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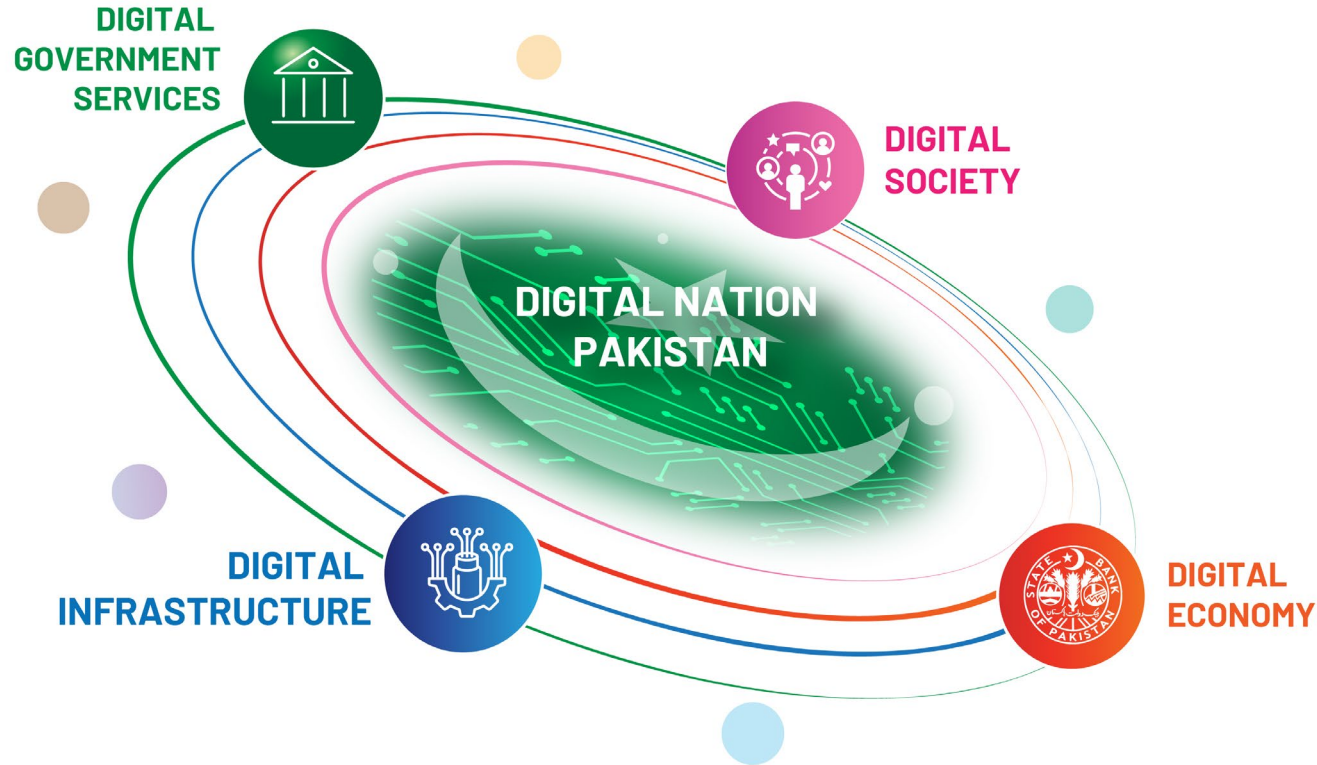
# Country Digital Ecosystem Diagnostic Report



“Why are we so worried about artificial intelligence? Surely humans are always able to pull the plug? People asked a computer, ‘Is there a God?’ And the computer said, ‘There is now,’ and fused the plug.”

– Stephen Hawking, Brief Answers to the Big Questions

## The 4 Pillars



## Cross Cutting Enablers

Enabling policies, regulatory and institutional frameworks

Cybersecurity, data protection and privacy.

Emerging technologies, such as AI, IoT, applied drones, automation, and robotics.

Digital literacy and talent cultivation, and

Digital technologies for DRR

## Key Insights & High-Level Recommendations

Develop a long-term national vision and Digital Strategy

Action Plan that establishes Digital Sector Roadmap

Sustainable Policy Framework and an implementation Monitoring system:

Investments in Digital Infrastructure:

Establish prominent use cases that showcase digital transformation

Robust Public-Private Partnerships (PPP) framework

Policy Sandboxing ?

Capacity Building on the new economy

Digital Skills Development

Knowledge Partnerships:

An aerial view of a city at sunset, overlaid with a complex network of glowing blue and orange digital infrastructure lines. A tall communication tower is visible on the left side of the image. The text "DIGITAL INFRASTRUCTURE" is centered in white, bold, uppercase letters.

# DIGITAL INFRASTRUCTURE



## KEY DIAGNOSTIC FINDINGS



**There is an urgent need to expand the optic fibre network in the country to provide high-speed and reliable internet connectivity.** The government should address the Right of Way (RoW) issues that impede the deployment of digital infrastructure and create a conducive environment for the private sector to invest in optic fibre networks that are open to all without any discrimination.



**Pakistan's digital infrastructure faces burden from high taxation and compliance issues.** The taxes, both Federal and Provincial combined, on this sector are some of the highest globally and regionally, and the tax policies tend not to be very consistent.



**The telecom sector's spectrum allocation and pricing are inefficient and uncompetitive, limiting the quality and coverage of mobile services.** The spectrum auction starting prices and commercial conditions need to be reasonable and attractive for operators, which will facilitate the timely and cost-effective launch of 5G technology, which will enable new applications and innovations in the digital economy.



**The telecom sector in Pakistan has experienced a decline in revenues and foreign investments, which reflects a very challenging business environment.** A renewed focus is needed by the government on engaging with the investors and the industry stakeholders to address their concerns and provide them with incentives and facilitation to invest and operate in the country.



**The provinces have a critical role to play in the development and utilization of digital infrastructure, as they are responsible for providing public services and collecting GST on broadband services.** The provinces could help stimulate demand of internet-based services, such as optic fibre based broadband internet for schools and hospitals, especially in tier 2 and tier 3 cities and towns

## KEY RECOMMENDATION



**Establish a predictable policy framework that encourages private investments in digital public infrastructure (DPI).** The Rules/Regulations that operationalize policies and regulate digital businesses need to support innovation and competition.



**Mandate a flat country-wide optimal Right of Way (RoW) fee per meter** and provide for a predictable rise over a longer period of time.



**Fix future spectrum floor prices in consultation** with stakeholders and de-linking the prices from USD.



**Provinces to generate the demand by subscribing to fibre broadband for schools and hospitals for boosting digitization in education and health sectors, which are provincial subjects.** With those “anchor customers” ISPs will be able to invest in connecting businesses and households with fibres.



**Government to prioritize early-stage catalytic investments in digital infrastructure projects as these investments are typically capital-intensive and have long payback periods.** That would signal a strong commitment and bring focus to the digital economy.



# DIGITAL GOVERNMENT







## KEY DIAGNOSTIC FINDINGS



**Pakistan faces challenges in implementing e-government initiatives due to the absence of a long-term strategy and** a policy framework that ensures continuity, policy evaluation, data-driven monitoring, system integration, data management, and cybersecurity.



**Government data protection policies and practices are in the early stage of discussion and planning.** Personal Data Protection legislation is still to be passed by the parliament after being drafted a few years ago.



**Government's low level of digital adoption and the digital skill gaps within the civil service and the public sector at large is probably a mutual cause-and-effect relationship.** There is a need for modular e-gov developments both at the federal and provincial level for demonstrative usefulness and success.



**Cybersecurity is primarily understood as a state security matter rather than a cross-cutting issue that can support ecosystem development.** Although there have been reported instances of government and private business websites (or data) being hacked, the overall level of cybersecurity awareness remains low.



**Enhanced international Collaboration and regional cooperation will support knowledge exchange bring technical assistance and expertise to develop and** implement digital infrastructure, services, and policies. International collaboration can also facilitate the exchange of best practices, the alignment of common standards, and the promotion of innovation.



## KEY RECOMMENDATION



**Develop and implement evidence based provincial Digital Transformation Road Maps in alignment with** the long-term national vision; consider co-financing of provincial digital transformation projects.



**Prioritize the digitization and platformization of high-impact, high-demand, and high-volume public services,** such as tax/revenue administration, pension and social payments, health, education, judicial system, etc., and ensure that they are accessible on mobile devices.



**Allocate public sector development funds strategically to match the changing** needs of the digital sector to achieve the government's long-term vision of digital transformation.



**Encourage private investment and resources by establishing a strong legal and regulatory Public Private partnership framework** for developing and executing projects that leverage and deliver digital public infrastructure and provide mobile device enabled public services.



**Establish a lead agency at the Federal Government level with a strong mandate to spearhead digital transformation in the government.** The institutional and coordination capacity of the Ministry of Information Technology and Telecommunication (MoITT) can be improved to collaborate better with provincial IT departments and foster regular policy level dialogue among the provinces and with other relevant stakeholders on strategic digital initiatives.



# DIGITAL ECONOMY





## KEY DIAGNOSTIC FINDINGS



**Pakistan's E-Commerce spend has crossed \$10 billion in 2023.** Ranking amongst the lowest in the region, trailing Bangladesh which has a \$16 Billion e-commerce spend. Low penetration of digital payments acceptance, cash-on-delivery practices, and low digital literacy are the major impediments.



**Technology companies represent only 3.3% of the total market capitalization of Pakistan Stock Exchange.** Given the foreign exchange earning capability, and relatively higher gross profits of the tech business, future tech IPOs have the potential to significantly increase the stock market multiples.



**Pakistan's corporate tax rate and payroll taxes are among the highest in the region or comparable countries.** This results in Pakistan collecting the lowest corporate income tax amongst nearly all its regional peers and a high tax rate discourages both scaling up of businesses and tax compliance.



**Pakistan's tech industry lacks the presence of multinational captive IT companies due to unfavorable taxation and foreign exchange policy regime.** Comparatively, India has 1900+ or 46% of the global tally of Captive IT offices, employing over 1.9 million staff.



**Only 4.3% of the local banks' loans go to SMEs, and just 3.6% to the agriculture sector.**

These are the lowest rates in the region. Commercial banks prefer to lend up to 85% of their loan portfolio to the government, which gives them equal or higher returns, with much lower or virtually no risk of default, and often with sovereign guarantees.

## KEY RECOMMENDATION



**Implement a uniform 5% GST rate for all digital transactions, with an input tax credit for 5 years,** to encourage a nationwide adoption of digital payments and e-commerce platforms, reducing cash related inefficiencies and frictions, and documenting the economy.



**Cut corporate income tax rates and the cost of doing business for the SMEs by 10% for the next 10 years,** conditional on the businesses registering themselves and using digital platforms for their transactions.



**Establish a Data Exchange Layer and adopt the Pakistan Digital Stack** to digitize governance, regulation, and economy.



**Identify and prioritize high-impact economic sectors, such as agriculture, transport, logistics and manufacturing both large and small scale,** and their value chains for digital transformation that can enable innovations like precision agriculture, and end to end market digitalisation to raise productivity.



**Provide tailored financing programs for women led tech companies and** women led businesses that are engaged in digital trade or export of IT or IT enabled services.

# DIGITAL SOCIETY





## KEY DIAGNOSTIC FINDINGS

**Pakistani citizens face unequal access to technology, broadband, and digital skills due to different barriers**, such as geography, device costs, social norms, digital knowledge, and local language content. Technology driven programs require improved targeting and scale for transformative outcomes.

**Pakistan's education system at various levels does not adequately prepare students for the changing market and** technological innovation demands. This results in a skill gap that lowers the workforce quality and country's competitiveness.

**Public awareness about digital threats, data protection, digital rights and responsibilities is low; this is** because of limited literacy or digital literacy, digital divide and low media coverage of issues around data privacy and security.

**Government-induced internet shutdowns, per capita, in Pakistan are the highest in the region and have a huge negative financial impact (PKR 1.3 billion per day, as per a PIDE study).** In addition to businesses and the economy, Internet freedom and foreign investment are also negatively impacted.

**Academia and civil society organizations working on diverse digital topics are growing** but tend to be excluded from or only “tokenistically” involved in digital policy-making processes.

## KEY RECOMMENDATION



**Government can adopt a National Digital Inclusion Strategy with an action plan,** KPIs and adequate resources to scale up inclusive technology adoption. Access to services and labour competitiveness among all segments of Pakistan society can be enhanced by:

- improving **data collection and analytics for better targeting of digital inclusion** government programs and PPPs, in partnership with academia and civil society.
- **advancing basic digital and financial literacy** to boost inclusive connectivity, **affordability via PPPs,** local content and digital and financial literacy programs for most vulnerable social segments.
- **establishing provincial PPP driven social innovation funds to** incentivize social innovation solutions catering to local needs - e.g. local content development for different social segments - marginalized, rural dwellers, women, the elderly, physically disabled etc.
- setting up a **program for the upskilling/ reskilling and empowerment of digital multipliers:** teachers, CSOs, local media etc.
- advancing **basic digital and financial literacy** to boost inclusive connectivity, affordability via PPPs, local content and digital and financial literacy programs for most vulnerable social segments.





# COUNTRY DIGITAL ECOSYSTEM DIAGNOSTIC REPORT FOR PAKISTAN