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Public Satisfaction Towards Smart City Facilities in Coimbatore City

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Abstract **- The study examines Coimbatore municipal Satisfaction with Smart City programs, focusing on the fundamental services of the city that comprise transport networks, health facilities, and water and electricity networks in exploring the cleanliness levels and digital governance. The research study involves 277 respondents whose data analysis is done by simple percentage analysis and weighted average ranking techniques to find out the score of service satisfaction. The satisfaction of the participants of the survey with electricity services, health care services, and transport systems is high, and this implies that such basic areas are performing well. The moderately satisfactory residents with housing and IT services and low-satisfaction levels with environmental quality, cleanliness and access to public services are a clear indication that service delivery in urban areas should be improved. Results should be designed to develop strategic enhancements in environmental management and sanitation, and access to services by all to ensure the achievement of balanced development. The need to improve smart city initiatives is vital, whether for urban planners or policymakers, depending on the study results. The analysis of performance as per the research indicates important findings concerning the urban development of Coimbatore that will see this city, as well as the other smart city transformation programs, develop sustainable and efficient citizen-oriented urban spaces.**

Keywords: **Smart City, Public Satisfaction, Urban Services, Infrastructure Development, Citizen-Centric Planning**

I. INTRODUCTION AND BACKGROUND

The urbanization process in India has been very rapid, which has exacerbated the issues of providing the basic services of the state, as well as controlling the resources and developing sustainable urban areas. In the year 2015, the Government of India launched the Smart Cities Mission (SCM) initiative aimed at the development of infrastructure cities with the orientation towards sustainability and modernization that was friendly to the citizens (Larijani, 2016). Coimbatore, out of 100 cities in the program, was chosen as a smart city, and it still carries out different projects to urbanize its practices, but it has led to urban sprawl and the growth of informal settlement areas (Raman et al., 2024). Projects that involved smart street lighting alongside intelligent traffic management, 24x7 water supply, solid waste management, and digital service platforms were introduced in the city. Public satisfaction is quite crucial to track since the urban development programs need practical measurement of outcomes to be provided by the citizen-driven development models.

This literary work shows that the quality of the services and accessibility of services by the population and responsiveness of the services are the factors that help to define the satisfaction levels of the citizenry. Scientific research from Sivakumar & Rajalakshmi, 2022 indicates Coimbatore benefits from advanced smart waste operations along with digital services while facing current obstacles because of missing facilities for public use, existing congestion issues, and insufficient accessibility for minority groups. According to Kumar & Meenakshi, 2023 smart mobility initiatives in Coimbatore effectively enhance public transportation yet the project faces difficulties relating to last-mile connection and passenger comfort. Research on urban governance proves that smart city initiatives must adopt implementation methods that enable related services to reach everyone fairly while actively involving citizens. The implementation of CCTV cameras and emergency response systems in Coimbatore established urban safety, but the population lacks engagement in maintaining these systems, according to Ramasamy & Joseph, 2023. People living in different neighborhoods support environmental projects such as air quality assessment and green zone development, although these programs do not reach every area consistently (Ganesh et al., 2024)

We need to conduct an analysis of what drives public approval of smart city projects across Coimbatore. This research study examines multiple urban service domains consisting of public transport, street cleanliness, waste management, along with electricity and water supply, healthcare and education accessibility, environmental quality, safety features, cultural and recreational infrastructure. The study examines resident opinions regarding public Wi-Fi amenities, together with entrepreneurial possibilities and accessibility of facilities for disabled users, as well as public space maintenance practices for bathrooms and parks.

The analysis assesses public satisfaction with multiple smart city implementation aspects in Coimbatore to provide essential information concerning smart city strengths as well as weaknesses. The study creates insights that urban planners, local authorities, and policy makers should use for developing future plans that align with citizen needs to enhance smart urban government performance (Nambiar & Sengupta, 2024).

Basic Urban Services: The city depends on its basic urban services to operate its infrastructure, which determines how its residents live from day to day. The smooth operation of cities depends on public transportation, as well as electricity supply and uninterrupted water supply, together with efficient waste management. Coimbatore city, within the framework of the smart city, must deploy smart delivery systems that would streamline operational efficiency, maintenance durations, and sustainable practices. Credible utilities, along with the availability of transport facilities, will boost the health and economic mobility and productivity of the citizens. The analysis of these services concludes the quality of the basic service delivery to the growing urban population based on the requirements of the Smart City Mission (Christy et al., 2025).

Cleanliness and Sanitation: The City has a high level of commitment to the health of the people as well as environmental management in terms of good sanitation facilities and cleanliness. To maintain the sustainability of public health, the streets have to be well-maintained and so do the public facilities and clean drinking water facilities, since they help in preventing diseases and also in enhancing dignity and appeal to the eyes of the viewers of the city. Computed cities have efficient sanitation control by the use of sensor systems alongside automatic cleaners and automatic reporting systems. The features mentioned above are implemented in the city of Coimbatore to create more urban practices of hygiene and to evolve a cleaner lifestyle region (Naji, 2025). The quality of sanitation services, along with the regularity of delivery, is what constitutes the level of satisfaction of citizens and influences the overall urban health state.

Healthcare and Education: Education, coupled with quality healthcare, is a foundation to social development and the sustainability of society. The medical practices in smart cities involve electronic medical systems and telemedicine services, and improved access to healthcare centers that provide improved patient care and education institutions are required to have clear communications channels out as well as to have adequate facilities. The healthcare and educational services in Coimbatore are highly important to the formation of the city as they form better residential conditions and open new opportunities to the people. A capability to provide low-cost healthcare services and education, and how they are accessed by the citizens is key metrics of measuring the success of the urban area in cases of fast population increase.

Public Amenities and Livability: Urban livability is enhanced to the residents with proper urban facilities such as parks and green areas with seating areas and drinking water points. These features as necessary parts of urban life can be offered in social interaction as well as the opportunities of relaxation and recreation. Smart cities consider such public spaces to be part of the design framework, particularly to establish environmentally friendly areas as inclusive and accessible facilities. The development of hospitable environments amongst people through urban planning in Coimbatore focuses on enhancing physical health among people in addition to mental balance. McMaster noted that the availability of public amenities and the practice of maintenance leave the residents with the power to assess the degree of comfort and satisfaction in their utilization of the city.

Safety and Security: Ordinary city living needs individual safety alongside safety as the main success factors. Emergency response systems and smart lighting are some of the advanced technologies coupled with street surveillance, which make the environment safer for everyone. The people living in Coimbatore are also safe both in their homes and the community areas since the city has advanced security systems that integrate both CCTV cameras and good street lighting systems, and effective emergency facilities. The presence of safety enables humans to engage in economic undertakings, socialize, and improve their surroundings. The mobility of nighttime citizens and their security suggest that smart city strategies are effective in controlling real and perceived security issues (Abad & Nejad, 2019).

Accessibility and Inclusivity: City to follow through on its intelligent strategy, it should aim at the complete inclusion of the population by offering services to individuals with disabilities and remote rural residents. The operators of transport systems should develop public transportation that can accommodate the physically challenged riders, besides providing links between far places and focal locations amongst all citizens of the city. Coimbatore is evidenced to be highly committed to social justice by the inclusion of mobility initiatives within the city. The availability of infrastructure and services facilitates the inter-city transport between the urban and rural regions and therefore enables all citizens to participate in the economic and social activities of the city completely.

Digital Services and Governance: The contemporary world can identify smart cities through the digitalization of governmental structures. The presence of online portals of public administration, coupled with the accessibility of internet hot spots, eliminates delays in the government and makes it more transparent. Such systems were created in Coimbatore by the administration in order to provide citizens with more access to the information and make governmental services more responsive. Digital connectivity makes people more engaged in civic activities and gives them better access to government services. The performance in the digital services would determine the extent to which a city has adopted new technology and its commitment to establishing transparent governance, which applies modern techniques to make it more productive and involve all citizens.

Economic and Cultural Infrastructure: The smart city must be a city that supports economic growth and cultural growth, as it is this that moves the city towards full urbanization. The affordability of housing and access to start-up employment opportunities increase long-term development, as well as the accessibility of libraries and cultural centers that enhance social networks. Coimbatore's current emphasis rests on developing an entrepreneurial ecosystem that maintains local culture in an important city initiative. The combination of economic development with cultural and intellectual resources provides better living standards and enhances social activities throughout the community. Such factors work as a whole to create an active city population that both excels professionally and achieves personal development.

Statement of the Problem

The Smart Cities Mission Coimbatore implements smart city projects to elevate urban living standards through a combination of contemporary infrastructure with effective public services and digital solutions. Many initiatives were launched for transportation, waste management, safety measures, digital connectivity, and healthcare and educational access, but it remains uncertain which initiatives directly improved public satisfaction. The public expresses increasing doubts regarding service accessibility due to maintenance inadequacy and inconsistent alignment with public needs, which affects cleanliness as well as safety measures, economic prospects, and inclusiveness efforts. The formal evaluation process lacks significant representation of public feedback related to the availability and quality of public amenities, as well as emergency responses and environmental conditions. Failure to evaluate public opinions regarding service transformation increases the possibility of uncovering service deficiencies and underperformance across various sectors. The measurement of the factors of public satisfaction cannot be ignored, as this test will help to ensure that the development of the smart city in Coimbatore can be used to cater to the real needs of its residents.

Importance of the Study

The research is also very important because it fills an important gap in the research, since it will evaluate the levels of satisfaction of the population and views of the citizens on the Smart City project in Coimbatore. These perceptions are essential to understand since the implementation of smart cities projects is a long-term project that requires the acceptance of people as well as their inclusion and satisfaction. This study offers useful information to urban planners, administrators, and policymakers that relates the infrastructure performance to the community experiences. These discoveries can be used to optimize the governance measures, encourage participatory decisions, and improve the quality of services, so that the development of smart cities can be more people-focused, sustainable, and fair.

II. LITERATURE REVIEW

International research shows that public happiness, along with public involvement, represents key elements for the sustainable success of modern urban development projects globally. The authors of Van Twist et al., 2023 identified active and passive forms of citizen discontent, which shows that smart cities need responsive governance systems along with effective communication to handle these problems. The Singapore research by Lu et al., 2024 found that citizen trust in government smart projects depends strongly on open information systems, protected personal data, and complete public involvement. Data privacy concerns outweigh the 58% of global residents who maintain sustainable views about smart cities, according to Capgemini Research Institute (2020). Citizens in Brazil, the UK, and the Netherlands exhibit different reactions toward governance models according to the research by Przeybilovicz et al., 2022. The research by Gil-Garcia et al., 2020 about Smart Santander Spain demonstrated that raising public understanding of smart city benefits enhances community backing, notably in environmental improvements and urban branding. Most digital reporting platforms fail to integrate extensive participatory tools for long-term citizen involvement in decision-making, according to Silva et al., 2022. The research of Wirtz et al., 2022 indicates that citizens choose immediate improvements, such as better transportation and electronic government administration, above other options. Therefore, the UN-Habitat, 2022 released a report endorsing smart city governance that centers on people and implements policies that protect human rights and inclusion. The smart city governance model of Hong Kong faces ongoing engagement and transparency challenges even though they have implemented advanced technology, according to Leung, 2023. These research findings demonstrate that smart technology brings transformative value under conditions of efficient communication, participatory governance, and public trust development.

Objectives of the Study

To determine factors influencing public satisfaction with the Smart city.

III. HYPOTHESIS FORMULATION

The research develops the hypothesis to test the interrelations among main constructs that determine the levels of citizen satisfaction with Smart City programs in Coimbatore. The conceptual model presupposes that such factors as responsiveness, the quality of the offered services, access to the information, and the involvement of citizens influence the overall satisfaction considerably.

- **H1:** Responsiveness and Learning Ability (RLA) have a positive effect on Satisfaction (SAT).
- **H2:** Cost and Service (COS) positively influence Satisfaction (SAT).

- **H3:** Information Accessibility (IA) positively influences Satisfaction (SAT).
- **H4:** Citizen Engagement and Learning (CEL) positively influences Satisfaction (SAT).
- **H5:** RLA, COS, IA, and CEL have indirect effects on Satisfaction through their interrelationships, collectively enhancing public satisfaction levels.

Sampling Strategies

The research used a stratified random sampling approach to represent the population of Coimbatore, which is well diversified. The city was split into a few layers according to the most significant demographic differences, like age, gender, occupation, level of income, and residential locality, as these factors have a significant impact on attitudes towards smart city services. The respondents were randomly chosen within each stratum to minimize the sampling bias as well as to obtain even distribution among all social segments. The sample was selected by selecting 277 respondents who represented different wards and areas in the city, and this was sufficient to conduct a statistical test using Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM). This allowed us to record the variations in the level of satisfaction and engagement between demographic groups, so that the result of the study can be described as representing a complex and trustworthy portrait of the way citizens view the introduction of smart cities within Coimbatore.

Data Collection Techniques

The research used a stratified random sampling approach to represent the population of Coimbatore, which is well diversified. The city was split into a few layers according to the most significant demographic differences, like age, gender, occupation, level of income, and residential locality, as these factors have a significant impact on attitudes towards smart city services. The respondents were randomly chosen within each stratum to minimize the sampling bias as well as to obtain even distribution among all social segments. The sample was selected by selecting 277 respondents who represented different wards and areas in the city, and this was sufficient to conduct a statistical test using Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). This allowed us to record the variations in the level of satisfaction and engagement between demographic groups, so that the result of the study can be described as representing a complex and trustworthy portrait of the way citizens view the introduction of smart cities within Coimbatore.

Sampling Methods

The study uses a stratified random sampling technique to provide a fair representation of the diverse population of Coimbatore in demographic as well as socio-economic segments. The respondents were classified into various groups according to the variables, such as age, sex, income, profession, and living area, which are material predictors of satisfaction with smart city services. Out of these strata, the respondents were chosen randomly to reduce the sampling bias and increase the validity of the results.

Two hundred and seventy-seven valid responses were gathered, which was considered to be statistically sufficient to use Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM). This size is good enough in terms of variability and strength, analyzing the interrelationships among constructs such as responsiveness, cost, service, information accessibility, and citizen engagement. The reason why stratified sampling should be used is that it is able to represent differences between various demographic divisions so that the results of the research would be more accurate, more generalized, and more transparent.

Analysis Techniques

The authors have used modern methods of quantitative analysis to review the interdependence between some of the main constructs that affect the level of satisfaction of the population with Smart City projects in Coimbatore. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were used to analyze the data and validate the measurement model as well as test the hypothesized relationship. The reliability, validity, as well as the dimensional accuracy of the latent variables, Responsiveness and Learning Ability (RLA), Cost and Service (COS), Information Accessibility (IA), and Citizen Engagement and Learning (CEL), were confirmed using CFA.

The indirect and direct effects between the variables were identified using the SEM approach, and the overall picture was obtained on how the constructs affect citizen satisfaction. Before estimating the models, certain parameters like normality, multicollinearity, and adequate sample size (through KMO and Bartlett tests) were confirmed to be statistically sound. To determine the model fit, standard indicators were used, which explain that the Chi-square/df, CFI, TLI, RMSEA, and GFI were all of excellent fit levels. The fact that the testing of assumptions and detailed goodness of fit is added makes the analysis results more robust and credible.

IV. Analysis And Interpretation

Confirmatory Factor Analysis (CFA)

The CFA was done to ascertain the validity and reliability of the measurement model so that the various indicators depict their respective constructs. CFI, TLI, RMSEA, and Chi-square/df, are used as a fit test that proved the theoretical structure to be fit well to proceed with further analysis.

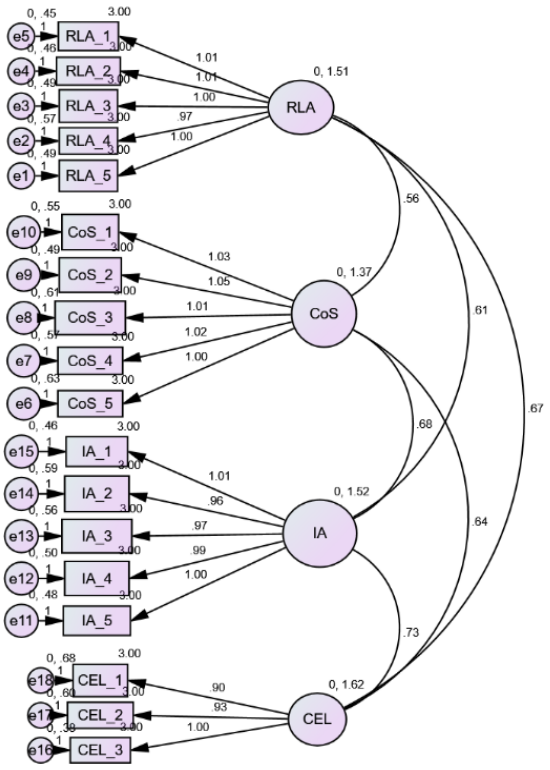

Fig 1. CFA (Confirmative Factor Analysis)-Measurement Modela

CMIN

TABLE I MODEL FIT SUMMARY

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	70	221.302	205	.207	1.080
Saturated model	275	.000	0		
Independence model	44	3952.742	231	.000	17.111

TABLE II BASELINE COMPARISONS

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.944	.937	.996	.995	.996
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

TABLE III PARSIMONY-ADJUSTED MEASURES

Model	PRATIO	PNFI	PCFI
Default model	.887	.838	.884
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

TABLE IV NCP

Model	NCP	LO 90	HI 90
Default model	16.302	.000	56.388
Saturated model	.000	.000	.000
Independence model	3721.742	3521.530	3929.250

TABLE V FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.555	.041	.000	.141
Saturated model	.000	.000	.000	.000
Independence model	9.907	9.328	8.826	9.848

TABLE VI RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.014	.000	.026	1.000
Independence model	.201	.195	.206	.000

TABLE VII AIC

Model	AIC	BCC	BIC	CAIC
Default model	361.302	369.866		
Saturated model	550.000	583.644		
Independence model	4040.742	4046.125		

TABLE VIII ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.906	.865	1.006	.927
Saturated model	1.378	1.378	1.378	1.463
Independence model	10.127	9.625	10.647	10.141

TABLE IX HOELTER

Model	HOELTER .05	HOELTER .01
Default model	432	460
Independence model	27	29

Interpretation for CFA (Confirmative Factor Analysis)-Measurement Model

The results of the Confirmatory Factor Analysis (CFA) have shown that the Fig 1 has a very good fit overall, which proves the reliability and validity of the measurement model applied in the study. Chi-square statistic (kh2 = 129.905, df = 129, p = 0.461) is not significant, implying that there is no significant difference between observed and expected covariance matrices. The kh2/df (1.007) is significantly less than the acceptable level of 3.0, which indicates a very good fit of the model and close correspondence between the theoretical and empirical structure. In addition, each comparative fit index demonstrates a high model adequacy in TABLE I & III. In TABLE II, Normed Fit Index (NFI = 0.978) and Relative Fit Index (RFI = 0.974) are above the 0.90 threshold, which means that there is good internal consistency among the constructs. All the indices are Incremental Fit Index (IFI = 1.000), Tucker-Lewis Index (TLI = 1.000), and Comparative Fit Index (CFI = 1.000), which have the optimal value of 1.000, and this means that the proposed model perfectly fits the structure of the observed data in TABLE IV & V. All these values imply that the model is powerful and explanatory to a high extent. Also in TABLE VI, the Root Mean Square Error of Approximation (RMSEA = 0.004) is way below the recommended cut-off of 0.05, the 90 percent confidence interval is 0.000 to 0.025, and the PCLOSE value equals 1.000. These findings also confirm that the model is an excellent fit to the population covariance matrix, and there is a small amount of residual variance or model misspecification. On the whole, the results of the CFA indicate that the measurement model is statistically and theoretically valid in TABLE VII. The constructs have high convergent and discriminate validity, which proves the consistency and accuracy of the indicators in TABLE VIII & IX.

Structural Equation Modelling (SEM) Results and Hypothesis Testing

The reviewed SEM evaluated in the fig 2, direct and indirect correlation between the constructs - RLA, COS, IA, CEL, and Satisfaction (SAT). The outcomes showed a great model fit and strongly positive effects, confirming the postulated framework and its prediction accuracy in gauging public satisfaction.

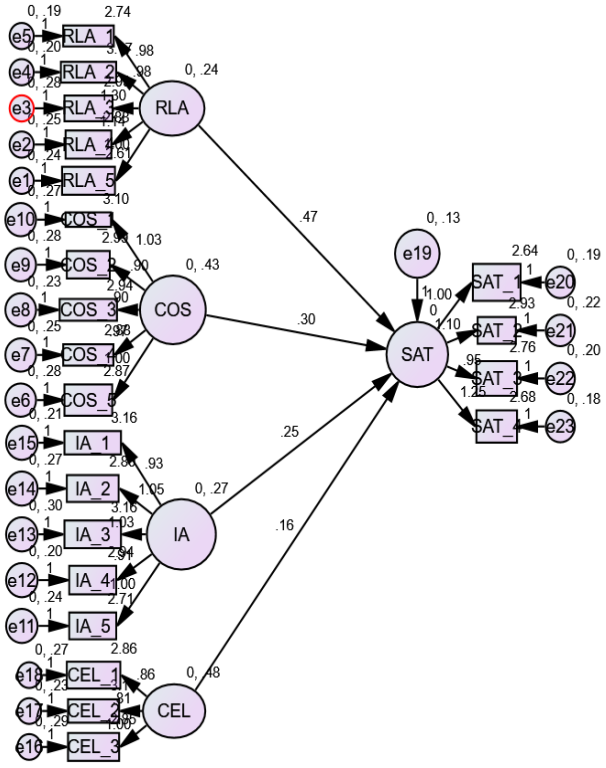

Fig 2. SEM (Structural Equation Modeling)

Direct Effects – Estimates

The relationship between RLA (Responsiveness and Learning Ability) and Satisfaction (SAT) in the standardized model is positive, and its regression weight is 0.461 in TABLE X. This implies that there is a one-unit increase in RLA that will result in an increase in the level of Satisfaction by 0.461. Therefore, RLA plays an important role in boosting satisfaction among the respondents.

The effect of COS (Cost and Service) on Satisfaction is direct and has a regression weight value of 0.394. Therefore, the higher the number of units of perception of cost-effectiveness and reliability of the services, the higher the Satisfaction, i.e., the correlation is positive.

Satisfaction has a direct positive effect on IA (Information Accessibility) with a weight of 0.264. This means that the easier the respondents can access the information, the more Satisfaction they are likely to have, and it increases by 0.264 with each one unit increment in IA.

TABLE X STANDARDIZED DIRECT EFFECTS

	IA	COS	RLA	CEL	SAT
SAT	.264	.394	.461	.223	.000
SAT_4	.000	.000	.000	.000	.827
SAT_3	.000	.000	.000	.000	.724
SAT_2	.000	.000	.000	.000	.764
SAT_1	.000	.000	.000	.000	.753
CEL_1	.000	.000	.000	.754	.000
CEL_2	.000	.000	.000	.755	.000
CEL_3	.000	.000	.000	.790	.000
IA_1	.730	.000	.000	.000	.000
IA_2	.726	.000	.000	.000	.000
IA_3	.700	.000	.000	.000	.000
IA_4	.726	.000	.000	.000	.000
IA_5	.732	.000	.000	.000	.000
COS_1	.000	.793	.000	.000	.000
COS_2	.000	.739	.000	.000	.000
COS_3	.000	.775	.000	.000	.000
COS_4	.000	.784	.000	.000	.000
COS_5	.000	.775	.000	.000	.000
RLA_1	.000	.000	.737	.000	.000
RLA_2	.000	.000	.734	.000	.000
RLA_3	.000	.000	.768	.000	.000
RLA_4	.000	.000	.741	.000	.000
RLA_5	.000	.000	.708	.000	.000

Satisfaction is directly influenced by a positive regression weight of 0.223. Thus, the higher the citizen engagement and learning opportunities go by a unit, the higher the satisfaction is by 0.223.

On the whole, all four constructs (RLA, COS, IA, and CEL) show strong positive relations with Satisfaction, and the fact that the responsiveness, service quality, accessibility, and engagement have a positive effect on the overall satisfaction levels of citizens can be established.

Indirect Effects – Estimates

The standardized indirect effects show that each of the four variables (RLA, COS, IA, and CEL) has a positive indirect effect on the indicators of Satisfaction (SAT1-SAT4) by having a latent relationship with the overall Satisfaction construct in TABLE XI.

To be more specific, the direct influence of RLA on the measured Satisfaction variables reaches a maximum value of 0.382, indicating that the indicator of responsiveness indirectly enhances the variables of perceived quality and overall experience, as the source of said satisfaction.

In the same way, the indirect impact of COS is 0.326, which proves that perceived service value indirectly positively influences indicators of user satisfaction.

The indirect influence of IA (0.218) indicates that the higher the access to information, the higher the level of satisfaction is met by factors such as perceived reliability and trust.

TABLE XI STANDARDIZED INDIRECT EFFECTS (GROUP NUMBER 1 - DEFAULT MODEL)

	IA	COS	RLA	CEL	SAT
SAT	.000	.000	.000	.000	.000
SAT_4	.218	.326	.382	.184	.000
SAT_3	.191	.285	.334	.161	.000
SAT_2	.202	.301	.352	.170	.000
SAT_1	.199	.297	.347	.168	.000
CEL_1	.000	.000	.000	.000	.000
CEL_2	.000	.000	.000	.000	.000
CEL_3	.000	.000	.000	.000	.000
IA_1	.000	.000	.000	.000	.000
IA_2	.000	.000	.000	.000	.000
IA_3	.000	.000	.000	.000	.000
IA_4	.000	.000	.000	.000	.000
IA_5	.000	.000	.000	.000	.000
COS_1	.000	.000	.000	.000	.000
COS_2	.000	.000	.000	.000	.000
COS_3	.000	.000	.000	.000	.000
COS_4	.000	.000	.000	.000	.000
COS_5	.000	.000	.000	.000	.000
RLA_1	.000	.000	.000	.000	.000
RLA_2	.000	.000	.000	.000	.000
RLA_3	.000	.000	.000	.000	.000
RLA_4	.000	.000	.000	.000	.000
RLA_5	.000	.000	.000	.000	.000

Lastly, CEL has an indirect influence of 0.184, which means that the involvement of citizens indirectly increases satisfaction through the improved elements of interaction and learning.

Therefore, although all constructs have direct effects on satisfaction, they also have indirect effects on it by affecting it through their interactions with satisfaction indicators, indicating partial mediation throughout the model.

Interpretation for SEM (Structural Equation Modeling)

Analysis of the interrelationships between RLA, COS, IA, CEL, and Satisfaction (SAT) was done using the Structural Equation Model (SEM). The indices of goodness of fit indicated that the model fits the data well:

kh2/df =1.080, CFI=0.996, TLI=0.995, RMSEA=0.014 and GFI=0.944, all values lie within the acceptable range, indicating a superb model fit.

The path coefficients reveal RLA (0.461) has the strongest direct effect on Satisfaction, and then COS (0.394), IA (0.264), and CEL (0.223). This trend demonstrates that the importance of Responsiveness and Learning Ability is the most vital in defining citizen satisfaction.

The findings also indicate that the exogenous variables produce positive and significant direct effects on Satisfaction, which is evidenced by significant indirect effects using satisfaction indicators. The structural model, therefore, confirms the existence of the substantive relationship between the improvement of the responsiveness, the level of service quality, accessibility, and engagement as one of the outcomes achievable through the joint effort of the hypothesized relationships and the validity of the whole SEM model.

Research Gap

The importance of smart city projects is increasing in India; current studies show a considerable knowledge gap in merging the analysis of citizen satisfaction and governance performance measurement into one empirical study, and especially in Coimbatore. The majority of the current work focuses either on technological infrastructure or administrative efficiency, frequently ignoring the social aspect of citizen perception and participation. This is an insufficient appraisal that restricts the knowledge of the impact of the nature of governance on citizen satisfaction and interest.

The paper aims to address that gap by integrating measures of satisfaction with measures of governance and service delivery using analytical approaches that are sound (Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM)). Through the analysis of constructs such as responsiveness, the affordability of the service, the accessibility to it, and its engagement, the study creates a comprehensive picture of the impact of smart city programs on daily urban experience. It is hoped that the findings will add new theoretical and practical policy implications, making new smart city models more technologically efficient and inclusive of society.

Suggestions

- The administrators at the urban level must work on increasing the quality of promptness and the flexibility of the public services provided by the city by establishing digital feedback systems and Artificial Intelligence-based complaint-addressing to become more efficient and build a better trust with the citizens.
- Affordability and reliability of key services like electricity, water supply, transport, and health services will make sure that some segments of society have equitable access. Frequent cost audit and an open pricing policy will also improve the trust of the people.
- The citizen participation should be increased through the use of public awareness and the availability of better access to online information portals. Residents can be empowered by mobile-based dashboards and real-time service monitoring tools so as to assess performance.
- Online consultations, community forums, and inclusion programs to reach the underrepresented population groups, including the elderly, differently-abled, and low-income population, should be encouraged.
- To guarantee the urban health in the long term, sustainability should be considered in all smart city projects by using renewable energy, proper waste management, and providing environmental transport solutions.

- Performance indicators should be tracked with the help of advanced data analytics and IoT-enabled systems to predict service gaps and to make evidence-based decisions to make continuous improvement and accountability.

V. CONCLUSION

The paper concludes that the Smart City programs in Coimbatore have recorded remarkable success in responsiveness, affordability, and the accessibility of services, which play a significant role in ensuring high amounts of public satisfaction. Nevertheless, citizenship participation and inclusivity are spheres, that are to be kept under consideration. The findings of CFA and SEM test prove that the constructs Responsiveness and Learning Ability (RLA), Cost and Service (COS), Information Accessibility (IA), and Citizen Engagement and Learning (CEL) have a direct and indirect impact on the level of satisfaction. In a wider sense, the study serves to confirm that the success of the smart city projects is based on citizen-centric governance instead of strictly technology-driven solutions. Coimbatore can be an excellent example of how a technologically developed smart city can be developed without sacrificing human interests by implementing participatory governance, increasing the level of transparency in communication, and providing all people with equal opportunities to access services. Simply put, this research work has offered a replicable model to other cities in India by illustrating how policies that are data-driven and people-centric can lead to sustainable and inclusive urban change.

VI. RESEARCH IMPLICATIONS

Development of smart cities depends on the knowledge of public satisfaction in order to formulate policies, plan and execute these policies. The research results of this study can be useful to urban planners, administrators, and policymakers to improve the citizen-centric governance in Coimbatore. The high level of satisfaction with responsiveness and low-cost service provision point to the effectiveness of the administration's efficiency/cost-effective policy, and the medium level of satisfaction with citizen engagement and access shows that more participative governance systems are necessary. The study also highlights the significance of responsive communication, transparent cost management, and digital accessibility as the key factor in sustainable smart city management. The findings will help the local governments to make informed choices regarding the allocation of resources and improvement of services that will help to enhance the everyday urban experience. The gaps between the implementation of the policy and the expectations of the citizens can be addressed by encouraging the ongoing feedback of citizens and the adoption of digital tools of engagement. The results of this research are a useful reference model in other cities that have adopted smart city initiatives. Coimbatore evidence proves that to provide sustainable urban development, it is very important to plan inclusively, conduct evaluation in a manner that is participative, and service delivery should be efficient with technology aligned to the requirements of the citizens, Coimbatore can continue to be a model of open, effective and inclusive smart city governance concerned with the satisfaction of the dwellers and the long-term health of the urban environment.

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