Authors

This report has been prepared by a joint research group of the Data for Governance Lab and the China Academy of Information and Communication Technology (CAICT).

Imad al-Din Payande  Maryam Zohdi  Mostafa Kharatyan
Fatemeh Sadat-serki  CHU Jing  LIU Yongwang
The report aims to provide a realistic and evidence-based analysis of Iran’s digital economy, which is the economic activity resulting from online connections among people, businesses, devices, data, and processes. The digital economy is a complex and transformative phenomenon that requires new approaches and policies in various fields. IDEO also seeks to create consensus among stakeholders and propose a practical roadmap for Iran’s digital economy development based on the current situation and international best practices by introducing useful indicators and toolkits for assessing the digital economy.

- The digital economy is a major driver of change and innovation in the world, and Iran needs to adapt to this new reality and seize its opportunities.
- The digital economy is not just about ICT or IT, but a holistic phenomenon that affects every aspect of society and requires a paradigm shift in policy-making, regulation, co-creation, etc.
- The government plays a key role in promoting the digital economy development in Iran, especially by creating a favorable environment for ICT infrastructure and digital innovation. The coordination among national regulators,
private sector, SMEs and academia is also essential for effective governance.

The report provides a clear picture of Iran’s current situation regarding ICT infrastructure and the digital economy, as well as reliable and integrated data for decision-making and consensus-building among stakeholders.

The report also provides a feasible road-map for Iran’s digital economy development, based on the current situation analysis and international case studies, and offers policy recommendations for various domains.

The initiative aims to provide a realistic and evidence-based analysis of Iran’s digital economy and development prospects. The digital economy is the economic activity resulting from online connections among people, businesses, devices, data, and processes, which brings more welfare, productivity, quality of life, and living standards. The digital economy is a complex and transformative phenomenon that requires new approaches and policies in various fields and coordination among national regulators, the private sector, SMEs, and academia. IDEO provides a clear picture of Iran’s current situation regarding ICT infrastructure and the digital economy, as well as reliable and integrated data for decision-making and consensus-building among stakeholders. The report also seeks to provide a practical roadmap for Iran’s digital economy development based on the current situation analysis and international best practices and offers policy recommendations for various domains. The report also compares Iran’s digital economy with significant economies worldwide, such as South Korea and China, which have released their national strategies for the digital economy and invested heavily in ICT infrastructure and digital innovation.
The report shows that Iran has made acceptable progress in some areas of ICT infrastructure but still needs to catch up in others, such as 5G and high-quality fixed broadband access. The report also emphasizes the importance of adjusting the regulation and supportive policies and initiatives, providing adequate training, and paying attention to significant software infrastructure, to achieve Iran’s digital ambition of reaching %10 of GDP by 2025.

According to the report, Iran’s digital economy has grown significantly in recent years, reaching %7 of GDP in 2022, up from %2.6 in 2012. The report attributes this growth to the expansion of ICT infrastructure, especially mobile broadband and fiber optic networks, and the development of digital platforms and services, such as e-commerce, e-government, e-health, e-learning, and e-banking. The report also highlights some of the achievements and challenges of Iran’s digital economy in various domains, such as:

- **Digital transformation:** The report shows that Iran has made progress in digitalizing its public and private sectors, especially during the COVID19- pandemic, which accelerated the adoption of digital solutions. However, the report also points out some barriers and gaps, such as the lack of interoperability and integration among different systems and platforms, the low level of digital literacy and skills among citizens and employees, and the insufficient use of data and analytics for decision-making and innovation.

- **Digital innovation:** The report recognizes that Iran has a vibrant and dynamic digital innovation ecosystem, with many startups, incubators, accelerators, and investors. The
The report also praises some of the successful cases of digital innovation in Iran, such as Snapp (ride-hailing), Digikala (e-commerce), Cafe Bazaar (app store), Aparat (video sharing), and TAP30 (transportation). However, the report also identifies some challenges and bottlenecks, such as the lack of access to international markets and funding, the regulatory uncertainty and inconsistency, the shortage of talent and mentors, and the low level of collaboration and co-creation among different stakeholders.

Digital inclusion: The report acknowledges that Iran has made efforts to improve digital inclusion and reduce the digital divide among different segments of society, such as rural areas, women, youth, elderly, disabled, and low-income groups. The report also cites some examples of initiatives and programs that aim to enhance digital inclusion in Iran, such as ICT4D (ICT for Development), ICT4E (ICT for Education), ICT4W (ICT for Women), ICT4A (ICT for Accessibility), and ICT4H (ICT for Health). However, the report also warns that there are still significant gaps and inequalities in terms of access to quality ICT infrastructure and services, affordability of devices and data plans, availability of relevant content and applications, awareness of benefits and opportunities, and ability to use digital tools effectively.
ICT infrastructure and services are crucial in driving economic and social progress. Broadband infrastructure is now considered as essential as water and electricity networks. Studies have shown that increasing broadband penetration can lead to significant GDP growth and improved labor productivity. Major economies worldwide have embraced digital strategies to enhance national competitiveness, and the COVID-19 pandemic has accelerated the need for digitalization. Iran should focus on nurturing its ICT industry and promoting digital transformation to stay competitive in the digital era.

The first chapter of this report has focused on these main areas:


2. Measurement of Iran’s Digital Economy Development by considering the current Status of Iran’s digital Economy development, and the potential of Iran’s Digital Economy Development
Iran has progressed in ICT development, with high internet accessibility and increasing mobile broadband (MBB) and fixed broadband (FBB) penetration rates. The country has deployed a significant fiber network, offering one of the cheapest broadband services globally. However, Iran ranks 79th in the Network Readiness Index (NRI), indicating room for improvement in impact and future technologies. There is a need to enhance ICT development and catch up with peer countries in the ICT sector and digital transformation efforts.

The main topics of Chapter 2 are ICT Infrastructure Development Including mobile broadband and fixed broadband, Fiber optic network development, International Connectivity, and digital transformation requirements in Iran. To be more meticulous, some countries have been studied as a sample, and statistics, diagrams, and flowcharts are represented as supportive information.
Chapter 3:
GOVERNMENT’S ROLE IN ESTABLISHING A DIGITAL ECOSYSTEM

The government of Iran has a crucial role in promoting ICT infrastructure development and digital transformation. Increasing FBB and MBB penetration can lead to significant GDP growth. To foster the ICT industry’s development, the government should consider tax incentives, tariff adjustments, reducing infrastructure costs, enhancing digital resilience, and promoting 5G deployment. Due to obligations and strict tariff control, telecom operators face challenges, so reducing obligations and introducing marketization reforms are recommended. The government can also reduce infrastructure costs through energy price subsidies and encourage fiber pre-deployment and network sharing. Subsidies for 5G deployment and promoting digital transformation in critical SOEs are additional recommendations.
Chapter 4: INNOVATION & TALENT DEVELOPMENT

This chapter investigates the digital Ecosystems and Landscapes in Iran, which led to insightful information. From the benchmarking, several issues emerged: education system quality, talent shortage, and skills deficit, which impact Iran’s ability to progress, innovate and compete globally.

As a solution for these challenges, Key priorities of talent development have been presented: to identify market needs, grow and retain talent, bridge the fast-widening gap, and attract high-skilled global talents.
Chapter 5: POLICY RECOMMENDATION

Last but not least, considering the current status of Iran’s digital economy and its visions, this report tried to recommend some core actions to facilitate the achievement of digital development:

1. **Improve ICT Regulatory Adaptiveness**

2. **Support ICT Infrastructure Development**
   - Accelerate the construction of the fiber optic network,
   - Accelerate the construction of 5G
   - Promote data center development
   - Encourage investment in ICT infrastructure development
   - Authorize the private sector to play a significant role in development
   - Reduce construction costs.

3. **Promote Digital Transformation**
   - Enhance the top-level design of digital transformation in various sectors.
   - Establish a data asset management system.
   - Build digital infrastructure in vertical sectors.
4. Foster ICT Innovation and a Better Ecosystem

5. Enhance Talent Development

6. Empowering the IR-based Digital Platforms

- Improve digital government by migrating to citizen-driven/business-driven innovative services and enhancing data management.

- Encourage state-owned companies to implement digital transformation.

- Forming systematic and agile processes for background checks and regulatory approval of the status of start-up businesses and accelerating their pathway toward initial public offering announcements.

- Provision of essential domestic functional services with a traffic share of 70 to 30 compared to similar foreign essential digital services and an annual growth rate of 15%.

- Strengthening venture capital investments in social media and content platforms to create a competitive environment that fosters innovation.

- Applying practical regulatory approaches and tools and clarifying the responsibility of social platforms in publishing illegal content and personal user data.

- Supporting super applications ecosystem fostering their highly scalable business models.
Introducing facilities in the infrastructure layer based on KPI stimulates the internal market players to improve and prevent the waste of public resources.

Supporting research and development on emerging methods of applying new technologies, producing and distributing the content by legislation law, budget allocation, tariffs, etc.

Making platforms responsible for the content they host and penalizing them in case of violation of laws. A safe harbor can be a solution to deal with content issues in a time of rapidly changing technology. Safe harbor is a legal provision that minimizes legal action or liability in certain situations if some requirements are met.