Challenges and Issues in Digitization of Property/House Tax Collection : A Case of SSPL, Jharkhand

S.M.Vipul[1]   **Dr. Nitesh Bhatia**[2]

Ease of doing transactions is becoming an inevitable part of any service provider irrespective of private, government or semi-government players for its smooth operation. Digitization of property/house tax collection has been a major challenge for Government of Jharkhand since its inception in the year 2000. The current paper sheds insight on the successful operation of Sparrow SoftechPvt. Ltd. in the state of Jharkhand along with challenges and issues faced by them during initial set up and at present. The unspoken expectation of ensuring safety and security of data always existed. However major challenge for SSPL was handling online payments through Debit/Credit Card along with other offline modes and its real-time reconciliation along with integration – searching, locating properties and generating reports accordingly.

The paper also attempts to discuss the various impediments like automatic calculation of the property tax, arrears calculation and copy of last payment receipt etc. Gigantic and continuously changing numbers of taxpayers due to the amalgamation of existing properties into single property and creation of new properties from exiting was another set of issues with incessant updating of data and information along with its linkage with the payment system. The paper also discusses various operational issues like name transfer of the property owner and its verification, modification of correspondence details and more importantly communicating the client about due dates and non-payment of their property/house tax, which is the part of the vision of Government for outsourcing the entire digitization to SPPL.

Keywords : Digitization, Online Payments, Secure transactions, Property/House Tax

Introduction :

Technological advancements, in specific digitization have brought in ease to both to almost all layers in the markets with focus being customer centric. Anartisan sitting in a remote location of India is able to sell his/her paintings, crafts etc. to customers across the globe via direct and indirect linkages through e – business technologies and e-players/service providers.

The approach is aiding in identification of new target markets and definitely creating an urge to redefine marketing concepts. On one hand where digitization has gone beyond geographical boundaries on the other it has made time constraints demeaning. As a customer, one can shop from anywhere and at any time. All what's required is a computer or a mobile phone and an internet connection. The reason behind continuous up soar in usage of this concept of business is the ease it provides. Gradually this concept has found its acceptance in almost several industries belonging to almost all sectors; be it private, semi government or government.

Journey of SPPL with Challenges and Issues :

Digitization of property/house tax collection is a step taken by the Government of Jharkhand towards catering its services through online mediums. Property tax being one of the most prominent sources of revenue for any government across the world in urban regions, calls for an effortless and user friendly process. The process looked upon in Jharkhand, had its challenges and constraints. Overcoming them all and successful implementation is an target for Government of Jharkhand (GoJ). The GoJ has outsourced the tax collection and digitization process to Sparrow Softech Pvt. Ltd. (SSPL) in the year 2014 under the banner of a project titled "Survey, assessment, collection and recovery of property tax". The current paper attempts to discuss the operational modem of Sparrow SoftechPvt. Ltd. with focus on challenges and issues faced for and during the same.

Mr. Deepankar Kumar, Vice President SSPL says "Security and zero miss-use of consumer data, along with online payments and its real-time reconciliation along with GIS integration has always been their major challenge".

SSPL had a task to collect information of the properties using self assessment forms provided by the RMC and create digital records by developing required and appropriate software and applications. Based on it carry out Tax assessment calculation with a calculator for citizens. Along with online modes of payments being available but due to technological barriers door to door collection was also facilitated. Now, the tax collector (TC)

[1] Assistant Professor, Centre for Business Administration, School of Management sciences, Central University of Jharkhand, Brambe, Ranchi. smvipul.2012@gmail.com

[2] Assistant Professor, Centre for Business Administration, School of Management sciences, Central University of Jharkhand, Brambe, Ranchi. nitesh.bhatia@cuj.ac.in

collects the payment through various financial instruments and prints the receipts using hand held devices linked with the back office and bank. In case of online payments the website provides several payment options like debit/credit cards and various payment gateways. The payment gateways used are State payment gateway "Bill-desk" and"CC-Avenue".As the receipt of payment is acknowledged by the database a receipt of the same is printed, SMS is also generated simultaneously and sent to the tax bearer regarding the receipt of payment, the amount and mode of payment is also mentioned in the SMS. It is ensured that the details of payment stored in digital form are safely protected. A DCB (Demand, Collection and Balance) format is been adopted and reported to the RMC. SSPL also acknowledged the importance of service and the need of public interaction window for which both Online Helpline and Telephonic assistance during working hours was initiated. MS-SQL has been used for database handling and all rights and authorization is extended to RMC. The application provides a Web Dashboard for RMC staffs and management for viewing and generating reports on appraisal, dues and collection. The application is dynamic and timely customization is made as and when needed to meet the requirements. The web application is an in house product of the SSPL.

The journey was never smooth and several estimated and unforeseen conditions emerged during the implementation phase and even today. Partial/Non Payment of tax due to several reasons like non-availability of people at home, shortage of cash at home, non-cooperation of taxpayers, dishonour of financial instruments, theft/loot of money from the tax collectors are some of the issues faced. To overcome these issues SSPL is encouraging the taxpayers to use online modes. The project was divided in five stages.

1. Preparation of the project
2. Preparing Blueprint of the Business
3. Realization Phase
4. Final Preparation
5. Going live Phase

At the first stage proper planning was done through need assessment. Talks were held with the officials of the RMC to understand what was expected. Gap between expected and current scenario was determined and proper planning was done to fill the gap. Suggestions were made, long round of discussions was held and finally an outline was deduced. sBased on the need assessment a blueprint of the website was designed. Based on the guidelines provided, the web and mobile applications were developed. Time to time clarifications was taken and development was done accordingly. The applications were shown to the officials of RMC to determine and ensure that the development was in right path and suggestions provided were implemented in the application. After the development

stage the application was tested intensively to find the lacking and to overcome before the final implementation. After overcoming all these challenges, the project was good to go live and it was finally launched in September 2014.

The Property Tax Collection module is an online web based application. Any user can go to http://ranchimunicipal.com/ or http://ranchimunicipal.net/and check their account. The web application is user-friendly and easy to operate. The interactive interface provided is software that is available to the taxpayers in form of a website and also in form of an "app" which is strictly for the TC and not the payers. A taxpayers can visit the website and click on the "Pay Property Tax" button. He/ She then are asked his ward number and his name or holding number or house number. After submitting the details the account of the tax holder opens where he can check his account details and make payments. The amount due is automatically calculated and the taxpayer is required only to make the payment, which is hassle free and even a layman can operate it with ease. For the clear understanding of the taxpayers individual button of "Search Property, View Property Details, View Dues Details, View Payment Details" are also added to the website although these details can been seen under the "Pay Property Tax" button itself. To make events more comfortable for the property holders a support system has been set up. The support system is equipped with Internet Protocol Phone Branch Exchange (IP-PBX) and integrated with Primary Rate Interface (PRI) of 100 channels so that citizens are not kept in queue. A user-friendly IVRS welcomes the users. Every call made is recorded for quality purpose and future reference.

When someone purchases or acquires a property it is mandatory to take a holding number for which filling in an application form is required. Earlier it was available only at the office of RMC but today it can be filled online. After which the RMC completes its verification and follows the set procedures before allotting a holding number. The interface provides much more information to the taxpayers A property holder can track his/her progress on application along with details of the TC of the ward with contact credentials. A photograph of the TC is also update on the website for authentication. The taxpayers have also been given the option to update their holding address and contact details in case of a change or if they find an error in the record updated on the website. To ensure fraud transactions it is essential to enter the OTP sent to the property holder's mobile number. The edits done by the property owner is verified by the backend team before the edits finally reflect in the system. Security has been a priority concern since the very inception, be it safeguarding of property holders data or online payment options. Although transparency of the system was also essential, thus finding a right balance between the level of

transparency and data security was tricky. Ones the right poise was deduced it became easy to develop the application with right security measures.

The process of tax collection has been kept flexible. The models offered are door step service and online and both the processes provide complete service. The rationale behind the concept was to provide a comfortable platform to all kinds of users. If someone is technologically challenged he may opt the door step service model and if someone is technically sound and wants to avoid long queues and the lame door step service process he may chose the online model.

In the door step service model a TC visits the house of a property holder and assists him in applying for a holding number if already not generated. He assists him in calculating his tax by assessing his property based on annual rental value (ARV) and other fixed standards. Then he collects the tax in cash or cheque or through other financial instruments. The tax collectors are also provided POS machines to receive payment through debit/credit cards. ICICI bank has been tied up with this project and a taxpayers can pay the due at any ICICI branch across India by just providing his holding number. So even if someone is not willing to or is not able to use the online methods, the process has been simplified for the taxpayers. And the results have been overwhelming. A noticeable increase in revenue has been marked by the RMC not only because the property holders pay regular tax now but also because new taxable properties have been added to the system. Tax collectors of SSPL have reached almost all the properties in the RMC area and have spread awareness regarding the drive. Sensitization has also been a major contribution of SSPL in order to make the project a success. Despite its success, even till date there are few properties that have not been traced. Approximately 60,000 properties are still not having holding numbers. According to the 2011 census 2,10,000 properties have been reported. By 2017 it has been estimated that there should be 2,40,000 properties but the current number of taxpayers is 1,81,000 (2016-2017 financial year) of which 1,50,000 paid the property tax and 31,000 defaulters were reported. To identify the non taxpayers a system has been deduced. Every property that has been accessed and brought under tax base is tagged on Geographical Information System (GIS) platform and marked green. The GIS is regularly updated with satellite imageries. The properties not having holding number are marked red making them easily traceable. These non taxpayers will be sent notice to apply for their holding number. If the owner applies for his holding he pays the tax and penalty (Rs.2000/- for residential and 5000/- for commercial properties). If the owner ignores the notice then RMC can attach the owner's bank account. After which the due will be debited from the bank account, after which on request of the owner the bank account will be released. If this does not work the property can be sealed and auctioned. Finally RMC can even take legal actions and body warrant can be issued. All these procedures are as per the Jharkhand Municipal Act 2011.

There are several working households and no one is present at the house during the office time, or many a times the taxpayers are outstations and there are few people who do not trust the tax collectors. For them the online process is the best. All the services provided in the door step service model are available on the online platform. A taxpayers needs to visit http://ranchimunicipal.net and chose the action he wants to operate from the various options available.

Safeguarding property holder's information and financial transactions were the greatest of issues. In case of physical transactions where the collectors gather information and relevant documents and also cash/cheque in person a thorough background and reference check is done before hiring to avoid any kind of misuse and since the start of the project till date no such incidences have been reported. Even if a TC collects the tax from an owner and does not report it to SSPL in that case on presentation of the payment slip given by the TC to the owner it is the liability of SSPL to pay the tax to RMC. But the greater threat was ensuring digital safety. For which safe protocols for data and file transfers are used. Secure Socket Layer (SSL) Protocol is used for browsing. SSL is a safety protocol which allows a browser or a clients system to communicate with a web server through encrypted links. When a taxpayers communicates with the Data Centre of RMC the data transferred is encrypted by SSL. A SSL certificate has been acquired for the website and public key, private key cryptography is used for exchange of data. SSL certification ensures the end users that the date/information shared is safe and that a certification agency has authenticated the web application thus building reliability in the minds of users.

The web application is also protected with Firewall. The firewall provides protections against Denial of Service (Dos) and Distributed Denial of Service (DDoS) attacks and ensures shield against spoofing and pissing. Being a web application that allows users to pay online it is important to eliminate the threat of spoofing. The firewall protects dynamic IP settings like the WiFi, an interface where maximum threat exists and at the same time facilitates sheltered hosting of servers. The firewall also secures Software as a Service (SaaS) and cloud environments of the website. The firewall provides faster uptime to the website and reduces latency. It also supports real time applications which are essential for the website. SSPL uses 2 servers, one is the Application Server and the other is the Database Server. The application server serves as the frontend and database server supports the backend. The application server is attached to the firewall which works as an intermediary between the server and the network. To increase security the server has 2 hard disks. One HDD stores data and the second HDD is used for scheduled backup. Other than the scheduled

automatic backup a manual backup is taken 3 times a day using external storage devices. The data centres used by SSPL are located at Ranchi for data storage and 2 other data centres in different states used as Disaster Recovery (DR) sites.

The work of SSPL in the field is commendable. Calculation of property tax can be done instantly. The TC feeds the following details in his handheld device or his mobile phone having the app installed, "build up area/carpet area, type of construction (RCC/ACC/others), type of use (residential/non-residential), type of road(Primary main road >40ft, main road between 20 to 40 ft and others <20ft) and occupancy type (self/tenanted). After these data have been fed to the device ARV (annual rental value) is gained and 2% of ARV is the annual property tax. The handheld device or the app is linked with the server and the tax calculated immediately is updated in the server. The system also shows the arrears (amount due) to be paid. Certain cases have been reported where a property owner had paid the tax before the digitization of RMC, the owner had the receipt of payment but the payment was not updated in the register. In that case the receipt with the owner is considered as the last payment receipt and that information is updated into the system.

Another issue that is inevitable is amalgamation, bifurcation and name transfers. In case of amalgamation of properties the new property is attached to the existing property. In case the new property already has a holding number then that holding is deactivated and only one holding number exists. Whereas in case of bifurcation of properties the earlier holding numbers is allotted to one part of the property, here if the ownership changes then the same holding number is transferred to the new owner and a new holding number is generated for the other part of the property(s). In case of name transfer due to change of ownership the same holding number is allotted to the new owner.

On arrival of due date of payment and non payment on due date an automated SMS is sent on the registered mobile number and an e-mail is also sent informing the owner about the details. The TC also makes a visit to inform and collect the payment.

Conclusion:

Digitization process has helped in improving the image of RMC and Jharkhand Government. It is a big milestone aiding e-governance. Not only has digitization made life of the taxpayers easy but has also helped the government to increase its revenue. The following table suggests the revenue generated by RMC 2013 onwards.

It is clear that after digitization number of taxpayers has increased and revenuer has increased 10 times. The successful implementation and wide acceptance of digital

Sl. No	Financial Year	Collection	Taxpayers
Tax Collection by RMC			
1	2013 – 2014	4.5 Crores	N.A
Tax Collection by SSPL			
2	2014 – 2015	8.20 Crores	33,684
3	2015 – 2016	11.82 Crores	64,119
4	2016 – 2017	40.50 Crores	1,50,000

Source: (Kumar, Tax collection figures and financial aspects, 2017).

application by both government agencies and households has proved the importance of online model. SSPL has done an excellent work in gaining trust of the citizens across Ranchi by providing a secure and foolproof system. Such modules must be adopted in other government sectors as well.

References:
- Kumar, D. (2017, September 18), Inception of Sparrow Softech Pvt. Limited. (N. Bhatia, & S. M. Vipul, Interviewers).
- Kumar, D. (2017, November 03), Tax collection figures and financial aspects. (N. Bhatia, & S. M. Vipul, Interviewers).
- Ranchi Municipal Corporation. (2017). Retrieved October 20, 2017, from http://ranchimunicipal.net/ citizen/search_property.aspx?fwd_url=due_details.aspx.
- Ranchi Municipal Corporation. (n.d.). *www.Ranchimunicipal.com.* Retrieved November 05, 2017, from http://www.ranchimunicipal.com/ Downloads/1010201719100829_DownloadFiles.pdf
- The Telegraph. (2017, April 01). Tax defaulters need to pay fine . Ranchi, Jharkhand, India.
- Times of India. (2014, JULY 23). Ranchi hires private firm to collect taxes from August. Ranchi, Jharkhand, India.
- Times of India. (2016, May 16). Now pay holding taxes to RMC through ICICI Bank. Ranchi, Jharkhand, India. Retrieved from https://timesofindia.indiatimes.com /city/ranchi/Now-pay-holding-taxes-to-RMC-through-ICICI-Bank/articleshow/ 52295695 cms.