Key Aspects in Development of City Data Policy with reference to Data Smart Cities Strategies (DSCS)

Capacity Building for Smart Data and Inclusive Cities (SDIC)

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1 Formulate City Data Policy[1]

1.1 What it says:

The City Data Officer will formulate the City Data Policy in consultation with Smart Cities Data Alliance and the Mission Data Officer (MDO) (see p49).

City Data Policy:
City Data Policy is the first significant step in the direction to provide conceptual clarity over accessing and sharing protocols over city data. Data Policy must address concerns like data classification, categorization, archival, security, privacy, ownership, etc. The absence of a City Data Policy also acts as a barrier towards setting up a data economy at the city level. City Data Policy provides clarity around ownership of data, legal framework, terms of use, etc.

The policy should among other things, include the following:

a) ***Stakeholders:*** *Identify relevant stakeholders and respective data needs. For e.g. Employees will require real-time data which could enhance their situational awareness on the ground.*

b) ***Identify and create a plan to provision Data Sets and Feed*** *for development of Use-Cases that are beneficial to the city.*

c) ***Current IT Systems:*** *Assess City IT Infrastructure and identify key IT systems (Project management System, Water, and Sewerage Management System) which could provide public data sets/feeds.*

d) ***Proposed Smart Solutions/Projects:*** *Assess smart solutions or projects under implementation as per Smart City Proposal and identify data sets/feeds which could be published through Data Platform. Work with SI or implementation partner to provision to integrate the solutions with Data Platform.*

e) ***Identify Data Sets*** *from reports or plan published by City Government and agencies through public funds. Also, identify different data sets/feeds which would be published by the city from time to time at regular intervals.*

f) ***Road Map with Milestones:*** *Identify short-term, medium-term and long-term goals along with a timeline for publishing datasets and frequency to update it.*

The CDOs will create a City Data Policy (CDP) for their respective smart cities which will be reviewed every month to keep it contextual to the need of the times. The policy should be created post engagement with relevant stakeholders. The SCDA would act as advisory body for the review of CDP from time to time. It will be responsibility of Municipal Commissioner to ensure that the policy evolves as per the needs of various stakeholders of the city and relevant upgrades to policy are carried out time to time accordingly (Page 60)

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[1] DataSmart Cities: Empowering Cities through Data, Government of India

1.2 What is means:

Cities should have a policy. Cities should not just collect data because it's possible, but for some purpose, which should be clearly decided ahead of time. There is an assumption that which data is crucial for planning and functioning of the city is clear to planners ahead of time.

"Identification of data collection requirement in all urban centers based on insights from smart cities in the State, calculation of city GDP" (p.37)

This assumes things should be clear, but it's not possible to prescribe these things ahead of time, and no one really knows how it should be determined.

It is important to have the policy to address privacy concerns. There is an assumption that privacy concerns are clear and knowable ahead of time, and that effective policies can be formulated to address them in the abstract. The document does not really emphasise the importance of citizen's perspectives or voice in determining the best approach to privacy. Projects the perception of caring about privacy, but not adequate to fully address it.

"Except for open data, it is recommended that direct access to data be prohibited and use of APIs mandated. Data dissemination should be only to authenticated and authorized stakeholders (both internal and external) through data fiduciaries." (p.26)

Note the overly general, abstract nature of this statement. There are latent assumptions about who has the authority and acumen to make decisions, attaining access through "authentication" and "authorization".

"A robust data strategy requires compliance and considerations to policies such as National Data Sharing and Accessibility Policy (NDSAP), Personal Data Protection Bill (2018) and City Data Policies." (p23)

"A Smart Cities Data Network (SCDN) will be a network including inter alia, selected CDOs from 100 smart cities, along with representatives from other Ministries of Government (both State and center), industry associations, research organizations, academic institutions and legal firms. MDO will be the convener of SCDN. The SCDN will meet at least once every quarter, physically or virtually. SCDN will act as an advisory body for implementing the DataSmart Cities Strategy of SCM. SCDN will help define policy contours, bring in expertise in understanding the data landscape in other parts of the world, identify best practices in Indian cities, and help in interpreting the legal framework around data. SCDN thus will help the Mission in its effort to use data as a tool for empowerment of the society." (p35)

The data policy is important because it should explain how data feeds into providing personalised and effective services. There is an assumption running through all the SCM documentation that it is straightforward and clear how data can and should directly help with service provision. Here, it is up to the city to be explicit about how that happens.

The policy is considered to be necessary to support the functioning of a "data marketplace". There is an assumption that data can and should be used to support economic activity. This typically means supporting private companies with data. In the "marketplace", public agencies and individual citizens may also be "buyers", but the structure and purpose of this "marketplace" has not been fully articulated anywhere.

1.3 What you can do:

Clearly articulate your theories for how data can and should directly support inclusive service delivery. Be clear about why you want to collect data, what it will be used for, and what privacy concerns exist. This should include an acknowledgement that areas of risk and privacy concern may not be possible to foresee ahead of time.

Build in a vision for inclusiveness into the Data Policy. Ensure that diverse sets of stakeholders, including those from marginalised groups, are intentionally brought into the policy formulation process. Nurture a critical conversation about what you really want to achieve - what kind of city you want to build - and how data can help achieve it.

2 Establish a City Data Alliance[2]

2.1 What it says :

The 'quadruple helix' comprising of communities, industry, academia and the Government will be constituents of the City Data Alliance

A City Data Alliance comprising of various key stakeholders including city Governments, other key actors in policy making, various Government department and agencies, representatives of leading academic and research institutions in the city, community organizations, entrepreneurs and advocacy groups

Commitment and enhanced participation from non-State stakeholders (i.e., citizens, industry, academia) on data-sharing, colearning and co-creation, creating an open Data Culture, bridging capacity-building needs, creating awareness about importance of Data Culture.

Role: The SCDA will provide a collaborative framework to create and define use cases to solve critical city problems through the use of data, catalyse the right set of collaborations and networks to make available such data and undertake continuous dialogue between various stakeholders in the city around the City Data Policy so as to inform and evolve the CDP effectively. The alliance will undertake education and awareness about data in the community, understand and address concerns on data privacy and security, build use cases for city problems, create data collaborations between various government and private agencies for solving relevant use cases and continuously evolve the culture of data in the city's context.

a) To act as an advisory group to the city leadership on the City Data Policy.

b) To assess the data needs of various Smart City stakeholders.

c) To promote data driven governance and policy formulation.

d) To design and implement solutions and analysis using city data.

e) To support industry to design solutions using emerging technologies like AI, ML and Blockchain.

f) To assess and design use cases critical to the citizens of the respective cities.

g) To generate awareness in various stakeholders towards open government initiatives.

h) To bring Smart Cities stakeholders on common platform to influence the city data priorities.

i) To facilitate data for co-creation and collaboration over civic issues

j) To provide critical feedback to the city over the quality and relevance of data provided by Smart City.

k) To deliver 4 Research paper annually using City Data on Civic Problems in Smart City

l) To design and develop two prototype/ solutions annually on Civic Problems in Smart City m. To organize a data-challenge every half yearly on complex civic problems

m) To organize a Hackathon annually and support shortlisted solutions at city level

n) To set up scholarship for postgraduate and graduate interns to work with Office of CDO.

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[2] DataSmart Cities: Empowering Cities through Data, Government of India

o) *To publish the progress report every month*

p) *Prioritize the Data Sets/Feeds for publishing on Data Platform:*

q) *To sensitize ecosystem partners to share the data for leveraging data for solving civic challenges*

r) *To support, engage and encourage network/groups/members of data enthusiasts in Smart City*

s) *To improve city capacity over data driven governance and policy formulation*

t) *To support CDOs by extending resources (like interns, researchers, technology experts), funds (program sponsorship etc.) and technology (solutions etc.)*

u) *To share data available with partners on Data Platform to promote city data.*

2.2 What it means :

The City Data Alliance will have a key role. As an advising group to the city leadership on the City Data Policy, it can influence the way the Smart Cities Mission is being implemented. The alliance will contribute to the crucial discussions about the definition of use cases to solve critical urban challenges and the nature of data requière to do so. It will have a say in the resources, funds and technologies employed to implement the Smart Cities Mission. It means that there is a political will to make this policy process inclusive and to allow citizens to engage in the current discussions regarding the future of cities. However, 'citizens' do not form a homogeneous body, with different levels of digital literacy. The authors of this document overlook the power relationships existing at a city level. Low income and vulnerable groups, such as slum dwellers, could be excluded from the discussions if there is no explicit political will to understand their specific needs and capacities.

2.3 What you can do :

Use this policy space to emphasis on the needs of economically and socially disadvantaged urban residents. Encourage a large public to participate in debates, Hackaton events and other opportunities which would allow to open-up potential pathways for change. It is key to rebalance unequal power relations at a city level and to challenge powerful actors shaping policy in cities. Effective participation is key to build more inclusive cities.

2.4 City Stakeholders to come together in Smart City Data Alliance

Following stakeholders should come together to set up City Data Alliance to assess, strategize, plan, implement and review the City Data Policy :

(1) **Government Agencies:** Government Agencies operating with dedicated administrative structure (apart from City Administration) in Smart City namely Traffic Police, City Police, Central/State Government Departments, Government Autonomous Bodies etc.

(2) **Funding Agencies:** Funding Agencies which regularly works with city administration in different domain.

(3) **Industry:** Key flagship manufacturing/service Industry promoters/players in the Smart city/state.

(4) **Academia:** Representatives from leading Universities/Colleges/Schools in the Smart city.

(5) **Policy Advocacy Groups and NGOs:** Policy Advocacy groups and NGOs working in different domains/areas like Slums, Health, Education, Environment, Participatory Governance, Mobility etc.

(6) **Start-ups and Incubators:** Representatives from startups and incubators in the Smart City/State.

(7) **City Businesses:** Representatives from local Small and medium business communities.

(8) **Citizens and Communities:** Representatives from Communities and citizen interest groups to further the interest of citizens/communities towards data driven policy governance and service delivery.

(9) **Local Elected Representatives:** Representatives from local elected representatives to further the interest of citizens/communities towards data driven policy governance and policy formulation.

(10) **Professional Representatives:** Representatives from various professional bodies like Doctors, CA, and Engineers etc.

3 Clarify and communicate the purpose and value of data collection and sharing[3]

3.1 What the document says :

"DataSmart Cities Strategy, through which our Smart Cities will embark on a journey to create a culture of data through various initiatives and engaging with various stakeholders in solving their urban challenges. The Strategy will give direction to the various stakeholders who may be working in vertically integrated structures, holding data produced by them in silos."

"DataSmart Cities' Strategy would focus on evolution of culture of data driven governance in these cities and encourage cities to setup the building blocks of Data Culture at the City level through various efforts such as setting up Smart City Data Alliance, Smart Cities Data Network, Open Data initiative and City Data Policy etc."

"The power of data science and geographical information systems can be harnessed for enabling an exchange of ideas, solutions and manpower across the country that can be at the right place at the right time to help Indian cities across the country to fix local challenges."

"Information is the biggest power of the modern times. It is imperative for the empowerment of communities that cities put out information regarding their functioning, their public services, their governance systems, achievements and failures in the public domain, thereby, empowering their citizens through the access to information."

"Bringing data in 'focus' ensures a move towards outcome-based planning in governance."

"Data available with these entities remains in silos, which needs to be unlocked and shared amongst them. Thus, to unleash the power of urban data for transformation it is crucial to unlock it and make it the common language of collaboration in the urban ecosystem"

"Institutionalize a "Culture of data": The trend to draw insights and create actionable intelligence for city governance is already on the rise. However, formal mechanisms for data collection, management and use needs to be put in place. Also, there is a need to create awareness, dialogue and collaboration among different stakeholders to harness the power of data as a potential economic resource."

3.2 What it means?

The document states that data is collected so that they can provide better services to people and thereby improve the quality of lives of the citizens. However, there is a need to build trust with the citizens. It is also imperative for that the citizens know what kind of data is collected and what it is being used for (privacy issues and the question of surveillance). Becomes essential that data collected is used for the specific purpose and nothing else. the quality of data is questionable (need capacity training for the data collection management team).

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[3] DataSmart Cities: Empowering Cities through Data, Government of India

4 Ensure appropriate safeguards for data privacy and security [4]

4.1 What it says :

"While data is being considered as the lifeline of next-generation smart cities, it also brings about challenges of privacy, security, rightful use, and potential bias. This strategy document attempts to address some of these critical issues by recommending the creation of an appropriate policy along with regulatory and institutional instruments at the city level." (Executive Summary)

"A thoughtful approach that enables seamless data-driven interaction while maintaining the privacy and security of citizens." (p13)

"To unlock the power of data in the context of privacy, security and ownership in the context of the city, it is critical that cities create data policies that balance privacy, legal and public benefit considerations." (p20)

"Issues about intellectual property rights (IPR) should also be addressed and incorporated into City Data Policies." (p26)

"Data collection, sharing and analysis must be ring-fenced by a privacy first approach to guarantee protections for residents and users. Smart Cities should develop ethical frameworks for data ownership and privacy which overcome any gaps in current legislation. The usage rules for data elements must specify for what purposes the data can or cannot be used." (p26)

"Programming Interface (API) calls to ensure appropriate security controls. Cities should establish or comply with existing standards and certifications for data privacy and security. Except for open data, it is recommended that direct access to data be prohibited and use of APIs mandated." (p26)

"Data dissemination should be only to authenticated and authorized stakeholders (both internal and external) through data fiduciaries." (p26)

4.2 What it means :

The government recognizes the importance of balancing the 'power of data' with issues of privacy and security. The city data policy is supposed to ensure thoughtful data collection and use. The objective is to build trust between different stakeholders, in particular private companies and other actors being asked to share their data. However, data sharing and the implementation of digital solutions could benefit businesses at the expense of everyday citizens.

4.3 What you can do :

Make sure that only the data necessary to build a more inclusive and sustainable cities will be collected and used. Make sure that people have control over their personal data. Regulate data ownership and uses/data exchange platforms to avoid a reinforcement of private companies at the expense of everyday citizens.

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[4] DataSmart Cities: Empowering Cities through Data, Government of India

5 City Level Institutional Governance Structure and Detailed City level roles[5]

City Data Officer (CDO)
- CDO will act as custodian and driver of City Data Policy (CDP)
- CDO will work with city leadership to assess and tap the potential of data and set up data culture
- CDO will report directly to City Leadership and act as single point of contact
- Core objective of setting up CDO is to focus on setting up data driven governance culture

Data Champions
- Data champions (DCs) will be senior functionaries, not below the rank of a Head of Department or equivalent
- DCs needs to also act as trainers and lead the team of data coordinators at the department level

Data Coordinators
- Data Coordinators will assist DCs at the department/government agency level as reporting staff

City Data Cell
- The main activities City Data Cell would be to manage the Open Goveremnet Data Platform
- Also to handhold for dataset contribution as well as capacity building of Data Contributors

Smart City Data Alliance (SCDA)
- The SCDA will provide a collaborative framework to create and define use cases to solve critical city problems through the use of data
- Catalyze the right set of collaborations and networks to make available such data and undertake continuous dialogue between various stakeholders
- The alliance will undertake education and awareness about data in the community
- Understand and address concerns on data privacy and security
- Build use cases for city problems
- Create data collaborations between various government and private agencies

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[5] Data Maturity Assessment Framework Guidelines- Government of India

6 Components of City Data Policy[6] (Mandatory)

The city has to formally approved its City Data Policy (CDP) and notified with gazetted Notification. The City Data Policy require to have the following section / components in it.

1) Data Classification
2) Data Categorization
3) Data Flow / Approval Framework
4) Data Archival and Retention
5) Data Security
6) Guidelines - SoP for data collection?
7) Guidelines - SoP for electronic data collection?
8) Guidelines - SoP for data processing and cleaning?
9) Guidelines - SoP for data for quality assessment of data sets?
10) Guidelines - SoP for data publishing as per Open Data Norms?
11) Guidelines - SoP for engaging stakeholders to assess the data needs?
12) Guidelines - SoP for data collection, processing and analysis for on field Survey?
13) Guidelines - Do the Processes defined include provisions for data analysis?

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[6] Data Maturity Assessment Framework Guidelines- Government of India