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E-Governance in Pakistan: Where Pakistan Stands and Where It Can Go?

Nisar Ali

Staff Economist, PIDE

Executive Summary

In Pakistan, E-Government Development has been a significant challenge for decades. Since the establishment of first electronic government directorate in 2002, Pakistan's progress in implementing e-governance has been poor compare to other countries. Through an extensive review of latest literature including journal articles, UN, ADB, and World Bank reports and data, this study reveals that, despite various e-governmnet initiatives, Pakistan's performance in e-government development remains very poor both globally and regionally. In E-Government Development ranking, Pakistan ranks 136th out of 193 UN member countries. In South Asia, it ranks second last, performing only better than Afganistan , which reflects low level of implementation and adoption. By addressing the issues such as low level of digital adoption and literacy, lack of research and data driven policies, absence of action plan and KPIs of digital transformation policies, and limited digital infrastructure, Pakistan can improve its e-governance.

What is E-governance and Why it is Important?

E-governance is defined as “the public sector’s use of Information and Communication Technologies with the aim of improving information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective (UNESCO, 2011). Integration of ICTs such as internet, digital platforms, data systems and mobile networks in governance systems bring efficiency, transparency, improves service quality and convenience, enhances communication between government and citizens and improves accountability (Atique, et al., 2024; Ahmad, et al., 2013). Countries such as Singapore, South Korea and Denmark have significantly enhanced government efficiency through e-governance by reducing the bureaucratic delays, dependency on paper work, streamlining public services and improving accountability and transparency.

E-Government Development Performance of Pakistan from 2003 to 2024

In an era of digitalization, e-government has become one of the important priorities of governments worldwide. However, many developing countries like Pakistan are still struggling to integrate ICTs into their governance system. Although Pakistan has taken many e-government

countries, this low ranking is a reflection of Pakistan’s poor performance in e-government development.¹ However, Pakistan has shown a notable improvement in recent EGDI ranking improving its recent global ranking from 150 in 2022 to 136 in 2024.(Table 1).

Table 1: Pakistan E-government Development Index and Ranking (2003-2024)

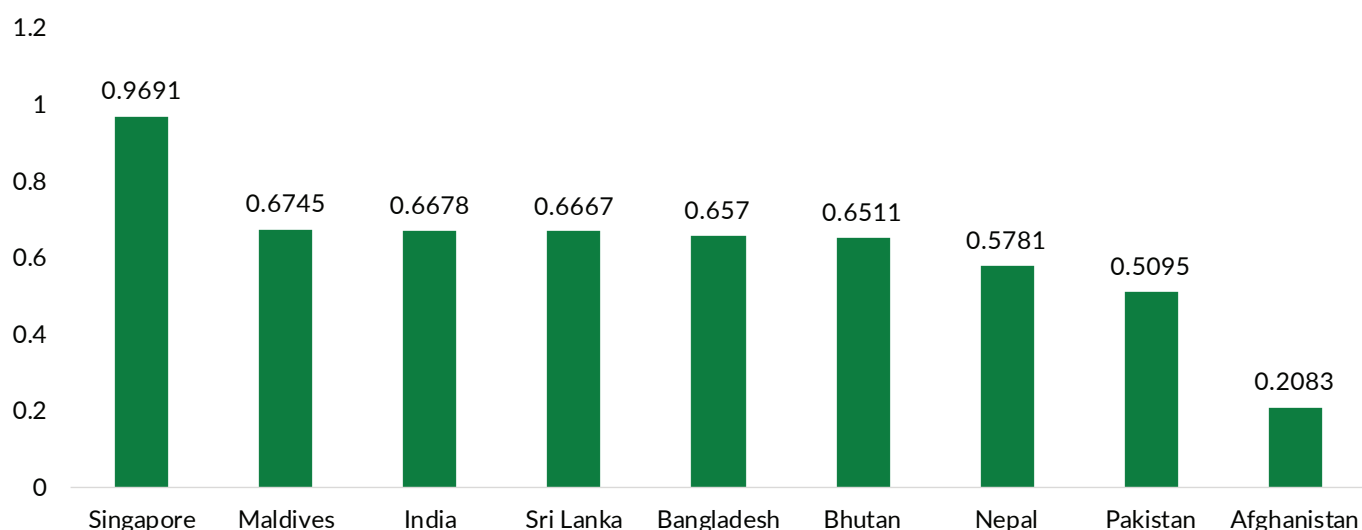
Year	Rank	EGDI	Ranking change
2003	137	0.2475	--
2004	122	0.3042	+15
2005	136	0.2836	-14
2008	131	0.3160	+5
2010	146	0.2755	-15
2012	156	0.2823	-10
2014	158	0.2580	-2
2016	159	0.2583	-1
2018	148	0.3566	+11
2020	153	0.4183	-5
2022	150	0.4238	+3
2024	136	0.5096	+14

Source: Author’s compilation based on data taken from United Nation’s E-Government Knowledgebase.

Despite the recent improved ranking, Pakistan is still lagging behind. Within South Asia, Pakistan’s EGDI performance is only better than Afghanistan, while all the other countries have comparatively better indices and possess higher ranking in the list (UN E-Government Knowledgebase, 2024).

Figure 1: EGDI Scores: South Asian Countries and Singapore vs. Regional and Global Averages.

2024 E-Government Development Index



Source: Author’s compilation based on data taken from UN E-Government Knowledgebase (2024).

1. United Nations (2024). United Nations E-Government Survey 2024: Digital government in the decade of action for sustainable development. <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2024>

Although internet and mobile penetrations in Pakistan are lower compared to most of the South Asian countries, an increase in mobile connections of 1 million from 2024-25 and a year-on-year growth in users of internet (+1.7 million) (Table 2) shows a positive sign of increased access to technology and a potential of provision of services via mobile phones (ADB, 2025)

Table 2: Mobile connections and Internet use in Pakistan in 2025.

Indicator	Value
Total Mobile Connections (million)	190
Broadband Mobile Connections (%)	74.0
Change in Mobile Connections (2024-2025)	+1.0 million (+0.5%)
Total Internet Users (million)	116
Internet Penetration (% of population)	45.7 %
Offline Population (million)	137
Year-on-Year Growth in Users (2024-2025)	+1.7 million (+1.5 %)

Source: Author's compilation based on data taken from DATAREPORTAL, 2025.

Pakistan's ranking in EGDI sub-indices scores have seen no significant improvement either. Table 3 indicates that except for the OSI and EPI, Pakistan's ranking in other EGDI sub-indices namely TII and HCI is worse in the region. This indicates an urgent need for improvements and investment in IT infrastructure and human capital development. However, the OSI's and EPI's relatively higher scores reflect progress in provision of online public services, which is a positive sign towards e-government implementation.

Table 3: Comparison of sub-indices' scores of EGDI, 2024.

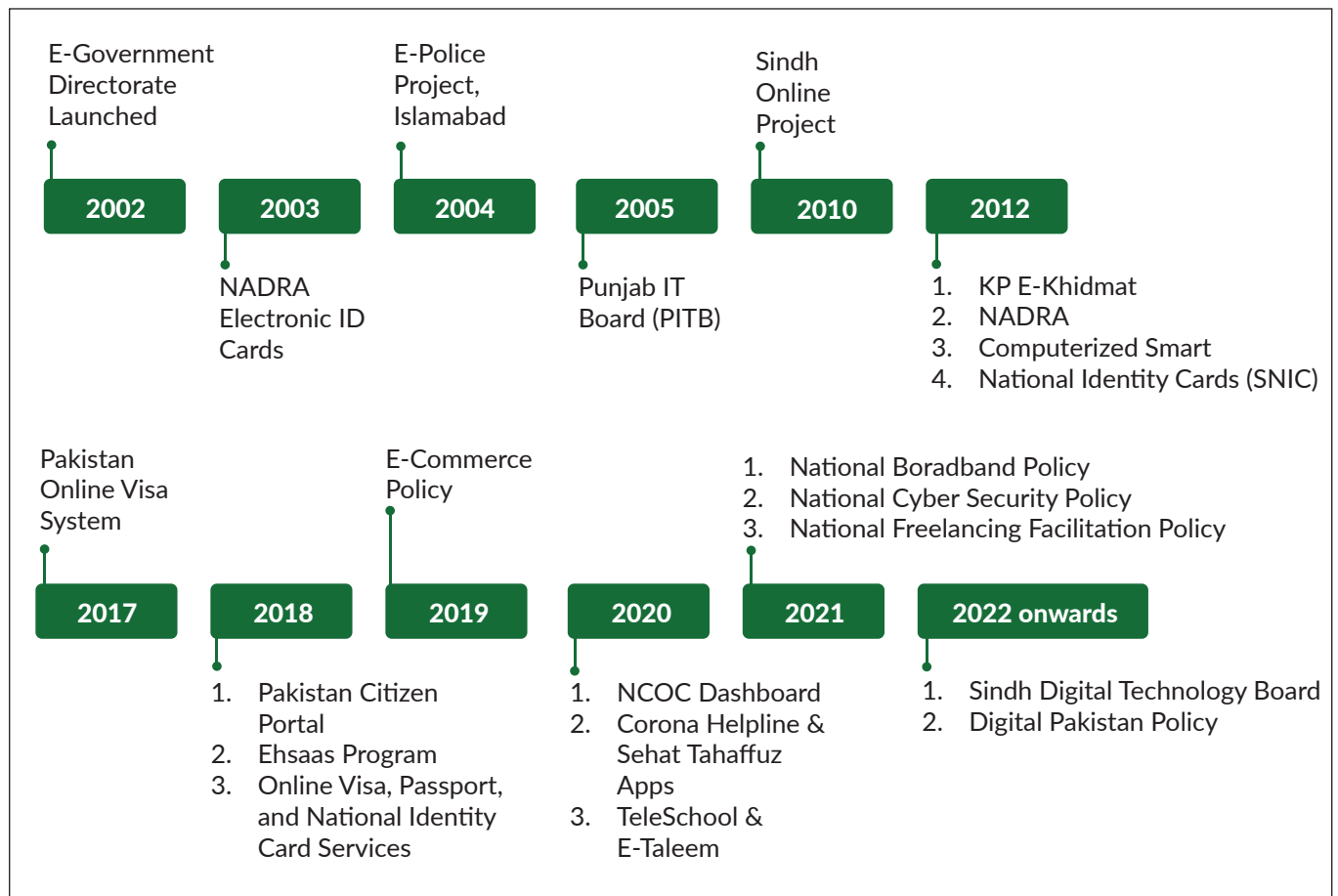
Countries	OSI	TII	HCI	EPI
Singapore	0.9831	0.9881	0.9362	0.9589
India	0.8184	0.5700	0.6149	0.6575
Bangladesh	0.7374	0.6501	0.5834	0.6164
Pakistan	0.7042	0.4745	0.3500	0.4932
Maldives	0.6220	0.7886	0.6130	0.4795
Bhutan	0.5886	0.8169	0.5478	0.4932
Sri Lanka	0.5494	0.7936	0.6570	0.4110
Nepal	0.4481	0.7653	0.5210	0.2192
Afghanistan	0.1438	0.2167	0.2643	0.1096

Source: Author's compilation based on data from UN E-Government Knowledgebase (2024).

E-Government Milestones in Pakistan from 2003 – 2024.

E-government in Pakistan began in 2002 with the establishment of the Electronic Government Directorate under the Ministry of Science and Technology (Ghayur, 2006). Figure 2 highlights the major e-government initiatives over two decades.

Figure 2: Timeline of Major E-government Initiatives in Pakistan (2003-2024).



Source: Author's compilation based on information taken from literature review and ADB Report on Pakistan's Digital Ecosystem (2024).

The most recently e-government projects for Government to Citizen (G2C) services include National Jobs Portal, Pakistan Citizen Portal App, One Patient One ID, Pak-Hajj App, Beep, City Islamabad App, The Digital Economy Enhancement Project (DEEP) among others (National Information Technology Board, 2025).

Institutional Framework

There are various key government institutions, both federal and provincial, that make up the institutional framework within Pakistan's digital government. The Ministry of Information Technology and Telecommunications (MoITT) formulates national e-governance and ICT policies. The Pakistan Telecommunication Authority (PTA) regulates telecommunication services and ensures cybersecurity standards.² The National Information Technology Board (NITB) functions as primary implementing institution and responsible for developing, designing and implementing e-government projects across various ministries including the e-Office system, digitization of public services, and multiple MIS solutions.³

NADRA is responsible for national identity management, biometric systems, smart CNICs, SIM/banking verification, and supports initiatives like the Pakistan Single Window and Online Visa System. At the provincial level, the IT Boards of Punjab and Khyber Pakhtunkhwa (KP), and the IT Departments of Baluchistan and Sindh have the mandate to manage foundational IT infrastructure and to digitalize service delivery and enhance digital literacy.⁴

2. Pakistan's Digital Ecosystem, ADB (2025). <https://www.adb.org/sites/default/files/publication/1067316/pakistan-digital-ecosystem-diagnostic-report.pdf>
 3. National Information Technology Board. <https://www.nitb.gov.pk/>
 4. The World Bank. 2023. Project Information Document (PID), Pakistan: Digital Economy Enhancement Project. <https://documents1.worldbank.org/curated/en/099455001172320746/pdf/P174402045311c010b4e10ea4415c52d4a.pdf>

Challenges and the Way Forward

Lack of action plan and KPIs of digital transformation policies.

Although there are various digital transformation policies in place to foster digitalization in the public sector of Pakistan, proper action plans and KPIs are missing. According to the Asian Development Bank's survey (2025) no department has reported having an open-source software policy/action plan in place. This shows a low level of commitment from the government institutions to promote e-governance in the country. The report further highlighted that all the five provinces surveyed reported having a digital transformation policy, however only one province reported that it has an action plan corresponding to the policy. It is important to make proper KPIs.

Resistance among public sector officials.

In Pakistan's public sector, there is a resistance to public sector digitization among public officials who enjoy a lot of discretion in the workplace and they perceive the integration of technology into government systems as a threat to their authority. Recently there has been resistance from the officials record holders to the digitalization of land records in Punjab. To mitigate this barrier, the government should incentivize the relevant public officials, enhance capacity building, and improve digital literacy among public officials.

Limited digital infrastructure.

Access to internet and low broadband penetration is another challenge in the way of e-government development in Pakistan. a large portion of population, especially in rural areas, is still not connected to internet and mobile service. Through public-private partnerships, government of Pakistan can boost broadband and fiber optic network. It is also recommended to establish Digital Service Hubs to enhance public access to digital services.

Low level of digital adoption and literacy.

There is limited digital adoption and literacy within public sector institutions as well as among the citizens. Lack of digital skills and trained IT personnel in public sector hinders the progress of e-government development. The government should invest in capacity building by introducing training and courses related to digital skills for the public sector employees to improve their digital skills and adoption of modern ICT tools. To improve the adoption among citizens, it is important to spread awareness, advertisement, and build trust. The government should collaborate with research organizations to study the factors affecting the adoption of e-government services so that it can be easy to formulate specific initiatives to improve adoption rate.

Conclusion

Pakistan is struggling in integrating ICTs into the governance system. E-governance can greatly improve the governance system, service provision, citizen empowerment and transparency. Despite facing other major socioeconomic issues, Pakistan has shown a commitment to develop e-governance through policies' formulation, e-government projects including portals for various services public services and communication. Since 2018, major e-government projects have been initiated to improve e-governance and the recent improved ranking reflects the progress. However, compare to other countries, Pakistan's ranking in UNEGDI is very low both globally and regionally, which shows there is a lot of room for improvement. Although there are policies related to digital transformation, proper KPIs and action plans are missing, due to which implementation and evaluation of policies is becoming hard. There is a need for proper IT infrastructure, digital literacy, better adoption rate, research based policy formulation, and capacity building in the public sector employees in order to effectively transform from conventional form of governance to electronic governance.

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