

Evaluating the Effectiveness of Digital Service Delivery under Smart City Missions in India

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Abstract

There has been a revolutionary change towards environmentally responsible and technologically integrated urban development, which is represented by the Smart Cities Mission, which was initiated by the Government of India in the year 2015. In order to achieve its goal of developing one hundred urban centers that are both inclusive and resilient across the nation, the mission intends to promote citizen-centric planning, digital infrastructure, and efficient service delivery mechanisms. The central focus of this vision is on the importance of maximizing resource efficiency, minimizing waste, and fostering sustainable urban ecosystems through the practices of recycling, reusing, and regenerating. The purpose of these cities is to operate as case studies for the purpose of evaluating the breadth and impact of smart initiatives. These efforts include waste-to-energy projects, water reuse systems, digital governance, and smart mobility. The manner in which these urban initiatives include various tactics, such as decentralized waste management, smart metering, and the promotion of green infrastructure, is given particular focus. The findings of this study highlight the importance of conducting inclusive planning and adaptive governance in order to guarantee the Smart Cities Mission in India will be successful over the long run and will be able to scale.

The Smart Cities Mission in India has showed mixed results in terms of the delivery of digital services. While there have been some successes in areas such as traffic management and smart water systems in certain cities, there are still significant challenges that need to be addressed. These challenges include uneven implementation, digital divides, funding shortfalls, a lack of citizen engagement, and maintenance issues. Additionally, the mission frequently prioritizes technology over social needs, which can lead to "bubble urbanism." Furthermore, the mission requires better inclusive governance in order to truly bridge gaps and achieve sustainable results.

1. Introduction

The process of urbanization is an essential component of contemporary economic expansion, and it is a phenomenon that is experienced by virtually all nations around the globe. The natural increase in population and the migration of people from rural areas to urban areas are the two factors that have led to urbanization. Migration occurs for a variety of reasons, including the pursuit of higher and better education, the discovery of better employment possibilities, an improvement in standard of life, and many others. On the other hand, if the local governments do not organize its infrastructure in an efficient manner, such a rapid transition places a great deal of strain on the infrastructure in urban areas. As a consequence of this, problems such as traffic congestion and accidents, the degradation of the air and environment as a result of an increased quantity of pollutants, extreme crowding, an increase in the spread of illness, and worries regarding crime and security are brought about in those places. The development of smart cities is one example of a solution to problems of this nature.

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The term "smart city" refers to an intelligent city that incorporates digital technology into its networks, services, and infrastructure in order to make it more efficient and livable for the benefit of its citizens and businesses. The city is characterized by the presence of intelligent urban transportation networks, modernized water supply and waste disposal facilities, and effective lighting in public areas. Administration of the city that is more involved and responsive, as well as public places that are safer. ICTs, which stand for information and communication technologies, are utilized to enhance the quality of life, efficiency, and competitiveness of a given society, all while ensuring that it satisfies the requirements of both the current generation and the generations to come. With ubiquitous home connectivity, Wi-Fi in public areas, intelligent infrastructure, smart power meters, open data, and electronic government, a smart city is characterized by several characteristics. In a nutshell, Smart Cities necessitate an all-encompassing strategy that places equal emphasis on the three fundamental components of a Smart City, namely the infrastructure, operations, and people. It is necessary for India to have smart cities in order for the country to make significant progress and establish itself as a thought leader in the global economy.

A Smart City is a geographical area that has been clearly defined and is able to deliver benefits to its residents through the collaboration of information and communication technologies (ICTs), logistics, energy production, and other related fields. These benefits include, among other things, well-being, inclusion, environmental quality, and intelligent development.

2. Dimensions of a Smart City

Typically, a smart city will address the following six areas

- Innovation, entrepreneurship, productivity, labor market flexibility, and competitiveness are the pillars of the smart economy.
- Smart Mobility - Transportation systems that are local, innovative, safe, and supported by available information and communication technology
- Managed resources sustainably, pollutants under control, and environmental protection programs—this is the smart environment.
- Intelligent People - Graduation, originality, adaptability, receptivity, engagement in civic life
- Intelligent Living - Living circumstances, cultural offerings, health, personal security, housing, educational opportunities, and tourist appeal
- Transparent government, public and social services, empowerment, and involvement in decision-making are the six pillars of smart governance.

A significant amount of progress has been made by the SMART Cities Mission, with 93% of the projects being finished and large cash being distributed. As a result of this, the Smart Cities Initiative will no longer be implemented after the 31st of March in 2025. A number of factors, including but not limited to delays caused by bureaucratic bottlenecks, difficulties in land acquisition, difficulties in coordinating among agencies, and incomplete permissions, are the primary causes for that step. A further significant reason for the failure is that nearly half of the hundred communities that were chosen have not implemented any Public-Private Partnership (PPP) initiatives, despite the fact that PPPs were supposed to play a significant role in the planning process. Despite the fact that almost all of the central assistance has been delivered, states and localities have not been able to successfully match funds and speed up the execution of projects. There are a lot of residents and civic watchers who believe that visible impact, upkeep, and citizen engagement are still relatively inconsistent from city to city.

A great number of municipalities encountered difficulties in maintaining high-tech installations, which resulted in malfunctions, abandoned infrastructure, and an increase in the expense of repairs. The adoption of technological breakthroughs that were not supported by adequate local capacity eventually became unsustainable, and the political worth of the "smart city" branding gradually diminished over time. In the end, a significant portion of the initial concept was undermined due to a lack of coordination, financial sustainability, and genuine citizen involvement. This resulted in the creation of infrastructural shells rather than living, adaptive urban ecosystems.

There is widespread consensus among members of the scientific community that local governments play an essential part in the development of smart cities. Smart cities are characterized by their priority to enhance the quality of life through the incorporation of technology into the built environment. However, urban governance in nations of the global south that are quickly urbanizing is frequently inadequately organized to deal with complex urban concerns, which significantly hinders their goals to become smart cities. Despite the fact that there is a wealth of literature on smart city dossiers, there is a dearth of information regarding their governance framework and the structural variances that occur in their development between regions. The efforts that are being made to transfer governance models from developed world cities are being met with a lack of distinct context sensitivities, which is a barrier to their transformation into smart cities. Through the presentation of their unique theoretical conceptualizations and the connecting of those conceptualizations with case studies, this paper makes a contribution to the ongoing discussion regarding civic governance in smart cities. It examines the dynamics of urban governance in Indian cities, which have recently begun the implementation of a huge program to construct one hundred smart cities. The purpose of this research is to critically evaluate the capacity of Indian cities to transform their traditional bureaucratic governments into a more accountable and collaborative form of governance. This evaluation is based on the experiences that Indian cities have had in the past with regard to organizing urban administration and on its new model of project execution that is led by special purpose vehicles. The findings of this study show the necessity for aspiring smart cities in emerging economies to address the structural challenges that have been plaguing local governments for a long time and to participate in the process of governance transformation rather than adopting solutions that are only temporary.

In the absence of a definite urban development strategy, India's urban management practice is characterized by a model of instant urbanism, which is enabled by quick policy and is aimed at achieving short-term objectives. This is one of the most important aspects of India's urban management practice. The process of policymaking frequently involves "reinventing the wheel" because a failure to learn from previous initiatives, such as JNNURM, has occurred. During the Smart Cities Mission, the SPV model of urban governance was introduced. This model highlights the nature of short-terminism, which is the false assumption that deep-seated structural governance issues can be addressed by temporary solutions. This is in contrast to the consistent, long-term processes that are aimed at institutional transformation. According to the findings of this study, the administration of emerging smart cities in India supports institutional compartmentalism. This is because there is a lack of convergence and integration mechanisms across initiatives, which prevents the realization of the added value that can be achieved via the coordination of resources and the combined efforts of agencies.

The urban problems in India are becoming more complicated as a result of the snowball effect of cities. In order to effectively address issues of this nature in contemporary communities, collaboration and integrative thinking are required. India must take into account the lessons learned from the past and establish its own framework for the governance of smart cities. This framework should be tailored to the institutional environment of the local area and should give priority to the democratic aspirations of the country's population. To put it another way, the establishment of a semi-private corporate organization in the manner of Songdo, South Korea, or the mere conceptualization of a Smart City Advisory Forum, which is generally derived from structures such as the Smart London Board, could not be sufficient to tackle the fundamental limits that are associated with urban administration. It is not intelligence but functionality that Indian cities require in the current setting; it is not technological efficiency but rather equity that is required.

In India, the development of smart cities is still in its infancy at this point. We will continue to keep an eye on the progress that is being made in India's smart city development. But if there is one thing that is certain, it is that in order to form smart cities that are sustainable, India needs to foster the development of municipal governments as institutions that are empowered and accountable. It should not be living at the mercy of its powerful states or with enormous obligations to corporate bodies such as service providers. They need to take charge of their own destinies, implement a methodical approach to the expansion of their economies, and delegate authority to the locations and individuals who are located in the most immediate proximity to the ground. It is possible that the Government of India acknowledged the fact that Indian local governments are not in a position to deal with large-scale digital urban rejuvenation efforts by developing a new model of project execution. On the other hand, outside the smart enclaves

that fall under the jurisdiction of SPVs, there is still a city that needs to be governed; a city that likewise envisions itself as a smart city.

3. Conclusion

With the Smart Cities Mission, India has taken a significant step toward achieving its goal of achieving a technologically driven and environmentally sustainable urban transformation. In India, there were one hundred different cities. Significant improvements in the physical infrastructure have been brought about as a result of the mission. These improvements include improved waste management, water monitoring, street lighting, and safety measures. Nevertheless, the analysis of secondary and primary data that was carried out for the purpose of this research paper comes to the conclusion that the level of citizen satisfaction continues to be moderate, with ongoing issues regarding maintenance, digital connectivity, and government transparency. The long-term influence of the initiative was limited since it placed an excessive amount of emphasis on physical infrastructure rather than citizen-centric and digital inclusion features. In addition, there are problems such as gaps in coordination between different governments, limited capacity at the local level, and delays in the implementation of projects, all of which have contributed to a decrease in the overall efficacy of the mission. Over ninety percent of the projects have been finished, but it is still unclear if they will be sustainable or whether they will be able to be integrated into normal urban life. The fact that the mission will be terminated in 2025 demonstrates the necessity of adopting an approach to urban development that is more flexible, participation-oriented, and financially viable. Not only should future urban efforts concentrate on the development of new technologies, but they should also prioritize the empowerment of local governance, the promotion of community engagement, and the guarantee of long-term maintenance and inclusivity. The Smart Cities Mission has provided India with vital insights that should drive the next generation of urban policies in the direction of constructing cities that are truly resilient, citizen-oriented, and sustainable from a sustainable perspective.

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