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Topic (iii): Innovation

Open Data Initiative of Government of India – Fostering Innovations, Creating Opportunities

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1. India has one of the fastest-growing economies in the world. Renowned for its IT and software development, it is an important component in the world's technological advances. The prime minister of India declared the period of 2010 to 2020 the decade of innovation. In the recent past, Government of India notified the **National Data Sharing and Accessibility Policy (NDSAP)** on 17th March, 2012 with the objective to facilitate access to the Government owned sharable data generated using public funds in machine readable format, free of cost to public itself across the country in a pro-active and periodically updatable manner. After all, potential value of all sharable data collected or developed through public funds, could be better realized when made publicly available. In India, evidence based planning of socio-economic development process rely on quality data which already resides among the various entities of the Government of India.
2. NDSAP aims at the promotion of a technology-based culture of data management. It enables a state-of-the-art data warehouse and data archive with online visualization capabilities, which includes provision of a multi-dimensional and subject oriented views of the database. It was developed completely using Open Source Stack, facilitating cost saving in terms of software and licenses and also provisioning community participation in terms of further development of product with modules of data visualization, consumption, APIs to access datasets etc. It has a user friendly interface, dynamic/pull down menus, search based report, secured web access, bulletin board, complete metadata and parametric & dynamic reports in exportable format. Through this initiative it is clearly reflected how innovative use of information technology has led to a paradigm shift in accommodating huge data potential of the country.
3. Open Government Data (OGD) Platform India (<http://data.gov.in>) has been set up to provide access to datasets published by different government entities in open format. It also provides a search, discovery & on-the-fly data conversion (to widely used open formats) mechanisms for instant access

to desired datasets. OGD Platform has a backend data management system which is used by government departments to publish their datasets through a predefined workflow. They shall also have a dashboard to see the current status on their datasets, usage analytics as well as feedback and queries from citizens at one point.

4. The Portal has also rich mechanism for citizen engagement. Besides enabling citizens to express their need for specific datasets or APPs, it also allows them to rate the quality of datasets, seek clarification or information from respective data controller. In addition, to support wider reach and dissemination of datasets, anyone can share the information about any dataset published on the portal with his/her social media pages on a press of a click.

5. Citizens with specific interests or even data journalists can build communities, open up online forums, blogs and discussions around various datasets or their domain of interest such as agriculture, education, health, etc. There is a provision to take suggestions from citizens if they want any specific datasets. Its purpose is to provide a platform to express, discuss and suggest the kind of datasets/applications in which citizens are interested. It shall give inputs to departments as to what kind of datasets is more useful and accordingly prioritize the release of the datasets. This shall also give first hand input to development community for building new components in Apps.

6. Portal facilitates App Developers' Community by launching various contests such as '#OpenDataApps Challenge', 'In Pursuit of an Idea', '12th Plan Hackathon' and the recent 'Commissionerate of Municipal Administration (CMA) Hackathon'. Several innovative and useful apps across platforms and devices ranging from Mobile/Tablet, SMS to Voice-based applications using Open Government Data have been created which help the government serve its citizens better. Therefore, we see the advent of innovation building in India using government data through various types of APPs, mash-ups, info-graphics, visualizations and even services.

7. OGD Platform India is still at its nascent stage and is going through proportions of changes. One of the major challenges faced is that of the formation of a NDSAP Cell in every Ministry/Department. As per policy guidelines, in order to implement NDSAP, each Department is required to establish a NDSAP Cell, which shall be headed by the Data Controller, who could be assisted by number of Data Contributors and few domain specialists. These professionals would monitor and manage the open data initiative in their respective Ministry/Department and extend technical support to ensure quality as well as correctness of the data. The policy mentions that budgetary provisions and appropriate support for data management for each department/organization would be necessary. Another challenge is to work out a strategy to create interest among the Data Contributors and Members of NDSAP Cell for their participation in the extensive workshops/programs conducted to provide training/awareness on contributing datasets to the portal and provide advisory on conversion of data to digital open formats.

8. Yet another challenge is that metadata elements for datasets need to be cautiously mentioned for various kinds of datasets. For data to be reused, it needs to be adequately described and linked to services that disseminate the data to other researchers and stakeholders. For example, geospatial data consisting of satellite data, maps, etc. involve micro-level information; derived statistics like national accounts statistics, indicators like price indices, databases from census and surveys are the types of data produced by a statistical mechanism. In such a mechanism, it becomes important to adhere to the standard metadata format of the OGD Platform India along with its controlled vocabularies on government sectors, jurisdictions, dataset types, access mode, etc. Besides facilitating easy access to datasets, this shall be extremely useful in future for federation/integration of data catalogs.

9. The data management industry has matured over the last three decades. The amount of data collected and analyzed has increased several folds in volume, variety and velocity of generation and consumption that resulted in new phenomenon of “Big Data”, which can be better defined as high-volume, high-velocity, and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision-making. Our datasets in the portal are one of the sub-set of big data. Data is the new oil – we have to learn how to mine it, data is a food – we have to learn how to digest it and we should learn how to make use of innovated techniques to extract useful results out of it.

10. With the announcement of notified the National Data Sharing and Accessibility Policy (NDSAP) (Gazette notified on 17th March 2012), the Government of India has defined the objective to facilitate access to the Government owned shareable data generated using public funds in machine readable format across the country in a pro-active and periodically updatable manner. To strengthen the Open Government Data initiative, it is essential to spread awareness in the community ranging from developers, researchers to people from start-ups and industries. The Government of India is promoting the same and encouraging citizens and student communities to use innovative ways to get out the useful extract from the data.

11. Innovation cannot come on its own. To further accelerate, India has opened Innovation Hubs at big cities to provide a platform for student community to convert their ideas and create Apps from the huge data from the portal itself into tangible form for applications in daily life. To ignite the data-driven innovation in order to make the Open Government Data more relevant and useful for citizens, entrepreneurs, innovators; start-ups, developers and IT industry have been encouraged to use innovative methods to create unique and useful Mobile/Tablet, Web, SMS, Voice applications using Open Government Data.

12. Short for Social, Mobile, Analytics and Cloud, SMAC is the latest buzzword to hit the IT world and these techniques cannot be ignored because they are changing the way IT will be consumed in the years to come. Out of the four terms, mobility is possibly the strongest and drives all other technologies. The logic is simple. All actions are being shifted to smart phones and mobile internet devices, which exist everywhere. One can access data from the portal on mobile devices from anywhere at any time, last but not the least is social media, which is also increasingly being consumed by users from these mobile internet devices. Thus SMAC is not a passing fad but has a lasting impact on IT. It's definitely not something one can chose to ignore because it is changing the entire system of IT usage as an innovative way.

13. In summary, there are immense possibilities of using Big Data to transfer the way we live, think and make decisions. India has the talent, the ecosystem of service providers and rising technical base of users with mobile and social connections. Smart phones can now be used to collect data in Big Data, make use of Big Data analytic initiatives. All we require is the will and the commitment to use data for transforming governance. India's National Data Sharing and Accessibility Policy (NDSAP) have been made a platform to facilitate this engagement and collaboration with domain experts, stakeholders and key participants to create an innovation movement in India.

14. I hope, this conference will definitely create a shared awareness of the proportions of the changes going on and definitely, each one of us can learn from the experience of one another.
