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Law – A Neglected but Necessary Element of Smart Governance: A Case Study of South Asia

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Abstract: Several elements come together to define a smart city. These are the environment, governance, economy, living, mobility, and the people. This paper (i) reviews existing components of 'smart governance,' (ii) highlights the absence of 'legal adjudication' as a fundamental gap within components suggested in the literature, (iii) proposes three metrics (a) court disposition time, (b) clearance rate, and (c) the number of cases pending adjudication as a criterion for assessing the state of legal adjudication for any country. Lastly, the paper (iv) compares South Asian countries, particularly Pakistan, with other countries of the world based on these proposed measures. The paper concluded that timely, fair legal adjudication is vital for smart cities, highlighting South Asian governments' lack of data and urgency in justice delivery.

Key Words: Smart Governance, Legal Adjudication, Court Disposition Time, Clearance Rate

Introduction

A 'smart city' aims to facilitate favourable living conditions. Components of a Smart City include (1) the environment, (2) governance, (3) economy, (4) living, (5) mobility, and (6) people.

This paper focuses on 'Smart Governance.' With rising complexities, concerns, and problems, smart cities require a comprehensive governance mechanism for effectively utilizing public services and resources.

For Smart Governance to succeed, one must formulate all-inclusive strategies, set measurable goals and objectives, define performance metrics, formulate a decision-making process, develop policies, and evaluate outcomes.

Its infrastructure incorporates information, norms, practices, policies, skills, technologies, and related resources necessary for governance.

This paper (i) reviews existing metrics for comparing 'smart governance,' (ii) identifies Law as a neglected component within these metrics, and (iii) proposes newer metrics that cover Law.

To understand the relevance of 'Law' within smart governance, one must appreciate its respective interplays, while considering institutional theory, governance theory, and legal pluralism.

The law helps shape the government's use of digital technologies for public administration and service delivery. So, while smart governance employs data-driven decision-making, automation, and AI-driven solutions, legal frameworks provide the necessary oversight to ensure transparency, accountability, data privacy, cybersecurity, AI ethics, and digital inclusion, ensuring that technological advancements align with constitutional principles and democratic values (Gondal, 2021). For instance, the European Union's General Data Protection Regulation (GDPR) serves as a legal safeguard, ensuring that AI-driven governance tools respect privacy rights while fostering trust in digital governance. Without strong

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legal frameworks, smart governance risks exacerbating digital divides, algorithmic biases, and unchecked state surveillance (Hamid, 2024).

Institutional theory emphasizes that laws, regulations, and bureaucratic structures influence the implementation and adoption of smart governance. Governments function within formal legal institutions (constitutions, regulatory bodies) and informal norms (political culture, administrative traditions), which either facilitate or hinder digital transformation (Scott, 2013). In Pakistan, the successful digitization of land records under the Punjab Land Records Authority (PLRA) showcases how legal institutional frameworks can drive smart governance. The Punjab Land Records Authority Act (2017) established a legal foundation for the transition from manual land registries to a digitized, transparent system, reducing corruption and improving public access to land ownership data. Conversely, bureaucratic resistance and outdated legal systems in countries like India have slowed e-governance adoption, as seen in the delays surrounding the Data Protection Bill, which is crucial for regulating the Aadhaar digital identity system (Dixit, 2026). This highlights how legal and institutional frameworks must evolve to support the seamless integration of smart governance initiatives.

Governance theory focuses on the interactions between the state, market, and civil society in shaping public administration. For instance, the Freedom of Information Act (FOIA) in the United States legally mandates open government data, enabling smart governance tools to enhance public sector transparency and efficiency.

Legal pluralism recognizes the coexistence of multiple legal frameworks, i.e., state law, religious law, and international law, within a single jurisdiction, both complementing and conflicting with one another. For instance, in Pakistan, many communities still rely on informal dispute resolution mechanisms (jirgas and panchayats), which often operate outside state law. Similarly, in Africa's rural areas customary land tenure system conflicts with state-led digital registries, requiring hybrid legal approaches (Nneoma, 2025). A similar system exists in parts of Southeast Asia, where informal dispute resolution mechanisms still dominate (Fenwick et al., 2017). To ensure smart governance is effective across diverse legal landscapes, states must create inclusive legal frameworks that integrate statutory law with customary and community-driven governance models, ensuring legitimacy and acceptance among all stakeholders.

Methods

The authors employed the following methodology:

Step 1: Survey existing literature to determine essential components of 'smart governance.'
Step 2: Identify gap(s) within existing components.
Step 3: Propose additional elements and metrics to fill identified gaps.
Step 4: Analyze the performance of select cities within the South Asian region using the metrics suggested above.

Results

The following points associate step-by-step elements of the methods section:

A. **Existing Components**: While surveying existing literature, we found that smart governance comprised the following elements:

[A.1] **Collaborative leadership**: the art of delivering results through fostering mutual, transactional, and symbiotic relationships (Archer & Cameron, 2009).

[A.2] **Multi-sector collaboration**: voluntary cooperation among organizations for mutual benefit and sustainable community development (Penker et al., 2014; Muthuri, 2007).

[A.3] **Higher Learning**: number of universities and research centers possessing the scientific and technical capacity necessary for advancement (Ponomariov & Boardman, 2010; Etzkowitz & Kemelgor, 1998).

[A.4] **E-government facilities**: availability of information and communication technology to (a) improve the ability of the government to address concerns of the community, (b) empower inhabitants and encourage strategic partnerships (Heeks, 2001), and (c) pro-active assessment of the e-governance framework for continuous improvement (Jansen, 2005).

[A.5] **Reliable and High-speed internet**: for creating automated ecosystems using IoT devices, while improving accessibility of information and facilitating connectivity among people (Tan & Wang, 2010).

[A.6] **Citizen engagement/partnership in decision-making**: engaging citizens helps the government function toward the common good (Denhardt et al., 2009).

[A.7] **Availability of open data** builds trust with the community, helps derive novel insight, facilitates the adoption of requisite policies, addresses data integrity issues, and initiates public-private partnerships (Ojo et al., 2015; Neves et al., 2020).

[A.8] **Readiness of disaster management services**: efficient disaster management systems ensure timely assessment, prediction, prevention, preparation, response, and recovery (Jung et al., 2020).

[A.9] **City branding and reputation:** to create a strong position regionally and globally, city branding is a long-term process that plays a crucial function in the success of a city (Chan et al., 2019; Dwi & Salmiyah, 2017).

B. Gap(s): As evident in the above nine components, one element is entirely absent from the literature, i.e., 'legal adjudication.'

Fundamental rights, as guaranteed by the constitution, grant every citizen the right to freedom of information, freedom of speech, fair trial, equality, non-discrimination, and state-sponsored legal services. Legal adjudication, as an element, is somehow neglected in smart governance.

C. Novel Component and associated Metrics: Below, we propose the following metrics:

[C.1] **Court disposition time (CDT):** As 'justice delayed is justice denied,' any smart adjudicating system must allow for timely resolution of grievances and legal cases, as defined below [15]:

$$\text{CDT} = \left(\frac{\text{No. of pending cases at the end of the year}}{\text{No. of decided cases during the year}}\right) \times 365$$

[C.2] **Clearance Rate**: Presents as the ratio of the number of cases decided by a given court to the number of incoming cases, expressed in a percentage (Commission Europeenne Pour L'efficacite De La Justice [CEPEJ], 2017):

$$\text{Clearance Rate (\%)} = \left(\frac{\text{Decided cases in a year}}{\text{Incoming cases in a year}}\right) \times 100\%$$

[C.3] **Number of cases pending adjudication**: This means the courts need to provide a judgment on their matters.

D. Performance of South Asian countries as per proposed metrics: The authors compared the performance of South Asian countries, as highlighted in Tables 1 – 3, with other countries of the world.

Table 1

Comparison of Disposition time (South Asia vs. other countrie

South Asian Countries			Other countries	
S. No.	Country	Court Disposition time (days)	Country	Court Disposition time (days)
1	Afghanistan,	N/A	Russia,	42
2	Pakistan,	N/A	Albania,	169
3	India,	N/A	Spain,	282
4	Nepal,	N/A	Turkey,	399
5	Bhutan,	N/A	Malta,	432
6	Bangladesh.	N/A	Bosnia & Herzegovina	574
7	Maldives	N/A	Greece	610

The table compares the disposition time of civil and commercial cases at first-instance courts in South Asia and other countries (Castelliano & Guimaraes, 2023). Here, "N/A" denotes that the disposition time information is unavailable for these countries.

Table 2

Comparison of Clearance Rate at First-Instance Courts (South Asia vs. other Countries)

S. No.	South Asian Countries		Other Countries	
	Country	Clearance Rate 2023 (%)	Country	Clearance Rate 2023 (%)
1	Afghanistan,	N/A	Russia	102
2	Pakistan,	N/A	Albania	99
3	India,	N/A	Spain	103
4	Nepal,	N/A	Turkey	86
5	Bhutan,	N/A	Malta	107
6	Bangladesh.	N/A	Bosnia & Herzegovina	115
7	Maldives	N/A	Brazil	120

The table compares clearance rates of civil and commercial cases at first-instance courts (Castelliano & Guimaraes, 2023). Here, "N/A" denotes that the information is not available for these countries.

Table 3

Cases Pending

S. No.	City	Number of cases pending adjudication (Balance 14.09.2022)
1	Lahore	22,668
2	Islamabad	12,194
3	Peshawar	6,184
4	Karachi	2,876
5	Quetta	1,681

This table reports on the consolidated statement of cases pending before the courts in Pakistan's five capitals, highlighted in descending order (Supreme Court of Pakistan, 2022).

Discussion

Article 37. (d) of the Constitution of Pakistan states (National Assembly of Pakistan, 2012): "The State shall – ensure inexpensive and expeditious justice."

Therefore, there is a need for the 'State' to address both components, i.e., 'inexpensive' and 'expeditious.' This paper analyses only the 'expeditious' component. Here, Tables I and II show that even the fundamental information needed to assess the 'disposition time' and 'clearance rate' for the whole country is unavailable.

Compared to the rest of the 180 countries of the world, South Asia performs poorly on corruption indices, see Table 4 (Transparency International, 2023). A major reason for this poor performance is attributed to the absence of expedited delivery of justice.

Table 4

Corruption Perception Index (CPI)

S. No.	Country	CPI Score	Rank
1	Afghanistan	20/100	162/180
2	Pakistan	29/100	133/180
3	India	39/100	93/180
4	Nepal	35/100	108/180
5	Bhutan	68/100	126/180
6	Bangladesh	24/100	149/180
7	Maldives	40/100	Not specified.

CPI of South Asian countries, as per Transparency International's 2023 report (Supreme Court of Pakistan, 2022).

It is pertinent to mention that 'clearance rates' are available for the High Courts and the Supreme Court of Pakistan, as highlighted below:

Table 5
Clearance Rates

S. No.	City	Institution	Disposal	Clearance Rate
1	Peshawar	2,537	849	~0.33
2	Lahore	10,230	4,064	~0.40
3	Quetta	935	487	~0.52
4	Karachi	4,201	2,582	~0.61
5	Islamabad	18,948	24,441	~1.30

The table shows clearance rates of the High Courts of Pakistan, approximated to three significant figures, sorted in ascending order as per Clearance rate (Supreme Court of Pakistan, 2022).

Looking at Tables 3 (number of pending cases) and Table 5 (clearance rate) together, it is evident that to clear the backlog of cases, clearance rates need to increase significantly. Otherwise, pending cases will continue to pile up.

Within Pakistan's context, the government needs to (i) take initiatives to clear the backlog of cases and improve clearance rates, and (ii) facilitate the public by introducing the digitalization of services, as highlighted in Tables 6 and 7 below.

Table 6
Smart Governance Initiatives I

S. No	Initiative	Legal Basis	Impact
1	Case Management System (CMS)	Supreme Court Rules, 1980	Digitizes case tracking, ensuring timely scheduling and monitoring of progress.
2	Alternative Dispute Resolution (ADR) Mechanism	ADR Act, 2017	Encourages mediation and arbitration to resolve disputes outside traditional courts.
3	Model Criminal Trial Courts (MCTC)	National Judicial Policy, 2009	Speeds up criminal trials by setting strict timelines and dedicated trial courts.
4	E-Filing and Online Case Registration	Lahore High Court Rules & Orders	Reduces paperwork and enhances accessibility for lawyers and litigants.
5	Judicial Automation and AI-Based Case Allocation	Supreme Court of Pakistan Digitalization Initiative	Uses AI for cash distribution to prevent bias and speed up adjudication.
6	Mobile Courts	Mobile Courts Act, 2012 (KPK)	Brings justice to remote areas, reducing pressure on district courts.
7	Fast-Track Commercial Courts	Commercial Courts Ordinance, 2021	Expedites business-related cases to improve investor confidence.
8	Automation of Prison Management System	Prisons Act, 1894	Speeds up bail and parole decisions by digitally tracking inmate cases.
9	Evening and Weekend Courts	Judiciary Policy Reforms	Increases case disposal rates by holding additional court sessions beyond regular hours.
10	Video Testimony for Witness Protection	Anti-Terrorism Act, 1997	Ensures witness security and faster case resolution by allowing remote testimony.

Initiatives aiming to reduce delays

Table 7
Smart Governance Initiatives II

S. No	Initiative	Legal Basis	Impact
1	National Database and Registration Authority (NADRA)	NADRA Ordinance, 2000	Enables biometric-based identity verification for governance, reducing fraud and streamlining public services.
2	E-Courts System	Code of Civil Procedure (Amendment) Act, 2020	Facilitates virtual hearings, improving judicial efficiency.
3	Pakistan Citizen Portal	Right to Information Act, 2017	Enhances citizen engagement by allowing digital complaints.
4	E-Stamping System	Punjab E-Stamp Rules, 2016	Reduces fraud and revenue loss by digitizing stamp duty payments.
5	Digital Banking & Raast Payment System	State Bank of Pakistan (SBP) Regulations	Supports financial inclusion through real-time, cost-effective digital transactions.
6	Automated Land Record System	Punjab Land Revenue Act, 1967 (Amended)	Reduces land disputes and corruption by digitizing land ownership records.
7	FBR's Track & Trace System	Sales Tax Act, 1990	Enhances tax compliance.
8	Cyber Crime Reporting Portal	Prevention of Electronic Crimes Act (PECA), 2016	Enables online reporting of cybercrimes.
9	E-Procurement (PPRA System)	Public Procurement Regulatory Authority (PPRA) Rules, 2004	Promotes transparency and efficiency in government contracting.
10	Telehealth and E-Pharmacy Regulations	Drug Regulatory Authority of Pakistan (DRAP) Act, 2012	Expands healthcare access by legalizing online medical consultations and e-prescriptions.

The table shows how legal frameworks support digital transformation, improving governance and institutional capacity.

Conclusion

Our paper has proposed 'Legal adjudication' as an essential element of smart governance. Moreover, we have proposed three metrics to assess legal adjudication through (1) Court disposition time (CDT), (2) Clearance Rate (CR), and (3) Number of cases pending adjudication (CP).

As shown in the paper, no South Asian country provides data on CDT, CR, and CP for first-trial courts. However, data for CR and CP are available only for high courts and supreme courts.

As the digitization of cities is picking up in capital territories everywhere, through this paper, the authors insist that no city can claim to be 'smart' if citizens do not have access to timely, free, and fair trials. The high number of negative results ('Not available') suggests that governments in South Asia seem indifferent, as even the necessary data to understand the gravity of the situation is absent. Hence, legal adjudication must not be neglected; it should be an essential element for smart governance. Therefore, governments must (a) collect these statistics, and where needed, (b) allocate resources, and (c) create processes to impart justice on time.

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