field through Bar Codes and QR Codes or through free Pull SMS or Mobile app.
22. Electronic audit trail to ascertain authenticity of information.



Strategy Adopted :

1. Analysis of the system requirements.
2. A separate IT Cell was created under the Excise Directorate, GoWB and the National Informatics Centre, GoI was identified as consultant for the project.
3. Extensive stake holder consultancy was done with on-site visits.
4. The service delivery time for various processes was studied to the minutest and documented. The process flow bottlenecks were identified and an SRS document was prepared with the help of NIC.
5. West Bengal State Excise portal www.wbexcise.gov.in was launched as initial step. Subsequently, eAbgari launched to deliver e-Services.

6. Excise officials of all levels were provided with extensive training on basics of computer & internet in State/District Centres of NIC, State Administrative Training Institute(ATI) and in State Excise Headquarters.
7. The excise officials were trained to operate email system, surf internet and work with online applications of Income Tax, IRCTC etc.
8. The project is developed, deployed and is being maintained by In-house team of State Excise Directorate under the supervision of National Informatics Centre.
9. Before final roll out of the project the same was piloted in selected districts and fine-tuned as per stakeholder requirements.
10. All stakeholders and Directorate officers were sensitized and extensively trained before the project was finally rolled out.
11. Training of Trainers (TOT) was also imparted and resource persons identified and created in various districts.
12. Regular training sessions are held both centrally and at regional training centres to this date.

3. SUGGESTED QUESTIONS & ANALYSIS

a) What changes were brought in the system using the Loan Charge Creation Project?

Process / Scenario	Then (2012-13)	Now
Issuance of Permits / Passes	15 – 30 days	Same Day
Label Registration of Packaged Liquor	20 – 45 days	Same Day
Permission for importing life-saving drugs	20 – 30 days	Same Day
Payment of duties and fees	Time consuming, cumbersome and during office hours on working days	Instant and 24 x 7
Status of Service Requests by stakeholders	Lack of transparency	Instant – both online and through SMS
Enforcement activities (Illegal Cases detected)	49,602	60,000 (2016-17): indicating better enforcement activities
ePayment of duties and fees	0 %	100 %
Online transactions	0 %	1,04,38,644 (during 3.5 years)
Excise Revenue	1,759 Crores	5781.38 Crores (Estimated for 2017-18)
Government Employees		

b) How eAbgari Project has helped in increasing efficiency and effectiveness in the system?

(i) Volume of transactions processed: The e-Transactions executed through eAbgari are simultaneously recorded in eTaal site through web services. e-transaction count since 15th October, 2015 are 2,77,11,20,573 (as on 8th August 2018, 1425 hrs.)

(ii) Coping with transaction volume growth: As per best practices to cope with transaction volume growth, necessary measures are taken in eAbgari. eAbgari has the feature of scaling up as per requirements of processing capacity & storage. So even during peak hours, when transaction volume seems to explode, the eAbgari system never crashes.

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Necessary measures are also taken at application software code level (e.g. efficient indexing & tuning of database, view based access in database level, session management, rendering services through web services etc.) to cope with concurrent service delivery requests within minimum response time.

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(iv) Accuracy of output:

- eAbgari has helped to make the processing and output of information more accurate. With inbuilt tight controls & validations in the software as per business logic of State excise, the accuracy in output data has been improved to great extent in comparison to past manual system.
- Necessary measures are also taken at software code level to block the loopholes for data manipulation and introducing security vulnerabilities. White Box & Black Box testing were carried out thoroughly for all modules before pilot run, followed by roll out.

c) What are the distinctive features or accomplishments of the project?

- Administrative processes have been standardized and scope for discretion minimised.
- Holistic and integrated governance model.
- Transparent and accountable administration.
- Minimal human intervention and reduced chances of error.
- No burden of physical document management.
- Digital archiving of documents/information and easy data retrieval process.

- Intelligent M.I.S. data available for effective administrative intervention and policy formulation.
- Ease of transaction by liquor manufacturers, wholesalers and retailers with the Government leading to enhanced business and augmentation of State Excise revenue. The collection of excise revenue has gone up from Rs. 2101.95 crores in 2011-12 to Rs. 5781.38 crores in 2017-18, registering a CAGR of 18.37 % mainly on account of better monitoring and regulatory practices.
- Effective enforcement activities on account of enhanced monitoring and reduced risk to public health from spurious and counterfeit intoxicants.
- Delivery of life saving drugs to CCUs within 90 % reduced time and ease of availability.

4. CLASSROOM MANAGEMENT

➤ Group Discussion

Divide the participants in groups of 4 -5 and discuss the case on following aspects. Each group should take one aspect:

1. Discuss Change management and Communication as some of the key factors to project success.
2. Challenges, issues and risks, if the project is to be rolled across other States.
3. What is next step for the project?

Please have an open brainstorming session regarding how this project can be evolved and replicated in other States. Each group should present their findings in a short 5-10 minutes presentation afterwards.

➤ Summary- Key lessons learnt (15 minutes)

Each participant shall write down a summary in not more than 500 words highlighting key learning from the case.

Abbreviations and Acronyms

Abbreviation	Explanation
ICT	Information and Communications Technology
MIS	Management Information System
GPR	Government Process Re-engineering
IFMS	Integrated Financial Management System
IT	Information Technology
NIC	National Informatics Centre
ATI	Administrative Training Institute
IRCTC	Indian Railway Catering and Tourism Corporation
TOT	Training of Trainers
PMU	Project Management Unit
IDC	Internet Data Centre
WB-SDC	West Bengal State Data Centre
ASP.NET	Active Server Pages(ASP), .NET is a software framework developed by Microsoft
CSS	Cascading Style Sheets
IIS	Internet Information Services
SOA	Service-Oriented Architecture
XML	Extensible Markup Language
PDF	Portable Document Format
OWASP	Open Web Application Security Project
CERT-In	Indian Computer Emergency Response Team
STQC	Standardisation Testing and Quality Certification
CSD	Cyber Security Division

SAN	Storage Area Network
FC-IP	Fibre Channel over IP
DR	Data Recovery
NKN	National Knowledge Network is a Multi-Gigabit Pan-India network for providing a unified high speed network backbone for all knowledge related institutions in the country
NMS	Network Monitoring Software
SSL	Secure Sockets Layer
HTTP	Hypertext Transfer Protocol
SDD	Software Design and Development
SLA	Service Level Agreement
AMC	Annual Maintenance Contract
MPLS	Multi Protocol Label Switching
PGMS	Public Grievance Monitoring System
BI	Business intelligence
GIS	Geographic Information System
QR	Quick Response Code
SRS	Software Requirements Specification
ATI	Administrative Training Institute
CAGR	Compound Annual Growth Rate
