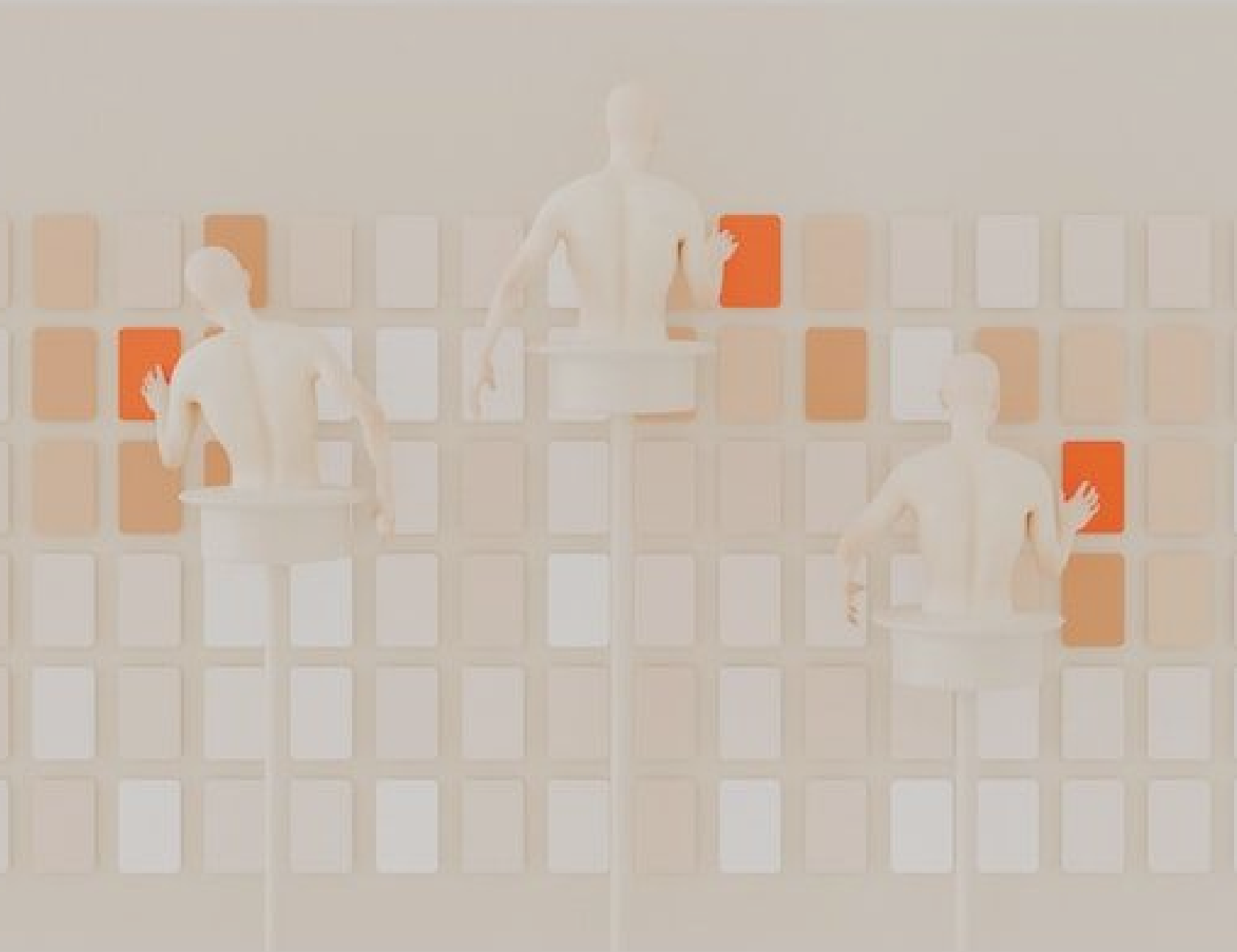


CSSPR POLICY BRIEF

PAKISTAN'S AI REVOLUTION
Paving the Way for National Growth

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Introduction

Artificial Intelligence (AI) has proved to be a disruptive force, one having the capacity to change the fate of countries in an era marked by fast technological developments and unparalleled data dissemination. As governments around the world attempt to harness the potential of AI, Pakistan has launched a visionary drive to use this cutting-edge technology for socioeconomic growth and national prosperity.

This policy brief provides an in-depth assessment of the Draft National Artificial Intelligence Policy of Pakistan¹, an ambitious blueprint aimed at steering the country towards a more inventive, inclusive, and technologically driven future. The Policy aspires to establish Pakistan as a forerunner in the global AI ecosystem, with significant emphasis being laid on ethical concerns, public-private cooperation, and transformative projects.

AI has permeated different areas over the last decade, revolutionizing businesses, improving healthcare results, optimizing resource management, and transforming how governments deliver services. Recognizing AI's enormous potential, Pakistan is committed to embracing this disruptive technology while addressing the ethical, regulatory, and societal ramifications of its use.

The four pillars of Pakistan's National AI Policy encompass a range of recommendations that will usher the nation's AI-driven transformation. These pillars are:

1. Foster Public-Private Collaboration
2. Strengthen Data Privacy and Security Measures
3. Establish a Comprehensive National AI Governance Framework
4. Strengthen International Collaborations
5. Promote AI for Environmental Sustainability
6. Encourage Export and Commercialization of AI-Based Products and Services

¹ Draft National Artificial Intelligence Policy of Pakistan
<https://moitt.gov.pk/SiteImage/Misc/files/National%20AI%20Policy%20Consultation%20Draft%20V1.pdf>

The success of Pakistan's AI journey will be determined by public-private partnership, research-driven policymaking, and a strong emphasis on inclusion and ethical issues. Pakistan can lead the path for AI to fuel economic growth, improve citizen services, and address critical social concerns by forming strong alliances and investing in AI research and development.

As Pakistan promotes itself as an emerging AI hub, this policy brief serves as a guide for policymakers, researchers, industry leaders, and individuals interested in understanding the transformational potential of AI and contributing to its ethical and sustainable integration.

Pakistan is positioned to unleash new vistas of growth and move towards an enlightened and technologically sophisticated future with a collaborative commitment to using AI for the greater good.

The journey has begun, and this Policy is a testament to Pakistan's commitment to embracing AI as a catalyst for positive change.

Policy Recommendations

1. Foster public-private collaboration by providing incentives and grants to private sector entities investing in AI research and development

Fostering strong public-private partnerships is critical to driving AI technology development and adoption in Pakistan. Efforts must be made to build an environment that encourages the research, development, and implementation of AI-driven solutions by combining the experience, resources, and inventiveness of both sectors.

The government should provide subsidies and incentives to private sector enterprises who invest in AI research and development. Potential incentives include tax breaks, research grants, and financial aid for AI-related enterprises. Furthermore, collaboration platforms and innovation hubs should be built to allow information exchange and collaborative research endeavors between public and commercial universities.

Public and private sector collaboration may aid in dealing with challenges and capitalizing on opportunities in a range of fields, including healthcare, agriculture, finance, and transportation. This collaboration will not only accelerate the creation of cutting-edge AI goods and services targeted to the needs of Pakistani markets but also aid in the adoption of AI.

Furthermore, public-private collaboration may pave the way for technology transfer and commercialization of AI research outputs, which may stimulate economic growth and foster a healthy entrepreneurial environment. Through such cooperation, Pakistan may position itself as a regional center for AI innovation, drawing international investment and talent while boosting long-term growth and increasing residents' overall quality of life.

2. Strengthen data privacy and security measures to protect citizens' information and build public trust in AI applications

Ensuring data privacy and security is crucial for building public trust in AI applications and safeguarding citizens' information. As AI technologies rely heavily on data, it is essential to strengthen measures to protect personal and sensitive data from unauthorized access, misuse, or breaches.

The government should revise and update data protection laws and regulations to align with international best practices and emerging challenges in data security. Organizations that handle personal data should be mandated to implement robust data protection protocols and encryption methods to prevent unauthorized access and data leaks.

Moreover, promoting the use of privacy-preserving AI techniques, such as federated learning, differential privacy, and homomorphic encryption, can enhance the security of AI applications while ensuring that data remains decentralized and protected.

To build public trust, transparency in data collection and usage should be encouraged. Organizations that employ AI technology should be required to offer clear and simple explanations

of how data is gathered, processed, and used. Citizens should have access to manage, and control the data they generate and feed into AI systems for analysis.

By strengthening data privacy and security measures, Pakistan can foster public confidence in AI technologies and unlock their full potential to drive innovation, efficiency, and social development while safeguarding individual rights and liberties.

3. Establish a comprehensive National AI Governance Framework with clear and specific objectives for the National AI Fund (NAIF) and Center of Excellence in AI & Allied Technologies (CoE-AI)

A comprehensive National AI Governance Framework is critical to providing clear and specific objectives for the National AI Fund (NAIF) and the Center of Excellence in AI & Allied Technologies (CoE-AI). This Framework could serve as a strategic blueprint to guide AI-related initiatives, investment, and research across various sectors.

The AI Governance Framework should define measurable targets and timelines for the implementation of initiatives under NAIF and CoE-AI. It should encompass a range of sectors, including healthcare, education, agriculture, and governance, to address societal challenges effectively.

To ensure that the AI Governance Framework remains adaptable and responsive to emerging trends, regular reviews and updates should be conducted. The involvement of relevant stakeholders, such as policymakers, industry experts, academia, and civil society, is critical to shaping and refining the Framework.

By establishing a clear governance structure, Pakistan can harness the transformative potential of AI while mitigating potential risks. This Framework will provide a foundation for ethical and responsible AI deployment, fostering inclusivity, diversity, and gender representation in AI research and development.

4. Strengthen international collaborations with leading AI research institutions, organizations, and governments

International collaboration is critical for Pakistan to keep up with the rapid breakthroughs in AI research and development. Collaboration with world-class AI research institutes, organizations, and governments may give beneficial information exchange as well as access to cutting-edge technology and experience.

The government should actively participate in global AI initiatives, conferences, and fora to establish partnerships and exchange best-practices. By fostering relationships with global leaders in AI, Pakistan can attract foreign investment, tap into international research funding, and create avenues for technology transfer.

Furthermore, the exchange of AI talent and expertise can accelerate Pakistan's AI ecosystem's growth and enhance the skills of its researchers and developers. Collaboration with international experts will also contribute to the development of indigenous AI solutions tailored to local needs.

To facilitate international collaborations, the government should establish dedicated mechanisms and funds to support joint research projects and academic exchange programs. All this will help Pakistan establish itself as a recognized participant in the global AI circuit and present itself as an appealing destination for AI-related investment and collaborations.

5. Promote AI-driven environmental sustainability solutions, such as employing AI to optimize energy use, minimize waste, and enhance resource management

Harnessing the capacity of AI to address environmental concerns is critical for Pakistan's future sustainability. AI-powered solutions may minimize waste, enhance resource management, and alleviate the effects of climate change.

The government should foster AI research and development that focuses on environmental sustainability. Investment in AI-based systems that improve environmental monitoring, climate modeling, and catastrophe prediction might result in more effective policy choices and disaster response tactics.

Furthermore, incorporating AI into the workings of smart cities might result in more effective urban planning, transportation systems, and waste management. AI algorithms can optimize traffic flow, cut pollution, and improve energy management.

Pakistan should link its development ambitions with global efforts to battle climate change and build a greener and cleaner environment for its population by supporting AI for environmental sustainability. Investing in AI-powered solutions that emphasize sustainability will not only benefit the environment in the long run but also promote economic development and general well-being.

6. Encourage the export and commercialization of Pakistani AI-based goods and services

The government should stimulate the export and commercialization of AI-based goods and services produced in Pakistan in order to foster economic growth and establish Pakistan as a worldwide AI powerhouse. This may be accomplished by enacting specific legislation and providing incentives to AI startups and corporations.

The government should provide financial assistance, grants, and tax benefits to AI startups and companies looking to export their AI products and services. Additionally, streamlining export procedures and reducing bureaucratic hurdles will facilitate the entry of Pakistani AI products into international markets.

Collaborating with industry associations and trade organizations can help identify potential markets for AI products and create promotional campaigns to showcase the innovative solutions developed in Pakistan.

By encouraging the export of AI products and services, Pakistan can not only increase its revenue streams but also promote its image as a center for AI excellence. The international recognition gained through successful exports will attract foreign investors and foster partnerships with global AI players, further fueling the growth of the domestic AI ecosystem.

These six policy recommendations serve as a strategic framework for Pakistan's National AI Policy, aiming to realize AI's full potential while ensuring ethical use, data security, and long-term progress. Pakistan may position itself as a prominent participant in the AI environment by embracing AI as a catalyst for good change, promoting innovation, economic growth, and societal improvement for the benefit of its inhabitants and the global community.

On the Horizon: Challenges Ahead

Implementing the key recommendations of this policy brief undoubtedly holds great promise, but it also comes with several formidable challenges.

Fostering effective public-private collaboration requires overcoming historical barriers and building mutual trust. Private sector entities may have concerns about intellectual property rights, data sharing, and government interference.

Strengthening data privacy and security measures necessitates robust regulatory frameworks and enforcement mechanisms, which can be resource-intensive and complex to implement, particularly given the rapid evolution of AI technologies.

Establishment of a comprehensive National AI Governance Framework, while crucial for strategic direction, demands meticulous planning and consistent monitoring to ensure that objectives are met within specified timelines. Achieving alignment among diverse stakeholders and balancing short-term and long-term goals can be intricate.

Strengthening international collaborations involves navigating geopolitical considerations, aligning research priorities, and addressing issues related to data sharing, sovereignty, and standards, which can be diplomatically sensitive and technically challenging.

Promoting AI-driven solutions for environmental sustainability requires significant investments in research, technology development, and infrastructure. It also necessitates behavior change and regulatory incentives to drive sustainable practices.

Encouraging the export and commercialization of AI-based products and services demands a supportive ecosystem, which includes access to global markets, protection of intellectual property, and a competitive business environment.

In sum, these recommendations offer substantial potential benefits, but their successful implementation hinges on addressing these multifaceted challenges with strategic planning, effective governance, and a commitment to sustained effort and innovation.

Conclusion

The National AI Policy presents a comprehensive and forward-looking framework that seeks to harness the transformative potential of AI for the development of Pakistan. By addressing various dimensions of AI adoption, this Policy aims to position Pakistan as a competitive player in the global AI landscape while ensuring responsible and ethical use of these technologies.

Through the Policy's emphasis on public-private collaboration, the government can create an ecosystem that encourages innovation, attracts investments, and drives AI research and development. By providing incentives and grants to the private sector, the Policy fosters an environment conducive to cutting-edge AI solutions that can address pressing national challenges.

Furthermore, the Policy's strong focus on data privacy and security is critical in building public trust and confidence in AI applications. By implementing stringent measures to protect citizens' information and promoting privacy-preserving techniques, the Policy ensures that AI technologies are deployed in a responsible and secure manner.

The establishment of a comprehensive National AI Governance Framework, with clear objectives and measurable targets, will guide the effective implementation and evaluation of AI initiatives. This Framework will serve as a roadmap for the National AI Fund (NAIF) and the Center of Excellence in AI & Allied Technologies (CoE-AI) to achieve tangible and impactful outcomes.

The Policy also recognizes the importance of international collaborations, enabling Pakistan to leverage global expertise and best practices in AI research and development. By strengthening ties with leading AI institutions and governments, Pakistan can enhance its AI capabilities and stay at the forefront of technological advancements.

Furthermore, the Policy underscores the government's commitment to tackling critical environmental concerns by encouraging AI-driven solutions for environmental sustainability. By adopting AI to optimize energy usage, reduce waste, and enhance resource management, Pakistan can contribute to a brighter and more sustainable future.

Finally, by promoting the export and commercialization of AI-based goods and services, the Policy hopes to promote economic development and global competitiveness. This will allow local AI companies and businesses to thrive, helping to create jobs and economic success.

Overall, the National AI Policy sets a strategic roadmap for Pakistan's AI journey, aiming to improve governance, foster innovation, and drive sustainable development. By embracing AI technologies responsibly and inclusively, Pakistan can unlock new opportunities and overcome societal challenges to create a prosperous and technologically advanced society.

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