



*Case Study- Comprehensive Transformation of  
Maharashtra State Excise Department*

*December 2013*



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## 1. Abstract:

This case study described approach taken by State Excise department to automate the functioning of the department. Before computerization, department was facing multiple challenges in collection of field data, understanding the trends in Sales, duty collection, assessing the performance of field officers. Implementation of various modules has enhanced the efficiency and functioning of the department. Establishment of Business Intelligence cell has helped in decision making. Adoption of modern communication tools such as Google maps, Blogpost, SMS gateway and Video Conferencing has improved the communication among all officers.

## 2. Note to Practitioners:

This case study could be used as a reference in other state excise departments where department has a specific objective of monitoring and controlling liquor production, distribution and sales in the state.

## 3. Project Context:

This case study is an illustration of effective use of ICT in administration of Maharashtra State Excise department ('MSED'). MSED is the second largest revenue contributor in total revenue of Maharashtra.



The Maharashtra State Excise Department ('MSED') functions with the primary statutory objective of collecting Excise Duty on alcoholic products and to regulate the trade of these products.

In the beginning of 2011, MSED was at the lowest level of computerization with almost zero IT infrastructure availability. In March 2011 budget, due to change in tax policy, the revenue targets for MSED were increased from Rs. 5,800 Crore to Rs. 8,500 Crore. At the same time, there was a severe staff constraint. Situation before the transformation initiative was:

- ▶ There was large arbitration opportunity for illicit liquor operators due to differential taxation rates in the neighboring states. So the department needed to have strong control and regulation mechanism in place.
- ▶ Lack of data to support analytics based decision making.
- ▶ Combating duty evasion - Tracking duty evasion by generating a 360 degree profile of the licensee was not possible.

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- ▶ Maharashtra is the largest manufacturer of liquor in the country - Large opportunity for manufacturer for evading the tax as the duty paid constitutes major part of the liquor cost.

The only way to put into place a robust monitoring and control system was to undertake a comprehensive transformation initiative.

### 3.1. Role of various stakeholders:

The department is primarily responsible for monitoring the liquor sales and controlling the illegal activities in Liquor production, distribution, sales. The processes of license approval, renewal, suspension etc are regulated by the department. Department approves Premise/Function registration and Drinking Permit for liquor consumption. The role of key stakeholders of the initiative is described as below:

- ▶ **Commitment from Leadership (Nominee for the project):** The Commissioner was deeply involved in the project since its inception and has personally conceptualized the entire initiative. His vision and close guidance has made possible effective implementation of the project. As a result of such extensive involvement from senior management, the project activities were taken up with utmost priority by all the stakeholders involved.
- ▶ **Departmental Core Committee:** A Departmental Core Committee, chaired by the Joint Commissioner has been formed to facilitate the implementation of the project. The Core Committee comprises of two Deputy Commissioners and two Senior Superintendents. Core Committee Meetings are held on a weekly basis to provide domain knowledge and approve all the IT related matters.
- ▶ **On Ground leadership:** At division level, each Divisional Deputy Commissioner (DDC) is in charge of his/her respective division. The DDC has been bestowed with the responsibility of roll out & implementation of the project in his/her division.
- ▶ **Licensees** are being offered e-services for performing key activities like duty payment, TP generation, online returns submission etc. This has made the process of compliance convenient and transparent for the licensee.
- ▶ **Consultant and System Integrator** – After stringent evaluation process, Excise Department appointed a global consultancy firm – Ernst & Young LLP – as a Project Management Consultant. Responsibility of development of the system was entrusted with MahaOnline Limited (A Joint Venture between Govt. of Maharashtra and Tata Consultancy Services).

### 3.2. Motivator(s) for the initiative:

- ▶ Honourable Chief Minister and Honourable Deputy Chief Minister were supportive for this initiative.
- ▶ Chief Secretary of Govt. of Maharashtra and Principal Secretary – Excise Department were instrumental towards the success of the project. They always encouraged the team with timely guidance and support.

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- ▶ Commissioner, State Excise Department conceptualized this initiative. His vision and futuristic outlook helped Excise Department to adopt many innovative solutions.

### 3.3. Objectives:

The key objectives of the project are:

- ▶ To have an up-to-date databank for entire Maharashtra state excise ecosystem
- ▶ To develop capabilities to analyze the available data and come to logical conclusion. This will help in increasing the revenue and have better control on the movement of liquor – both legal and illegal. Thus it was decided to adopt a business intelligence module.
- ▶ To have an automated Supply Chain Management System for excisable components. An electronic audit trail will be maintained to ascertain authenticity of the information.
- ▶ To adopt Geographical Information System to provide pictorial view of locations of licensees
- ▶ To have 360 degree profiling of license holders and brands
- ▶ To have seamless and hassle free electronic payment mechanism for excise duty
- ▶ To have a grievance redressal system to enable collection of complaints thereby increasing enforcement activities
- ▶ Seamless communication among excise officers; thus increasing the performance

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## 4. Project Overview

### 4.1. Project Description:

To fulfil the objectives system is designed in a modular fashion for ease of adoption and implementation. Following are key modules of the system:

- **Maharashtra State Excise Management System (MSEMS):** As a regulatory requirement, the excise officers across various levels/locations had been manually filling the statutory forms. This was leading to a time consuming and labor intensive reconciliation of the data at district or division or state level.

MSEMS has been rolled out to electronically collect data at the lowest level of data generation i.e. at the Sub-Inspector Level or Manufactory Officer. With the computerization of these forms data collation at district, division or state level is done at automatically. This has increased accuracy and timely completion of these forms. Currently, MSEMS has data from all districts for FY 2010-11, FY 2011-12 and FY 2012-13.

MSEMS has enabled Excise officers to view the data at macro as well as micro level. E.g. The Commissioner can easily view state level aggregated information or can narrow down to lowest level of unit i.e. sub-inspector or manufactory unit. This has given tremendous power to Excise Officials to examine the data instantaneously and make informed decision. Similarly, respective officers have information about their respective jurisdictions at their fingertips.

MSEMS contains information about following key operational aspects of Excise Department:

- ▶ MS1- Area-wise revenue details
- ▶ MS2- Liquor type-wise revenue realized
- ▶ MS3- Area-wise liquor sale details
- ▶ MS4- Summary of breach cases
- ▶ MS5- Summary of criminal cases
- ▶ MS6- Action taken on illegal activities'
- ▶ MS7- Country liquor trading account summary
- ▶ MS8- IMFL trading account summary
- ▶ MS9- Administrative Information
- ▶ FORM-II- Monthly abstract of liquor manufactories

Above information could be sliced and diced across multiple dimensions like divisions, districts, inspector divisions, manufacturing units, etc.

Apart from operational information, MSEMS also enables collection and dissemination of vital information related to licensees, brands registered by licensees and production by manufactory units. Collation of this important information has resulted in a single version of truth for any enforcement action.

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- **Maharashtra State Excise Licensee Tracking System (MSELTS):** Database of licensees contains entire history of license holder along with his name, address, TIN, PAN, phone, grant of license date, type of license, partner details, etc. An advanced search features allows excise officers to locate licensees as per their criteria.
  - **Maharashtra State Excise Brand Management System (MSEBMS):** Database of brands establishes a linkage between licensee and the brands registered by him. Office In-charge of the all manufacturing units submits the production data on periodic basis.
  - **Maharashtra State Excise BI (MSEBI):** MSED is the first State Excise Department in the country to adopt Business Intelligence system on Microsoft platform on BaaS (Business Intelligence as a Service) model.

Business Intelligence module based on MSEMMS module has provided unparalleled analytical ability to Excise Officers. With the use of Business Intelligence module, the excise officers could analyze trends and understand the pattern followed in production, consumption, revenue generation etc. The availability of time-series data in a central repository made it possible for performing comparative analysis vis-à-vis district, time, location, liquor type, manufacturing unit, etc. and draw important inferences. Trend analysis also helps the department in forecasting the sales and revenue generation for subsequent years and take informed decisions in case of variation in revenues and sales.

All the senior officers are actively using BI application to understand the trend of a particular division, district or manufacturing unit. It also provides year on year comparison of performance of various stakeholders e.g. duty paid by manufacturers, collection of revenue by Inspectors & sub-inspectors, etc.

- **Maharashtra State Excise Supply Chain Management System (MSESCMS):** The transport pass which is issued for moving excisable goods from one place to another was computerized with encoded TP numbers. The routes for a particular manufactory unit are predefined and can be selected from a dropdown list while generating a TP. Whenever a new route is created the concerned area excise officer & district officer are informed of same via an SMS and email. Integration with Google Maps is also provided while creating a new route.

This module deals with the day to day transactions done by the licensee. This includes distilleries, manufactories of country liquor, manufactories of IMFL, wineries, breweries, wholesalers, retailers and regulation of DNS preparations. From the requisition to generation of transport pass to the update of registers and inventory level, the complete chain shall be online and done through system.

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All these features propose to greatly enhance and tighten the security mechanism thereby reducing cases of theft and increasing collection of duty on the goods

- **Maharashtra State Excise Duty Payment System (MSEDPS):** Real time information about the revenue collected, arrears and payment dues etc. is now available. This has enhanced the visibility considerably thereby helping the officials take policy decisions based on data analytics. State Excise Department is leader in adoption in e-Payment through GRAS (Government Receipt Accounting System). For 2012-13, Rs. 8,546.57 Crore of total Rs. 9,473.10 Crore Excise Duty is collected through e-Payment from various licensees. This constitutes of around 90.21% of total revenue collection.
- **Maharashtra State Excise Grievance Monitoring System (MSEGMS):** An online Grievance Redressal System is made available for public to communicate their concerns anonymously. All grievances are addressed to Joint Commissioner – Administration which is responsible for facilitating the response to the grievances. This also enables the administration to take quick action on complaints of Illicit distillation, bootlegging, etc
- **Maharashtra State Excise Mapping System (MSEMS):** Google Maps are used by the department innovatively for tagging of License number, village name and distance from National Highway and for identification of routes taken by vehicles for transport of liquor and tagging of various Licensee locations.

By completing the tagging of Retail level licenses on Google map, Excise Department has equipped themselves with in-house developed Geographical Information System ('GIS') which helps to analyze scenarios like:

- Existence of liquor shop within restricted area
- Concentration of above average number of liquor shops in a particular locality

In future, Department is planning to extend Google Map services to map:

- All Excise Licenses including distilleries, manufactories, molasses units, wholesalers, etc.
- Crime locations / illicit liquor manufacturing locations.

By development of this system, dependency on local officers is reduced for identification of location of any licensee. Hence, any enforcement and control activity is more efficient and conducted more swiftly.

- **Maharashtra State Excise Bulletin Board (MSEBB):** On-line collaboration is a new and innovative way of sharing ideas with each other and contributes to ideas generated. In order to enable sharing of ideas, department has created an online blog post at <http://mahaexciseblog.freeforums.net>. Excise officers share their ideas and views online



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and collaborate among each other. Excise officers can raise queries on the blog and Hon. Commissioner would provide guidance to officers through excise blog system. This is another very useful channel of communication with Excise officers.

- **Maharashtra State Excise Texting System (MSETS):** A desktop based SMS alert system having capability to send SMSs to multiple user groups has been adopted by Excise Department. The system has flexibility to create multiple levels of groups for SMS communication. This system enabled Excise officials for quick exchange of information among them, especially when urgent uniform message needs to be communicated. Following are sample group of users that are created in the system.
  - ▶ All Senior Excise officer at Commissioner office, Mumbai
  - ▶ All Divisional Deputy Commissioners
  - ▶ Each Divisional Deputy Commissioner and Superintendents in that Division
  - ▶ All district Superintendents
- **Maharashtra State Excise e-Tendering System (MSEeTS) -** As per the guidelines from State Government, Excise Department has adopted e-Tendering and all tenders are floated through e-Tendering website of Govt. of Maharashtra which has resulted in the transparency in tendering process.
- **Maharashtra State Excise Video Conferencing System (MSEVCM) –** Videoconferencing software (Lync 2013) along with web camera and MIC were installed in 35 district offices across the State. This has enabled the department to organize online meetings without the need to travel to head office thereby saving time & cost. Also, the divisional heads could easily communicate face to face with the Commissioner office and among themselves with the use of video conferencing facility.

#### 4.2. Characteristics/Uniqueness of the Project:

- ▶ Maharashtra Excise Department is the first State Excise Department in the Country to adopt Business Intelligence system. With the use of Business Intelligence module, the excise officers could analyze trends and understand the pattern followed.
- ▶ Free flow of information and ideas is encouraged by adoption of modern communication techniques like Video Conference and Blog Post.
- ▶ The focus of any state excise department is normally on collection of information related to Sales and Revenue. In the project, the central focus is on loss of revenue and entire system is built around this concept by making data available at appropriate levels and provides analytic capabilities using Business Intelligence tools.
- ▶ Department has launched modules to capture complete information from manufactures (Distilleries, Foreign Liquor, Country Liquor, Beer, Wine manufacturers) from raw

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material procurement to issuance of finished goods thus covering all details of production.

- ▶ The primary objective of this project is to collect data related to entire Excise ecosystem. Hence, apart from Revenue and Sales data, the focus was also on to collect data related to breach cases, criminal cases, and production by manufactories, trading account details, etc. Access to this data is provided to all excise officers in controlled manner. E.g. Divisional Deputy Commissioner will have access to entire division managed by him whereas SP will have access to his district. This has created transparency in the system as data is available at central location and single version of truth is maintained.
- ▶ The focus on this initiative is to collect data from the lower most point in the excise ecosystem. E.g. the data is entered in the system at the sub-inspector and manufactory level. Similarly, the data can be viewed by any excise officer for the area under his jurisdiction. This has introduced a culture where every individual officer is made responsible for his information and dashboard is created at supervisor level for close monitoring.
- ▶ Key activity of Sate Excise Department is duty collection which is electronically done. This online near real-time information is available instantaneously with Excise Officers. It is internally audited, additionally at the Pay & Accounts office of the Finance Department (as distinct from the state excise department) within 24 hours.
- ▶ Within 18 months of computerization of initiative, from the state of zero computerization; Excise Department has adopted various IT systems thereby increasing the efficiency of the department. This is the true indication of the team work show by all Excise officers and their commitment towards this initiative.
- ▶ To adopt the business intelligence module successfully, it was important to complete data entry for previous three years. Data Entry operators were provided at each office to complete the data entry for previous years in time-bound manner.
- ▶ Computers along with printers and high speed broadband Internet was provided to all Inspectors, Sub-Inspectors and manufactory units. Department purchased 412 computers in 2011-12 and 300 computers in 2012-13.

#### 4.3. Benefits

- ▶ **Simplified payment process:** Introduction of online payment has simplified the payment process for excise duty and other charges. As a result, for 2012-13, Rs. 8,566.65 Crore of total Rs. 9,460.25 Crore Excise Duty is collected through e-Payment from various licensees. This constitutes of around 90.55% of total revenue collection.
- ▶ **Increase in Revenue:** Since the introduction of Information Technology in Department, the revenue of the Department has increased by 28% per annum this is way above average for state Excise department. The efficiency inculcated in the system along with analytical ability provided by the availability of data has equipped Excise Officers to intelligently take decision.

► **Support MSED to carry out its statutory functions:**

- As information is now available in a centralized system, application of data analytics for important revenue management related functions e.g. performing trend analysis, forecasting, budgeting, setting targets, etc. is feasible.
- Department have real time information about the revenue collected, arrears and payment dues. This has helped the department in their budgeting and planning exercise.
- Adoption of Online payment gateway has not only simplified the procedure of paying duty for the licensees but also has assisted MSED in improved realization & reconciliation of revenue collected.

#### 4.4. Issues and Challenges faced during Implementation

- **IT Infrastructure at rural areas:** Excise department e-governance program has been rolled out across the entire state, but department has to overcome challenge of lower bandwidth, interrupted Internet connectivity and Interrupted power supply at rural areas.
- **Capacity Building:** Imparting training and capacity building was a major challenge in front of the department. Staff members were used to the manual way of working. Skill-sets required to handle IT systems were limited. Thus comprehensive capacity building program were undertaken to improve the situation. Master trainers were identified across divisions of the department. Training has been imparted to more than 750 excise officials and manufactory officers for the usage of the system.

#### 4.5. Key Learnings:

- Focus on revenue leakage – normally focus of computerization of any revenue earning department is to increase in revenue. For this initiative, Maharashtra excise department focused on identifying and plugging revenue leakages. This has resulted in great success.
- Excise department adopted an approach to collate data from lowest level of unit in excise value chain. This has resulted in collection of data more accurately and in timely manner.
- Suggestions were invited from all quarters – licensee associations, senior excise officers as well as clerical staff. Due to involvement of multiple stakeholders, the initiative had better degree of adaptability. Within 18 months of computerization of initiative, from the state of zero computerization; Excise Department has adopted various IT systems. This is testimony to team work and all-inclusive approach adopted.
- Adoption of Business Intelligence tools – unless the power of analytics is adopted, data analysis has limitation. Excise Department understood this need early in its computerization and adopted Business Intelligence solution from leading solution provider.

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## 5. Case Fact Sheet:

### 5.1. Implementation Highlights

- The ICT initiative began with a critical assessment of the existing processes before looking at the role of technology. The information system has been designed after studying business processes and analyzing the impact of IT on the process.
- All excise offices and manufactories were equipped with latest computers and internet connectivity
- Strategic decision was taken to put in place a robust system which can provide accurate and timely insights primarily into available data with the help of limited resource. The focus is on online collection of data from the lowest level possible which ensures the accurate data and automatic consolidation at higher level. Apart from revenue and sales details, periodic information is also collected for:
  - Criminal and breach cases monitoring which resulted in stronger control and enforcement.
  - Trading accounts which gives visibility into advance made by License holders.
  - A key requirement of MSED was to understand the variability, trend and seasonality in revenue, devise ways to optimize revenue. Hence, the initiative included elements such as Business Intelligence tools and MIS reporting.
- Enforcement of Online excise duty payment helping in monitoring real time daily/monthly revenue collection data, this data enabled comparison of district wise, unit wise revenue data for various fiscal years.
- Revenue, Sales data collected from Duty payment system, Monthly MIS by manufacturers and Online forms filled by excise officers enabled department to verify accuracy of data
- A robust Business Intelligence system to enable data analysis to enable proper tracking of performance of various units and better use of resources.
- BI tool helped in analysis of liquor sales trend over a period of 1,3,5 years, contribution of exports in total sales and comparison of local sales vs exports vs total production
- Department is now able to perform trend analysis of sale of various types of liquor thus helping in designing efficient liquor duty structure
- Launch of automated Supply Chain Management System for excisable components has helped in real time tracking of raw material, intermediate products and finished goods of manufacturing units.
- By making the information available across Excise ecosystem, valuable time is saved in manual collation of information. This freed time is used by Excise officers to effectively control excise ecosystem in order to increase revenue and stop leakages; thereby increasing the efficiency within the available resources.
- Tagging of all excise licenses on Google map helped in identifying a licensee without support of local excise officers thus performing raids, surprise visits become easier.
- Use of modern communication tools such as Official Emails, MahaExcise Blogpost, SMS gateway and Video Conferencing system increased the interaction among excise officers

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- Periodic training programmes conducted by System Integrator have increased the awareness among officers helping them in using various modules.

## 5.2. Outcomes

- Seamless and hassle free electronic payment mechanism for excise duty. For 2012-13, Rs. 8,566.65 Crore of total Rs. 9,460.25 Crore Excise Duty is collected through e-Payment. This constitutes of around 90.55% of collections. For FY 2013-14 the 95% of total duty collected is through e-Payment
- MSED became the first State Excise Department in the Country to adopt Business Intelligence system. Business Intelligence module has provided unparalleled analytical ability to Excise Officers to analyze trends and understand the pattern followed in production, consumption, revenue generation, etc.
- Up-to-date databank for excise ecosystem. With the computerization of statutory forms, data collation at district, division or state level is done automatically which led to increased accuracy and timely completion of these forms.
- 360 degree profiling of license holders is possible. Database of licensees contains history of licensee along with name, address, TIN, PAN, phone, grant of license date, type of license, etc. An advanced search features allows excise officers to locate licensees easily.
- By tagging all licenses on Google map, Excise Department has equipped themselves with in-house developed GIS which have helped in analysing scenarios like existence of liquor shop within restricted area, concentration of above average number of liquor shops in a particular locality, etc.
- Use of BlogPost, Video Conference and SMS Gateway for seamless communication among excise officers; thus increasing the performance
- Grievance redressal system to enable collection of complaints thereby increasing enforcement activities. This also enables the administration to take quick action on complaints of illicit distillation, bootlegging, etc.