PTI Digital Policy

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The Digital Dream and Bitter Reality

While other developing countries used IT to strengthen their economy and safeguard their nation's future, Pakistan's successive governments failed to come up with a long-term and committed approach to digital economy. Pakistan has lost 20 years of potential progress in field of IT and underperformed by a factor of 5.

Overview of Existing Government Performance

Beyond the photo-ops and blog posts government performance in IT sector has been dismal. Government policies in the past 5 years are characterized by competition with private sector and maintaining control in a decentralized and fragmented environment. In absence of sponsorship and direction from highest level, each department at federal and provincial level created its own digital strategy competing with each other to have maximum share of resources, budgets and control. These departments including NADRA, PRAL, MoIT, PITB amongst others also competed with the IT industry whereas leading governments around the world (Singapore, India etc.) have worked in close partnership with the IT industry to help them develop capabilities and eventually compete at global level.

Instead of creating holistic and long-term strategy to solve the core issues facing the IT industry the government departments focused on redundant projects with limited and short-term impact such as startup incubators and internships/short-training programs.

The IT industry has grown organically over the past 30 years without any significant help from the government. Indian IT exports stand at $126B, Philippines at $26B while Pakistan has less than $2B to show for. In absence of job opportunities in formal sector, an oversized number of workforce joined freelancing platforms facing its own set of problems. Startups have also been exposed to very difficult business environment in Pakistan in which generating revenues or sustainability has been impossible beyond incubation stage.

Biggest issues facing the IT industry in Pakistan are:

1. **Lack of Quality Human Resource**
   Many Pakistani universities are producing poor quality IT graduates. More than 70% of the 20,000+ IT graduates produced annually are unemployable. Companies struggle to hire to meet demand while most students do not get adequate jobs even after completing expensive higher education. There has been no serious intervention to improve the quality or quantity of IT graduates.

2. **Lack of Government Sponsored Projects (E-Government/Public Private Partnership)**
   Pakistan's image and perception has been biggest issue for IT companies in attracting large-scale contracts from abroad. In absence of adequate market access, government could support IT industry as the largest buyer of IT services hence

building capacity and experience necessary to compete globally. Instead of supporting the industry, government departments competed against the industry to execute most of the e-government projects themselves. This resulted in weakening of the delivery capabilities of local technology firms on global stage. This is evident from the fact that there is not a single largescale IT firm in Pakistan with 5000+ employees compared to India and Philippines which have hundreds of them.

3. Infrastructure Issues

IT industry struggled to find adequate international quality office space at a reasonable cost. Despite calls from the industry to create SEZs, the government was unable to create a single Sq. Ft of office space for the industry. They announced mega STP projects at Federal and Punjab level that failed to materialize. Private sub-standard buildings were labeled as STPs which were subject to catastrophic events routinely such as fire and flooding, damaging companies' image and property. The only existing technology park was charged at high corporate rates discouraging smaller local IT companies to afford it.

4. Lack of Enabling Policies

Startups and IT companies working locally fail to generate sustainable revenues due to repressive policies enforced by FBR, PRA/SRB, Customs etc. There has been total lack of coordination and understanding between technology ministry and other government departments. Isolated and fragmented strategies saw most of the technology startups failing to make any revenues due to lack of business-friendly environment. This is also a major deterrent for international technology firms to operate locally in Pakistan.

5. Market Access/Visa Regime

While India/China and other countries have economic agenda on top of their foreign policies to ensure their citizens get their quota of H1B and business visas, Government of Pakistan failed to establish any respect for the green passport. Hence IT industry is left severely handicapped to freely conduct business around the world. The restricted human movement resulted in many jobs to move out to other countries.

The government failed to address any of the above-mentioned issues that hampered the growth of IT industry and instead focused on short-term projects with limited or no real impact. "Too little, too late" can best summarize previous government's efforts towards the IT industry.

PTI Digital Policy 2018

The purpose of PTI's digital policy is to transform Pakistan into knowledge economy and uplift society by enabling **1 million high paying jobs** for youth. Use IT to boost Pakistan's exports and produce world-class knowledge workers in-sync with international market trends.

Vision
Transform Pakistan into a knowledge economy making IT the top contributor to Pakistan's exports and job creation.

We believe:
- Running businesses, training programs, incubation centers and venture capital investments is not the job of the government, rather its best left to private sector. Government's role is to support private sector by providing opportunities through public private partnership models and creating enabling business friendly policies.
- To become a knowledge economy, long term policy and programs are required rather than shortcuts.
- The key differentiator of Pakistan in global economy is its people; young, energetic and hungry. Hence only through major investment in people shall we get the best ROI for the nation.
- Services sector is the future of Pakistan's economic growth and IT industry provides the best value at scale. Exports yield of average $18,000/head/year in the IT sector is one of the highest in any export-oriented sectors.
- There needs to be fundamental shift in mindset of the government from traditional industrial era thinking to knowledge economy thinking and this can best be done by providing leadership to people from the private industry.

Executive Summary

As Pakistan's population continues to grow at staggering rate, there is an urgency to create jobs at a mass scale. Digital economies around the world are disrupting traditional industries making it difficult for developing countries to compete in a traditional industrial model. Automation is making millions jobless in China and elsewhere. Artificial intelligence and smart connected devices have made technology a matter of national security.

The biggest challenge Pakistan faces today are providing jobs to millions of young people entering the job market every year. Second biggest challenge that has put stability of the country at stake is rising disparity in imports/exports. While our neighboring countries have created millions of jobs in IT sector by focusing on education and enabling environment, Successive governments in Pakistan failed to create a holistic digital strategy.

PTI understands that the challenges given above also present an opportunity. This century will be ruled by nations that can recognize human potential and harness that through education and providing opportunities for entrepreneurship and business. PTI aims to create a digital policy that will convert the problem of population into its strength.

The IT/ITeS industry provides the best Return on Investment (ROI) for investment that will stay relevant for foreseeable future. While agriculture and traditional industries will become more automated requiring less human resource to deliver more productivity, IT industry can keep on providing high-end jobs for the future. Hence IT/ITeS holds a central position in economic policies of PTI government.

Key areas of intervention include:

1. Citizen Services and e-Government
2. Human Capital Development
3. Exports and Market Access supported by massive diplomatic & commercial drives
4. Infrastructure and Connectivity
5. Innovation Eco-system and Entrepreneurship
6. Policies and Regulations

National Digital Transformation Initiative

Local digital eco-system must be strong and thriving before it can be a top exporter of IT services. The demand and supply of the existing eco-system can be repaired with a large-scale digital government program. In addition to that, core ideology of PTI to provide corruption free good governance can be delivered through the Digital Governance Program. Hence with a view to strengthen the industry, increase competitiveness, build local capacity and to deliver good-governance to people of Pakistan, the National Digital Transformation Initiative will be launched. This program will be the biggest ever launched digital initiative that will catapult Pakistan into being a Knowledge Economy.

Knowledge Economy Authority (KECA)

Under leadership of PM of Pakistan, an office of Knowledge Economy Authority (KECA) with cross-sectional powers across the government departments will be established as a statutory authority. The authority will be headed by CIO, who will provide the expert leadership and will be from private sector. This is to ensure that the authority works with a more agile mindset compared to existing government bureaucracy. The strategic guidance will be provided by a committee chaired by the Prime Minister, comprising of cabinet members and members from the industry.

A centrally led hybrid governance model is proposed where provinces will appoint CIOs who will be responsible to align the provincial digital policies and programs with the national program. A Council comprising of CIOs from Federal and Provincial Governments will be established on the sidelines of Council of Common Interests (CCI) and will meet quarterly to review progress and resolve conflicts/issues.

Current major digital initiatives under other Federal Government Ministries and departments such as HEC, IGNITE, PSEB,

PRAL etc will be put under strategic direction of the Knowledge Economy Authority who will appoint a CIO for each ministry/department to run its digital strategy and programs. These CIOs will

ensure that a connected and shared eco-system is developed aligned to central strategy in partnership with the industry that can provide basis for digitalization not currently possible due to isolated and fragmented approach.

Digital Transformation Initiative Program

Pakistan cannot become Knowledge Economy without a digital government therefore a major digital government program will be launched. Under the initiative, USD 2 Billion will be allocated over 5 years for digital infrastructure, citizen services and other e-government programs. Under the initiative, all the government contracting for digital transformation projects will be handled by Knowledge Economy Authority. The accumulated buying power will attract large technology players to establish credible local presence e.g. cloud platforms with national data stored locally. Also, centralized contracting will enable efficiencies due to collaboration across

government functions, eliminate redundancies and help ensure that national digital goals are being met with each successful project.

Government's Digital Transformation Initiative will have following priority objectives:

- Reduce compliance burden on businesses
- Improve revenue by increasing tax net
- Reduce corruption in government
- Efficiency in citizen services

Public-Private Partnership Model

PTI will be reversing the decades long practice of government competing for business with the private industry. Priority of PTI is to facilitate job creation in the private sector. One of the key objectives of the Digital Transformation Initiative is to support private industry to become globally competitive. Around the world, billion-dollar companies have been made possible by partnership with government and military.

Global Enterprises (like Huawei, ZTE, Samsung, LG, Hyundai, TCS, Infosys, Wipro, NCS were all engaged & supported by their respective Governments and subsequently pushed to compete globally.

Targets should be set to create, at least 10 global enterprises (+5,000 employees) and 25 Mid-size Companies (+1,000 employees) over the next 5 years.

Federal, Provincial Governments and 100s of poorly managed and loss making public sector organization desperately need huge

investment into technology to adequately manage their businesses.

In absence of funding for such investments in IT, DFIs like WB & ADB try to pitch loans with huge wastages and lower ROI.

This calls for creating PPP (Public Private Partnership) to overcome funding constraints.

By outsourcing or partnering with industry we intend to gain following benefits:

- Graduates produced by universities will be absorbed and provided with hands-on training hence supply of experienced/quality workforce will improve.
- Companies will develop capabilities on next generation technologies at a scale such as AI, IoT, Big Data. Creating technology solutions locally will enable them to replicate their experience abroad.

CIOs in each of the relevant ministry and KECA will be responsible for professional program management to make PPP successful.

PPRA Rules

PPRA rules will be revised for SMEs/minority and gender inclusiveness. The revised rules will also give preference to companies that maintain long-term and sizeable local presence in Pakistan or to partner with local companies that perform actual work within Pakistan to derive the intended benefits of the digital transformation program spending. Micro-procurement strategy will be encouraged for maximum inclusiveness.

Open Government Data

PTI will work to create a regulatory and legal framework to enable Open Government Data and platform for shared services. The purpose is to promote transparency, accountability and to create shared value. Startups and other government projects will be able to utilize the data in secure environment to create new services and applications. This will help to allow cross-boundary collaboration between various government departments and between public and private domains. E.g. affordable use of NADRA citizen identification to verify authenticity for online transactions. Clear policies will be developed on the use of data, managing privacy protection and handling of cyber-security issues.

Cyber Security

Protecting government critical infrastructure and data from hostile attacks is a national security issue. Therefore, a comprehensive cybersecurity strategy will be developed to safeguard national critical infrastructure against cyber-attacks and to ensure that digitalization can be carried on confidently. This may include updating laws and regulations regarding privacy and data security and creation of national center for cyber security. Special digital forensics labs to counter digital frauds & cyber threats will be created. Training and capacity building for cyber security and mass awareness will also be key part of our national policy.

Human Capital Development and Capacity Building

Pakistan has world's third largest English speaking population of the world, a key ingredient in a successful IT exporting nation. However, a large part (70% according to P@SHA) of the total IT graduate output is not-employable and of low quality. On top of that, there are limited opportunities for the workforce to get hands on experience on next generation technologies due to demand-side issues of that kind of work. The Knowledge Economy can only be built on top of high quality human capital at scale. With the world's fastest growing youth population, investing in the human capital of Pakistan at a large scale is the only way to ensure future of Pakistan.

National Outreach Scholarship Program

Digital Economy provides a level playing field for rich and poor alike to create wealth and excel in career. However, the education needed to compete in the market comes at a high cost not affordable for majority of population in rural and remote areas. The aim of national outreach program is to identify the best minds with good aptitude in IT and place them in the top technology institutions fully funded by the government. The scholarship holders will be picked from top performing students from government schools/colleges across Pakistan. A total of 50,000 graduate scholarships will be provided over 5 years, that represents 10% of total needed IT graduate output of the country. The aim of this scholarship is to increase quality of the HR and to address the brain-drain issue that has affected the industry. Due to extreme shortage of hi-tech programmers globally, this would mean making 50,000 students employable as soon as they graduate. On average $140M per year will be spent on the program. ROI of each student is $20,000/year in exports income for the country hence covering the entire cost within first year of education completion.

Establishment of Tier-1 University Campuses

A target is set to produce 100,000 technology graduates per year by 2023. In order to achieve this, free land will be given on lease to top universities to establish an additional 120 new campuses around the country. Five thousand (5,000) new faculty jobs will be created in these campuses. To attract expat community to fill the roles, tax incentives on salaries of highly qualified staff will be provided.

Three new technology universities will be established to rival the best Asian technology universities.

Maths & Science School Teacher Certification

Knowledge Economy Authority will work to improve secondary/higher secondary education especially in areas of Maths and Science. Hundreds of thousands of teachers working at secondary and higher secondary government schools are not well trained to deliver quality education. This results in students with weak foundation who struggle during higher education. To improve the quality of teaching of Maths and Science, KECA will

launch a federally administered teacher certification program, that will offer Rs 5,000/month extra salary to secondary and higher secondary school teachers who pass the teacher certification. Learning resources and programs will be made available to them to train them on teaching methods and upgrade their knowledge. To maintain the incentive, teachers will be required to upgrade their skills and pass reassessment every 3 years.

Professional Training Programs

Technology is changing rapidly, and it is hard to design a program that can stay relevant for more than a year. Government will support the IT industry by subsidizing the training programs locally and internationally to help train middle management and expert technical resources as per their unique needs.

Infrastructure and Connectivity

Special Economic Zones (SEZ)

SEZs are important to create an industry eco-system. Five large technology clusters (SEZ) will be established to foster Industry-academia collaboration, promote R&D culture and provide protected/business friendly environment to industry/startups. These SEZs will improve the image of IT sector in Pakistan, provide a stress-free environment and bring thousands of unregistered SMEs above the fold. Total of 25 Million Sq. Ft. office space will be created. The SEZs will feature:

- One window operation
- Subsidized long-term land lease for companies to invest in their own infrastructure
- Subsidized rent on developed office space subject to job creation
- World-class infrastructure (Fiber/Power etc.)
- Easy public transport from city centers
- International conference center
- 10,000 seat call center/BPO space on flexible/turnkey basis
- CPEC partnerships (IoT factories in China, hardware manufacturers assembly etc.)

Broadband Internet and Connectivity

Highspeed and quality enforced internet infrastructure across the country is the key requirement to enable the digital eco-system.

Telecom regulation will include minimum level QoS to be ensured for 3G/4G data connections and offering for business users of fast, reliable and affordable connections fit to run an internet business without disruption. City centers in 2nd and 3rd tier cities will be identified where business class internet availability will be enforced.

Considering high-speed internet as utility and critical infrastructure following steps will be ensured:

- Internet access for businesses/free-lancers cannot be switched off under any circumstances
- Right of way laws will be introduced for broadband internet providers at a reasonable rate
- Tax policies to favor greater affordability of smartphones and mobile data/digital services
- Encourage applications/content production in local languages for greater adoption
- Digital literacy programs on Radio/TV
- Mobile broadband internet penetration to be doubled

Int'l Market Access and Exports Growth

Brand Pakistan

A global PR campaign will be initiated to fix the perception of Pakistan overseas and to help create desirable image of Pakistan. This campaign will be promoting various aspects of Pakistan including tourism and trade leading the way. Global research firms will be encouraged to include Pakistan as a promising destination for IT outsourcing and it will be backed by "Made in Pakistan" campaign.

Expat Community Leadership

Pakistani expat community will be positioned at the heart of Brand Pakistan campaign. Prominent Pakistanis will be tapped in to create councils, taking initiative to market Pakistan with the backing of the embassies/consulates. Expats will be put in leadership role to propose and help execute interventions and projects. Each embassy will be given economic KPIs to meet and trainings will be provided to the ambassadors / commercial counselors on knowledge economy.

International Market Access

Trade will be the top agenda in bilateral talks with western countries. Diplomatic efforts will be made to solve following key challenges for Pakistani businesses:

1. Removal of travel advisories against Pakistan
2. Favorable visa regime for the technology workforce and business community of Pakistan

Efforts will be made to encourage partnerships with Chinese companies and collaboration opportunities through the CPEC project.

Trainings for Ambassadors and Commercial Councils

Embassies and Constellates will be given KPIs and training to increase business with the country they are based in and facilitate Pakistani businesses in winning contracts. All Embassy staff will be trained on knowledge economy and its challenges.

Innovation eco-system and Entrepreneurship

Despite creation of dozens of incubation centers in the past years, there has been no major success story. This is because once the startups pass incubation period, they face very difficult business environment; B2C models have major hurdles at policy, regulations and operational level; generating revenues and profitability is difficult in absence of market readiness and there are no major FDI in digital eco-system to pave the way for startups. In absence of local success, it's difficult for these startups to succeed abroad. It is the duty of the government to create an enabling eco-system that creates the foundation on top of which startups can thrive. Hence mass scale initiatives to create infrastructure and internet adoption, mobile payments adoption through government patronage, access to public data and forward looking centralized policy and regulatory regime is the key to ensure that startups can survive and thrive making real money and userbase.

Perpetual E-Government Hackathon

Knowledge Economy Authority will define key challenges to be solved in areas of education, healthcare, agriculture, public services etc. Through public private partnership model, companies and startups will be offered access to public departments, data and stipend to solve key problems. Entrepreneurs will be able to gain experience on large datasets and userbase on technologies such as AI, IoT, Analytics etc and perfect their products/solutions in a supportive and real environment. Revenue sharing models will allow them to reap benefit of successful implementation of their ideas. Having successful implementation at government scale will help them gain credibility in the market to have commercial success. Also, digitization may be achieved on PPP model on revenue share basis.

City as a Lab

This initiative will encourage a controlled risk taking and open-mindset in the government at city level (Federal capital) e.g. CDA. This will allow experimentation on trying to create new business models in PPP. e.g. How Metro bus stations could partner with bike-sharing startup to increase adoption and provide critical mass. Or Islamabad Police could incubate video analytics startups to identify potential crimes. These provide essential real-life data to train expert resources and help solve local problems.

Startups eco-system

The creation of digital transformation projects, digital society, open government data in itself creates a lot of opportunity for startups due to increased business, userbase and enablement. In addition to creating the enabling environment for easy adoption following policies will be pursued:

- Tax benefits and supportive policies for venture capital firms/startup investors to encourage local business groups and international funds to invest in startups
- Sales tax rationalization at 5%
- No withholding or minimum tax on startups

- Knowledge Economy Authority to spearhead informed, predictable and future-looking policy formation across-ministries and provinces to support new business models and disruptive technologies

- Creation of government supported venture fund on PPP model to solve local problems in areas of public interest.

Policies and Regulations

Digital companies are often misunderstood by traditional government authorities hence they need supportive regime that is expert in such matters. Knowledge Economy Authority will have statutory authority to create policies and regulations for all forms of knowledge economy companies across various sectors. Following are some of the key priorities from policy point of view

National Digital Policy

Enabling laws and regulations will be created and enforced nationally to ensure privacy, security, standardization and data sharing across various government departments and private sector including the telecom sector. Provinces will be encouraged to align their digital policies to national policy to create an enabling environment for nationwide operations of firms. Every effort will be made to remove double taxation and other conflicts between provinces.

Ease of Doing Business

Government will work to create one-window operation and reducing compliance burden by policy alignment, reviewing and updating sectoral policies and regulation. Digitization of government departments across all sectors will be achieved. Simplification of processes for foreign ownership of companies is priority to encourage international investments.

Target will be set to increase global ranking of Pakistan in ease of doing business, network readiness indices and other global rankings to position Pakistan as a business-friendly country.

Freelancer community will be recognized, making it easy for them to register, open bank accounts and receive international payments.

Taxes and Regulatory Regime

A forward looking regulatory and tax regime will be created that may be frequently revisited to make room for new business models and innovative offerings. Sales tax on services will be reduced to 5% to encourage adoption. Withholding and minimum tax regime will be removed from the knowledge economy companies.

Documented Economy

For the industry to flourish it is important that formal documented economy is encouraged while undocumented economy is disincentivized. Measures will be taken to incentivize companies that are documented. Regulatory bodies such as tax collectors will be trained and effective dispute resolution bodies with association representation will be created. Tax credits will be introduced for companies demonstrating new job creation to encourage documentation of knowledge economy.

IP and Copyrights Courts

Special courts and dispute resolution forums will be created with judges who are experts in intellectual property matters and copyrights. Enforcement of the law will be under these courts and business continuity will be paramount importance for the law enforcement agencies. SEZ will provide supervision to ensure no enforcement authorities can disrupt the knowledge economy business without cause.

Mobile Payments/Cashless Society

Policies and regulations to encourage cashless society for documentation of economy, bringing individuals and businesses to tax net and providing enabling environment for startups and e-commerce companies. Government services and handouts including registrations, scholarships and pensions will be paid through mobile wallets to encourage adoption. Mobile money accounts will be primary tool for financial inclusion at mass scale.

E-Commerce, Marketplaces & Digital Platforms

Favorable regulatory and policy support will be provided to e-commerce companies to grow the sector at par with international standards. Knowledge Economy Authority will have a sector specific multi-stakeholder committee to ensure barriers to doing online business are well understood and removed. Formal engagement with ridesharing and sharing economy sector to create policies in best interest of the consumers and the market growth.

Disruptive Technologies (Bitcoin, IoT etc.)

Expert consultants in subject area from private industry will be employed by the Knowledge Economy Authority to ensure new and disruptive business models and technologies are well understood and given breathing space until an informed policy can be developed. Unless declared illegal, digital services will be allowed to operate without intervention from other authorities. A formal advice will be required by traditional authorities such as FIA, commissioners, tax authorities before forming any opinion and interpreting law on the digital companies.

Inclusion and Empowerment

Favorable policies will be developed to ensure that gender disparity and people with disabilities are given share in jobs and opportunities. Hence for the companies that are seeking to sign-up government projects will be required to have basic requirements fulfilled including ensuring separate washrooms for women in office, having accessibility for walking impaired etc. Other policies to support women and people with disabilities in procurement will be developed.

Issues of freelance community and remote workers will be resolved to ensure maximum job opportunities are created across the country. Issues in international money transfer and bank account opening will be resolved.

Digital Ecosystem – Holistic Approach

GOVT. DIGITILIZATION **$10B IT EXPORTS** **1 MILLION JOBS**

INDUSTRY **STARTUPS**

PUBLIC PRIVATE PARTNERSHIP

KNOWLEDGE ECONOMY AUTHORITY	POLICIES AND REGULATIONS			
		COUNTRY IMAGE	DIGITAL ADOPTION	USE CASES
			CITIZEN SERVICES CASHLESS SOCIETY	
		MARKET ACCESS	**$2B** DIGITAL TRANSFORMATION INITIATVE	CITY AS A LAB

5 SEZ   SKILL DEVELOPMENT/ LITERACY   **120** UNIVERSITY CAMPUS   **50,000** GRADUATE SCHOLARSHIPS

HUMAN RESOURCE DEVELOPMENT

INFRASTRUCTURE

ACCESS   **MOBILE/BROADBAND**   **AFFORDABILITY**