ISSUE BRIEF

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PAKISTAN'S PUSH TOWARDS A DIGITAL ECONOMY

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Edited by
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November 4, 2026

(Views expressed in the brief are those of the author, and do not represent those of ISSI)



Introduction

The growing importance of the digital economy has opened a new avenue for Pakistan to diversify its exports, generate employment and reduce its dependence on traditional sectors. Unlike capital-intensive industries, Information Technology (IT) services can gain access to international markets through skilled labour, reliable connectivity and an enabling regulatory environment. The expansion of these services, however, should not be mistaken for the development of a competitive digital economy. The latter also requires domestic innovation, digital public services, access to finance and a legal framework in which businesses and consumers can operate with confidence.

Pakistan has placed digital transformation at the centre of its economic agenda through the Digital Nation framework and the National Artificial Intelligence (AI) Policy 2025. The Pakistan Economic Survey 2025–26 refers to an objective of $15 billion in annual IT exports,[1] while the government's August 2026 announcement concerning cooperation with Google sets out a $30 billion ambition for IT exports and the wider digital economy by 2030.[2] These targets are not directly comparable: one

1 "Information Technology and Telecommunication," Pakistan Economic Survey 2025–26, Ministry of Finance, Government of Pakistan, 2026, pp. 257–267, accessed on October 27, 2026, https://www.finance.gov.pk/survey/chapter_26/15_Information_Technology.pdf

2 "Government of Pakistan, Google Sign MoU to Offer Free AI Tools and Career Certificates," Press Information Department, Government of Pakistan, August 21, 2026, https://pid.gov.pk/site/press_detail/33684

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relates to a defined export category and the other to a broader economic vision. Their achievement depends as much on removing structural impediments as on sustaining recent growth.

IT Exports: Growth and Economic Significance

Pakistan's performance in international technology markets has been encouraging. According to the State Bank of Pakistan (SBP), exports of telecommunications, computer and information services reached about $4.6 billion in Fiscal Year (FY) 2026, up from $3.814 billion in FY 2025. They accounted for nearly 46 per cent of the country's total services exports of about $10 billion. The sector earned $811 million during July–August 2026, maintaining the upward trend at the beginning of the new fiscal year.[3] Such growth is particularly important for a country facing persistent pressure on its foreign-exchange earnings and a narrow merchandise-export base.

The sector's contribution extends beyond gross export receipts. The Economic Survey records an IT and IT-enabled services trade surplus of $2.911 billion during July–March FY2026, equivalent to about 86 per cent of export receipts for that period. Remittances recorded under the technology-freelancer category reached $856.3 million, an increase of 51 per cent over the corresponding period of the previous year.[4] The Pakistan Business Council (PBC) argues that some income from Pakistani-owned firms registered abroad and payments recorded under personal-remittance codes may not appear in the official IT-export classification. Its assessment points to a measurement problem, although such estimates should not be added to SBP export figures without reconciling their coverage.[5]

Emerging Opportunities

- Artificial Intelligence and Skilled Employment:

The National AI Policy 2025 proposes training 200,000 individuals annually, awarding 3,000 postgraduate and doctoral scholarships, and establishing centres of excellence, a national computing grid and regulatory sandboxes.[6] These proposals provide a starting point, but the demand for skilled workers is changing faster than traditional training systems. The World Bank's October 2026 regional

3 "Exports and Imports of Goods & Services," State Bank of Pakistan, provisional FY2026 and July–August 2026 data, accessed on October 27, 2026, https://www.sbp.org.pk/ecodata/ExportsImports-Goods.pdf

4 "Information Technology and Telecommunication," Pakistan Economic Survey 2025–26, Ministry of Finance, Government of Pakistan, 2026, p. 258, accessed on October 27, 2026, https://www.finance.gov.pk/survey/chapter_26/15_Information_Technology.pdf

5 "Expanding Pakistan's IT Footprint," Pakistan Business Council, 2026, accessed on October 27, 2026, https://www.pbc.org.pk/research/expanding-pakistans-it-footprint/

6 "Pakistan's AI Policy 2025," Pakistan Economic Survey 2025–26, Ministry of Finance, Government of Pakistan, 2026, p. 260, accessed on October 27, 2026, https://www.finance.gov.pk/survey/chapter_26/15_Information_Technology.pdf

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assessment suggests that AI is more likely to complement than replace most jobs in the immediate term, with productivity gains possible across 13–20 per cent of employment. The implications are nevertheless uneven, especially for routine digital tasks. Pakistan also has an opportunity to develop Urdu-language applications: Urdu accounts for only about 0.03 per cent of URLs in the underlying web-crawl data cited by the World Bank.[7] Locally relevant datasets and applications could therefore serve both domestic needs and export markets.

- Education, Research and Technology Zones:

Pakistan has elements of an innovation ecosystem, but they need to work together. The Higher Education Commission (HEC) supports Offices of Research, Innovation and Commercialization (ORICs), business incubation and academia–industry–government linkages.[8] The Special Technology Zones Authority (STZA) reports 32 notified Special Technology Zones (STZs), housing more than 250 technology companies and over 27,000 professionals as of October 2026.[9] The NUST Special Technology Zone is an example of a university-anchored facility intended to link research with enterprise.[10] This approach reflects the triple-helix model of innovation, which brings universities, industry and government together to develop skills, transfer technology and commercialise research.[11] Its success will depend on joint projects and marketable products rather than the number of zones or institutions established.

- Digital Infrastructure and International Partnerships:

The March 2026 auction of 5G spectrum generated approximately $509.6 million, while the government's fibre-expansion framework aims for 60 per cent fibre coverage.[12] These measures can support data-intensive services, but additional spectrum alone cannot compensate for poor

7 "From Divide to Opportunity: AI, Jobs, and Growth," Middle East, North Africa, Afghanistan and Pakistan Economic Update, World Bank, October 2026, https://www.worldbank.org/en/region/mena/publication/middle-east-north-africa-afghanistan-and-pakistan-economic-update

8 "Academia–Industry–Government Linkages," Higher Education Commission, Government of Pakistan, accessed on November 3, 2026, https://rfi.hec.gov.pk/academia-industry-linkages

9 "Notified Zones," Special Technology Zones Authority, last updated October 19, 2026, accessed on November 3, 2026, https://www.stza.gov.pk/notified-zones/

10 "Four New Special Technology Zones with PKR 30 Billion Infrastructure Investment Notified by STZA Across Pakistan," Press Information Department, Government of Pakistan, August 16, 2024, https://pid.gov.pk/site/press_detail/26164

11 "The Dynamics of Innovation: From National Systems and 'Mode 2' to a Triple Helix of University–Industry–Government Relations," Henry Etzkowitz and Loet Leydesdorff, Research Policy, vol. 29, no. 2, February 2000, pp. 109–123, https://doi.org/10.1016/S0048-7333(99)00055-4; "What Is STZA?," Special Technology Zones Authority, https://www.stza.gov.pk/what-is-stza/

12 "Information Technology and Telecommunication," Pakistan Economic Survey 2025–26, Ministry of Finance, Government of Pakistan, 2026, pp. 257, 265, accessed on October 27, 2026, https://www.finance.gov.pk/survey/chapter_26/15_Information_Technology.pdf

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backhaul connectivity or unreliable fixed broadband. The August 2026 memorandum with Google envisages 150,000 career certificates, wider access to AI tools and an AI Centre of Excellence in Islamabad. It also proposes a joint task force to identify constraints on technology exports.[13] The commercial value of such arrangements will be determined by implementation, private-sector uptake and measurable employment or export outcomes rather than by the number of agreements concluded.

- Digital Governance and New Markets:

Domestic digitisation can create demand for Pakistani technology firms while reducing the administrative costs of doing business. The National Information Technology Board reported more than Rs4 billion in non-tax revenue mobilised through digital platforms during July–March FY2026. Pakistan also advanced from 150th place in 2022 to 136th in the United Nations E-Government Development Index in 2024.[14] A further development is the regulatory framework for virtual-asset service providers established under the Virtual Assets Act, 2026. Although it may encourage innovation in financial technology, licensing and compliance will require demonstrating that new payment channels are secure, transparent, and consistent with financial-integrity requirements.[15]

Structural Challenges

- Low-Value Exports and Limited Enterprise Scale:

Rising export receipts conceal important structural weaknesses in the sector. A PBC study finds that freelance transactions represented 90.8 per cent of recorded IT-export entries in FY2025 but accounted for only 24.1 per cent of their value. The average freelance transaction stood at $359, compared with $12,618 for software consultancy, while the median freelance receipt declined from $106 in FY2021 to $63 in FY2025.[16] These figures concern recorded banking transactions rather than the number of freelancers. They nevertheless illustrate the dependence on small contracts and price-sensitive services. AI may intensify this pressure, although changes in transaction values alone do not establish that automation is the cause. The main challenge is to develop firms capable of offering specialised software, intellectual property and long-term enterprise solutions.

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13 "Government of Pakistan, Google Sign MoU to Offer Free AI Tools and Career Certificates," Press Information Department, Government of Pakistan, August 21, 2026, https://pid.gov.pk/site/press_detail/33684

14 "Information Technology and Telecommunication," Pakistan Economic Survey 2025–26, Ministry of Finance, Government of Pakistan, 2026, pp. 263, 267, accessed on October 27, 2026, https://www.finance.gov.pk/survey/chapter_26/15_Information_Technology.pdf

15 "Regulations," Pakistan Virtual Assets Regulatory Authority, accessed on October 27, 2026, https://pvara.gov.pk/regulations

16 "Expanding Pakistan's IT Footprint," Pakistan Business Council, accessed on October 27, 2026, https://www.pbc.org.pk/research/expanding-pakistans-it-footprint/

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- Inadequate Fixed Connectivity:

Pakistan had around 160.9 million broadband subscriptions by March 2026, but only about 4.29 million fixed-broadband connections. The Economic Survey records approximately 228,940 kilometres of optical fibre deployed by mid-2025 and identifies right-of-way approvals, infrastructure sharing and high deployment charges as continuing impediments.[17] Mobile broadband has extended basic access, but reliable fibre, local internet exchange capacity and dependable power supply are required for cloud computing, software development and AI-related services. Connectivity must consequently be treated as a productive input rather than merely a consumer facility.

- Regulatory Uncertainty and Access to Finance:

The SBP's April 2026 reforms removed the requirement for IT exporters and freelancers to submit Form R for each transaction and introduced a maximum one-working-day processing period for eligible inward receipts and outward payments from special foreign-currency accounts.[18] This is an important improvement, yet banks' compliance, access to international payment facilities and the availability of working capital remain pertinent concerns. The PBC also points to uncertain tax treatment, difficulties in securing loans against intangible assets, and limited access to foreign-currency services.[19] These constraints encourage small firms to remain informal or establish offshore entities, weakening domestic investment and the capacity to scale.

- Shortage of Market-Ready Skills and Digital Trust:

The PBC estimates that only 10–12 per cent of Pakistan's annual IT graduates are immediately employable without substantial additional training, and places research and development expenditure at 0.16 per cent of GDP. Women remain particularly underrepresented in the formal technology workforce, despite the Economic Survey's report of a narrowing mobile-internet gender gap.[20] International clients also consider cybersecurity, data protection, contract enforcement, and country risk when selecting technology suppliers. Without stronger safeguards for personal data and credible standards for digital procurement, Pakistan may struggle to move into higher-value, trust-

17 "Information Technology and Telecommunication," Pakistan Economic Survey 2025–26, Ministry of Finance, Government of Pakistan, 2026, pp. 264–267, accessed on October 27, 2026, https://www.finance.gov.pk/survey/chapter_26/15_Information_Technology.pdf

18 "State Bank of Pakistan Introduces New Measures to Facilitate IT Exporters and Freelancers," State Bank of Pakistan, April 6, 2026, https://www.sbp.org.pk/press/2026/Pr-06-Apr-2026.pdf

19 "Expanding Pakistan's IT Footprint," Pakistan Business Council, accessed on October 27, 2026, https://www.pbc.org.pk/research/expanding-pakistans-it-footprint/

20 "Expanding Pakistan's IT Footprint," Pakistan Business Council, accessed on October 27, 2026, https://www.pbc.org.pk/research/expanding-pakistans-it-footprint/

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sensitive services. The graduate-employability gap also points to weaknesses in the wider education ecosystem: curriculum relevance, practical training, applied research and sustained engagement with employers need greater attention.

Policy Recommendations

- Move Towards Higher-Value IT Exports and Enterprise Development:

Pakistan needs to move beyond its dependence on low-value freelancing and business-process outsourcing towards specialised software development, AI-based services and locally developed digital products. The government should encourage the growth of small and medium-sized IT enterprises through targeted incentives linked to export earnings, skilled employment and product development. Greater emphasis should also be placed on developing Pakistani-owned intellectual property to improve the sector's international competitiveness.

- Strengthen Digital Infrastructure and Connectivity:

The expansion of fibre-optic networks should be treated as an economic priority rather than merely a telecommunications objective. The government, in coordination with the Pakistan Telecommunication Authority (PTA) and provincial authorities, should streamline right-of-way approvals, reduce infrastructure deployment costs, and encourage network sharing among operators. Expansion should extend beyond major urban centres to enable businesses in smaller cities to participate in the digital economy.

- Improve Regulatory Certainty and Access to Finance:

SBP's recent measures to facilitate IT exporters and freelancers need effective implementation across commercial banks. Greater clarity regarding taxation, foreign-currency transactions, and the legal status of freelancers would encourage formalisation and domestic investment. Financial institutions should also develop lending arrangements that recognise software assets, recurring export revenues, and confirmed contracts when assessing creditworthiness.

- Address the Skills Gap and Expand Digital Employment:

Digital education should be developed as a continuous pathway from foundational skills in schools to industry-relevant technical and university programmes. HEC, universities and technology firms should jointly update curricula, expand structured internships and apprenticeships, and support applied research. Existing ORICs and incubators should be evaluated by graduate placements, industry-funded projects, technology transfer and viable start-ups rather than activity counts alone.

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Dedicated training, affordable connectivity and remote-work opportunities should also reach women and young people in smaller cities.

- Use STZs to Build University–Industry–Government Partnerships:

STZs should become centres of applied innovation rather than isolated tax-incentive enclaves. Under a triple-helix approach, universities would contribute research and talent, firms would define commercial problems and co-finance solutions, and government would ensure predictable rules, shared testing facilities and access to early-stage finance. STZA and HEC could prioritise partnerships in AI, cybersecurity, agritech and local-language software, including in universities outside major cities. Public support should be assessed against commercialised technologies, sustained skilled employment, surviving start-ups and export earnings, not simply zone notifications or occupied floor space.

- Strengthen Digital Trust and International Market Access:

Pakistan needs a credible regulatory framework for data protection, cybersecurity, and digital transactions to attract higher-value international clients. Enacting enforceable personal-data protection legislation and encouraging internationally recognised security certifications would help address concerns regarding the reliability of Pakistani technology services. Transparent public procurement could also provide opportunities for local companies to develop commercially viable products and establish a record of successful implementation.

Conclusion

Pakistan has demonstrated that its technology sector can expand even in a difficult economic environment. However, the transition from labour-intensive digital services to a broader, innovation-driven economy will require institutional reforms that have long been delayed. Export promotion, skills development, secure payments, fixed connectivity and data governance cannot be pursued in isolation. Unless these foundations are strengthened, growth in the number of digital transactions may conceal limited gains in productivity and value addition. The test of Pakistan's digital-economy policy will therefore be whether stronger links between education, research and enterprise enable domestic firms to move beyond supplying inexpensive labour and become competitive producers of technology, services and intellectual property.

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