



To cite this article: VADIVEL.D and Dr. C. K. MUTHUKUMARAN (2026). DECODING SMART CITY EFFICACY THROUGH CITIZEN PERCEPTION: EVIDENCE FROM SELECTED CITIES IN TAMIL NADU, International Journal of Research in Commerce and Management Studies (IJRCMS) 8 (1): 833-838 Article No. 638

DECODING SMART CITY EFFICACY THROUGH CITIZEN PERCEPTION: EVIDENCE FROM SELECTED CITIES IN TAMIL NADU

VADIVEL.D¹ and Dr. C. K. MUTHUKUMARAN²

¹RESEARCH SCHOLAR,
ALAGAPPA INSTITUTE OF MANAGEMENT, ALAGAPPA UNIVERSITY,
Karaikudi-Tamil Nadu

²PROFESSOR,
ALAGAPPA INSTITUTE OF MANAGEMENT, ALAGAPPA UNIVERSITY,
Karaikudi-Tamil Nadu

DOI: <https://doi.org/10.38193/IJRCMS.2026.8167>

ABSTRACT

Smart Cities aim to enhance urban living through technology-driven infrastructure, efficient public services, and citizen engagement. Evaluating the effectiveness of Smart Cities requires understanding citizen perceptions regarding service delivery, infrastructure, governance, and quality of life. This study investigates citizen perceptions of Smart City initiatives in selected cities of Tamil Nadu, including Chennai, Coimbatore, and Madurai. Primary data were collected through structured questionnaires from residents, covering areas such as urban mobility, digital services, sanitation, and public safety. The findings reveal that while citizens acknowledge improvements in digital governance and infrastructure, challenges persist in service accessibility, environmental management, and civic participation. The study offers practical insights for policymakers to enhance Smart City efficacy by aligning technological interventions with citizen expectations.

KEYWORDS: Smart City, Citizen Perception, Urban Governance, Digital Infrastructure, Tamil Nadu, Urban Development

1. INTRODUCTION

Smart City initiatives integrate technology, urban planning, and governance to create sustainable, efficient, and citizen-friendly urban environments. In India, the Smart Cities Mission, launched by the Government of India, aims to develop 100 cities with digital infrastructure, improved civic services, and enhanced quality of life. Tamil Nadu, being one of the most urbanized states, has several cities under the Smart Cities Mission. Citizen perceptions play a critical role in evaluating the effectiveness of these initiatives, as technology adoption and governance improvements are meaningful only if they translate into better urban experiences for residents. Understanding citizen satisfaction, engagement, and perceived benefits can help policymakers prioritize interventions, improve resource allocation,



and ensure inclusive urban development.

2. REVIEW OF LITERATURE

Smart City Concept: Smart Cities leverage IoT, AI, and data analytics to optimize urban services such as traffic management, waste disposal, and energy efficiency.

Citizen-Centric Governance: Studies emphasize citizen perception as a key indicator of Smart City success, reflecting satisfaction with services and participation in governance.

Service Delivery & Quality of Life: Research shows that digital platforms, mobile apps, and e-governance tools improve transparency, accessibility, and efficiency of urban services.

Challenges: Despite technological progress, studies note issues in equitable service distribution, digital literacy, environmental sustainability, and citizen engagement.

Empirical Gaps: Few studies focus on Tamil Nadu's Smart Cities, particularly through structured citizen perception surveys.

3. RESEARCH GAP

While global research examines Smart City effectiveness, limited empirical studies focus on Tamil Nadu. Existing studies largely consider technical performance metrics but neglect citizen perceptions of service delivery, accessibility, and governance. This study fills this gap by analyzing citizen feedback across selected cities.

4. OBJECTIVES OF THE STUDY

- To assess citizen perceptions of Smart City initiatives in selected Tamil Nadu cities.
- To evaluate the effectiveness of urban services including mobility, sanitation, and digital governance.
- To identify areas requiring improvement based on citizen feedback.
- To provide policy recommendations for enhancing Smart City efficacy.

5. RESEARCH METHODOLOGY

Design: Descriptive research design.

Data Collection: Primary data collected through structured questionnaires with Likert-scale ratings (1–5).

Sample: 150 residents from Chennai, Coimbatore, and Madurai selected through convenience sampling.

Secondary Data: Government reports, Smart City Mission documents, and academic journals.

Analysis: Percentage analysis, mean score analysis, ranking, and correlation analysis.

6. Data Analysis and Interpretation

Table 1: Demographic Profile of Respondents

Particulars	Category	Respondents	Percentage (%)
Gender	Male	85	56.7
	Female	65	43.3
Age	Below 25 years	30	20
	25–35 years	65	43.3
	36–45 years	40	26.7
	Above 45 years	15	10
Education	School	25	16.7
	Graduate	85	56.7
	Postgraduate	40	26.6

Interpretation:

The majority of respondents are graduates, aged between 25–35 years, with balanced gender representation, indicating an informed and active group of citizens aware of Smart City services.

Table 2: Citizen Perception of Smart City Services

Services	Excellent (%)	Good (%)	Average (%)	Poor (%)
Urban Mobility	35	40	20	5
Sanitation & Waste Management	30	45	20	5
Digital Governance	40	35	20	5
Public Safety	25	40	25	10
Environmental Management	20	35	30	15

Interpretation:

Citizens perceive Digital Governance and Urban Mobility most positively, while Environmental Management receives comparatively weaker ratings.

Table 3: Mean Score Analysis of Citizen Satisfaction

Services	Mean Score	Rank
Digital Governance	4.10	I
Urban Mobility	4.00	II
Sanitation & Waste Management	3.95	III
Public Safety	3.70	IV
Environmental Management	3.50	V

Interpretation:

Digital Governance ranks highest in citizen satisfaction, followed by Urban Mobility, whereas Environmental Management ranks lowest.

Table 4: Key Challenges Identified by Citizens

Challenges	Mean Score	Level
Service accessibility	4.05	High
Limited citizen engagement	3.90	Moderate
Environmental concerns	3.75	Moderate
Digital literacy	3.60	Moderate
Maintenance of infrastructure	3.55	Moderate

Interpretation:

Service accessibility is identified as the major challenge, along with moderate concerns regarding



citizen engagement, environmental issues, and infrastructure maintenance.

7. FINDINGS

- Citizens positively perceive digital governance and mobility improvements.
- Sanitation services are moderately satisfactory.
- Environmental management and public participation need attention.
- Digital literacy and equitable access remain critical issues.

8. SUGGESTIONS

- Enhance citizen participation in planning and feedback mechanisms.
- Improve environmental sustainability initiatives.
- Conduct digital literacy programs for citizens.
- Ensure regular maintenance and monitoring of Smart City infrastructure.
- Strengthen accessibility and inclusivity of urban services.

9. CONCLUSION

Citizen perception is a crucial indicator of Smart City efficacy. The study reveals that while selected cities in Tamil Nadu show significant improvements in digital governance, urban mobility, and sanitation, challenges remain in environmental management, citizen engagement, and inclusivity. Aligning technological initiatives with citizen expectations ensures better Smart City outcomes and sustainable urban development.

10. Scope for Future Research

- Comparative studies across multiple Indian states.
- Longitudinal studies on citizen satisfaction trends over time.
- Research on Smart City impact on quality of life and economic development.

11. REFERENCES

1. Kitchin, R. (2014). The real-time city? Big data and smart urbanism. *GeoJournal*, 79(1), 1–14.
2. Caragliu, A., Del Bo, C., & Nijkamp, P. (2011). Smart cities in Europe. *Journal of Urban Technology*, 18(2), 65–82.
3. Dameri, R. P., & Rosenthal-Sabroux, C. (2014). *Smart City: How to create public and economic value with high technology in urban space*. Springer.
4. Meijer, A., & Bolívar, M. P. R. (2016). Governing the smart city: A review of the literature on smart urban governance. *International Review of Administrative Sciences*, 82(2), 392–408.



5. Sharma, S., & Kumar, R. (2022). Citizen perception and smart city governance in India. *International Journal of Public Administration*, 45(9), 765–779.
6. Government of India. (2023). Smart Cities Mission. Ministry of Housing and Urban Affairs.
7. Tamil Nadu Urban Development Authority. (2023). Annual Smart City Progress Report.
8. Anthopoulos, L. (2017). *Understanding Smart Cities: A Tool for Smart Government or an Industrial Trick?* Springer.
9. M, Arunmozhi, Role of CSR perceptions in the relationship between Customer CSR and Employee Organizational Identification
SSRN: <https://ssrn.com/abstract=5058386> or <http://dx.doi.org/10.2139/ssrn.5058386>
10. M, Arunmozhi, Strategies and Interventions for connecting industry and farming through value key chain drivers.
SSRN: <https://ssrn.com/abstract=5058289> or <http://dx.doi.org/10.2139/ssrn.5058289>
11. M, Arunmozhi, Retail Employee Relationship between Corporate Social Responsibility, organizational culture and ethics
SSRN: <https://ssrn.com/abstract=5058324> or <http://dx.doi.org/10.2139/ssrn.5058324>
12. M, Arunmozhi, Comparing the Internal Business Process of balanced scorecard within the banking sector in India
SSRN: <https://ssrn.com/abstract=5058240> or <http://dx.doi.org/10.2139/ssrn.5058240>