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Report of Policy Lab on Bridging Gaps in Implementation of Industrial & Economic Development Strategies in Pakistan

پاکستان میں اقتصادی اور صنعتی ترقی کے عمل میں حائل رکاوٹوں کا خاتمہ

Policy Analysis & Recommendations- Part-1 of 11

Bridging Gaps in Industrial Policies Design, Implementation and Facilitation for Investment & Industrial Progress in Pakistan

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Bridging Gaps in Industrial Policies: Design, Implementation, and Facilitation for Investment and Industrial Progress in Pakistan

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PREFACE

Public policy design, implementation, and evaluation are intricate processes that require a holistic approach to address the multi-faceted challenges of governance, economic development, and industrial transformation. The interplay of theoretical understanding, political economy dynamics, stakeholder engagement, and evidence-based decision-making is essential for crafting impactful policies. The concept of the Policy Lab emerges as a vital tool to address these complexities. Globally, renowned universities and government entities, particularly in the EU and North America, have adopted Policy Labs as platforms for analyzing public policies, their implementation mechanisms, and resultant impacts.

Policy Labs aim to bridge the critical gaps in communication, collaboration, and coordination among academia, policy practitioners, and stakeholders. They serve as incubators for innovative ideas, allowing for rigorous pre-policy analysis, mid-term critical reviews, and post-policy evaluations. By simulating real-world challenges in a controlled environment, Policy Labs foster evidence-based policy-making processes that are both practical and adaptable to dynamic socio-economic contexts.

The National School of Public Policy (NSPP) in Pakistan, through its Policy Simulation Exercises (PSE) at its training units such as the National Institute of Management (NIM), has embraced the concept of Policy Labs. These exercises are designed to mimic the global trends of Policy Labs, creating a focused research environment where government officers from diverse academic and professional backgrounds engage with ground realities. The outcomes of these simulations offer actionable insights and policy recommendations for government entities, enhancing their operational effectiveness and societal impact.

In January 2025, NIPA, Peshawar organized a comprehensive Policy Lab designed and supervised by Dr. Muqeem Islam Soharwardy, Chief Instructor, NIPA Peshawar, addressing 11 critical dimensions of policy design, implementation, and facilitation to support economic and industrial development in Pakistan. These dimensions included:

1. Bridging Gaps in Industrial Policy Design and Facilitation at the National Level
2. Bridging Gaps in SEZ Policies and Implementation: A Case Study of Rashakai SEZ
3. Bridging Gaps in TVET Policies and Practices: Evaluating Their Impact on Employment and Industry in Pakistan
4. Bridging Gaps in IT Export and Freelancing Policies: Analyzing Economic Impacts on Pakistan
5. Bridging Gaps in Automobiles and Transportation Industry Policies: A Critical Evaluation for Industrial Development in Pakistan
6. Bridging Gaps in Labour Policies, Regulations, and Welfare Practices: Implications for Industrial Development and Social Protection in Pakistan
7. Bridging Gaps in Mechanized Agriculture and Smart Agricultural Techniques: Exploring Their Potential for Industrial Development in Pakistan
8. Bridging Gaps in Policies for High-Tech and Innovative Industries: Lessons from China's Reverse Engineering Strategies for Pakistan
9. Bridging Gaps in the Textile Sector of Pakistan: A Critical Analysis and Way Forward
10. Bridging Gaps in Policies and Practices for the Export Sector of Pakistan: An Evaluation for Enhanced Global Competitiveness

11. Bridging Gaps in Energy, POL, Gas/LNG Policies and Strategies: Supporting Industrial Development in Pakistan

The Policy Lab highlighted the urgent need to address fragmentation in policy design and implementation, emphasizing the critical role of integrated planning, stakeholder collaboration, and the use of advanced tools like Input-Output Models. For example, the session on high-tech industries demonstrated how Pakistan could benefit from reverse engineering strategies, as successfully implemented by China, to develop its industrial base. Similarly, the focus on SEZ policies and Rashakai SEZ showcased the potential of targeted interventions to optimize economic zones for industrial growth.

This initiative underscores the importance of fostering collaboration between academia and policy practitioners. Universities in Pakistan are encouraged to establish Policy Labs to complement government efforts and contribute to evidence-based policy research. Such partnerships can pave the way for a prosperous and industrially developed Pakistan, where robust policies drive sustainable economic growth and social progress.

The lessons drawn from these exercises are not only relevant for Pakistan but also hold universal applicability for nations seeking to bridge gaps in policy design, implementation, and facilitation. The NSPP's Policy Simulation Exercise sets a precedent for how structured, collaborative efforts can generate innovative solutions to complex developmental challenges, making it a cornerstone for future policy reforms.

This report in your hands addresses only the first topic: Bridging Gaps in Industrial Policy Design and Facilitation at the National Level. The remaining topics have been analyzed and documented in separate reports, crafted individually to provide in-depth insights and actionable recommendations specific to each area.

It is hoped that this document will serve as a significant milestone in the design, implementation, and facilitation of policies, paving the way for broader economic and industrial transformation in Pakistan, انشاءالله .

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Executive Summary

Pakistan lacks a unified and comprehensive national industrial policy framework to guide sustainable industrial development. The fragmented nature of multi-layered policies, outdated property rights laws, inefficient judicial performance, inadequate law enforcement, redundant inspection regimes, lack of e-governance integration, and a disjointed regulatory structure have created significant barriers for industrialists, investors, and manufacturers. This convoluted governance landscape not only stifles national economic growth but also deters both domestic and foreign direct investment (FDI) in the industrial sector.

The federal, provincial, and local governance ecosystem has failed to prioritize industrial development or create an enabling environment for businesses. These institutions remain stagnant, with little capacity to respond to or capitalize on rapid global advancements in technology, innovation, manufacturing, finance, and trade dynamics. As a result, Pakistan's governance at all levels has fallen short in adopting global best practices for fostering industrial growth and innovation.

This failure has particularly affected historically prominent manufacturing hubs like Gujranwala, Gujrat, Sialkot, Faisalabad, Karachi, and Hyderabad. These cities, once renowned for their technological and manufacturing prowess, have seen their potential suppressed due to ineffective policies and governance practices. The inability to modernize and support these hubs has not only diminished their industrial output but also weakened Pakistan’s competitiveness in the global marketplace. A robust and visionary industrial policy is urgently needed to address these challenges and unlock the country's industrial potential.Every sector of industrial policy has a different policy.

Pakistan still has opportunities to capitalize on emerging and futuristic industrial and technological trends. By leveraging its skilled youth, the country can actively participate in innovative domains such as AI-driven electric vehicles (EVs), robotics manufacturing, and artificial intelligence (AI)-powered industries. These sectors hold the potential to position Pakistan as a competitive player in the global industrial landscape. Simultaneously, it is essential to focus on traditional industrial development, prioritizing the production of goods that reduce import dependence and enhance export potential.

Moreover, this planning should prioritize fostering innovation, ensuring technology transfer, and creating an ecosystem that supports start-ups and SMEs in cutting-edge sectors. The focus should be on emerging technologies such as artificial intelligence (AI), electric vehicles (EVs), advanced robotics, and renewable energy systems, which represent the future of global industrial trends. Developing policies to attract foreign direct investment (FDI) in these sectors, establishing research and development (R&D) hubs, and forging partnerships with global tech leaders will accelerate the adoption of these technologies in Pakistan.

Historically, countries like Japan, China, and India have demonstrated the effectiveness of reverse engineering as a critical policy tool during their early stages of industrial development. For example, Japan's post-World War II industrial rise was fueled by

acquiring and reverse engineering Western technologies in sectors like automobiles and electronics. Companies like Toyota and Sony initially learned from imported technologies, adapted them to their needs, and later became global leaders. Similarly, China adopted a strategy of acquiring the best consumer and industrial technologies from abroad, dismantling them, studying their design and production techniques, and reengineering them to manufacture domestically. Today, companies like Huawei and BYD are global giants in telecommunications, Fast levitation trains and EVs, respectively, showcasing how reverse engineering led to indigenous innovation and dominance in critical sectors.

India also embraced reverse engineering during its early industrialization phase, particularly in the pharmaceutical and software industries. Indian firms initially replicated drugs patented abroad, adapted them to local needs, and eventually built a robust pharmaceutical sector that now supplies a significant portion of the world's generic medicines. Similarly, India's IT industry, initially reliant on outsourced projects, gradually developed into a global powerhouse by learning and adapting technologies to create its own products and solutions.

Pakistan can adopt a strategic approach by acquiring advanced machinery and technologies in key sectors such as automobiles, electronics, robotics (including robotic arms and humanized robots), aerospace, high-speed trains, renewable energy systems (solar panels and wind turbines), agricultural technologies (smart farming tools, high-yield crop varieties, and precision agriculture systems), and other industrial innovations from developed nations. By employing reverse engineering, Pakistan can adapt these technologies to local needs and manufacture them domestically, fostering technological self-reliance and reducing dependence on imports.

For instance, importing state-of-the-art machinery for AI-driven electric vehicle (EV) manufacturing and renewable energy systems, such as advanced solar panels or wind turbines, could enable Pakistan to study their design, optimize production processes, and develop localized versions. These adapted technologies could cater to both domestic and regional markets, offering cost-effective and competitive solutions.

This approach positions Pakistan to lead in emerging industries such as EV battery production, AI-powered industrial automation, and renewable energy manufacturing. Similarly, applying this strategy to agriculture could transform farming by introducing smart irrigation, precision drones, and AI-driven machinery, boosting productivity and ensuring food security.

By integrating reverse engineering with targeted R&D investments and fostering innovation, Pakistan can establish a competitive edge in high-tech industries and unlock substantial economic growth. Creating an enabling environment for start-ups and SMEs is crucial, requiring tax incentives, R&D grants, and streamlined regulations. Establishing technology parks, innovation hubs, and industrial clusters with modern infrastructure can attract domestic entrepreneurs and foreign investors. For instance, Pakistan could develop specialized industrial zones for robotics and AI in cities like Karachi and Lahore, mirroring Shenzhen's transformation into a global tech hub through strategic planning and investment.

To achieve this, a comprehensive and integrated industrial planning framework is imperative. This framework should be designed using advanced planning tools, such as the Input-Output Model, which enables the operational planning of detailed macro- and micro-level production ecosystems. These ecosystems should encompass interlinked critical industries, ensuring domestic production of intermediary and final products while incorporating global and domestic supply-and-demand mechanisms for each production chain. This approach allows for creating a robust industrial base that minimizes reliance on imports and maximizes value-added exports. (A detailed technical note explaining ***Input-Output Model*** can be seen in the Annexure)

Countries like China and Russia have successfully employed Input-Output Models to achieve unprecedented technological, industrial, and manufacturing growth. By integrating such tools into Pakistan's industrial planning, it is possible to replicate similar success. At the macro level, the framework would ensure that national industrial strategies are aligned with global technological trends, market dynamics, and national economic priorities. It would also focus on fostering competitive advantages in strategic industries while addressing structural challenges that inhibit growth.

By adopting this integrated planning approach, Pakistan can achieve long-term industrial growth, enhance productivity, and position itself as a global player in manufacturing and technological innovation.

By focusing on both advanced technological sectors and traditional manufacturing, Pakistan can unlock its industrial potential, create jobs, and achieve sustainable economic growth while strengthening its position in the global industrial and technological ecosystem. After 18th Constitutional Amendment, the subject of industries was transferred to the provinces. Therefore, every provincial government has developed its own policy. Ever since inception of Pakistan, the industrial policies kept shifting. The political economy took preference over developing a policy for industries. The main stakeholders were never taken on board while forming industrial policy or a particular sector was promoted at the cost of rest. The targets set were never realistic, thus, the policy implementation became difficult.

Pakistan’s industrial sector is at critical juncture as the exports in general, and that of textile sector in particular, are declining resulting in huge trade deficit. The industrial sector does not possess requisite technological infrastructure as well as skilled manpower. In addition to this, small and medium enterprises have not been given priority. The industrialists complain that they are not taken on board while forming policies.

Ministry of Industries and Production has so many departments responsible for increasing industrial growth but their performance is below average and some need restructuring. The artificial intelligence is not being properly used in the industrial sector. Moreover, the Industries of Pakistan are facing stiff competition from their rivals such as China, India, Vietnam etc. The trade diplomacy could not properly brand products internationally. Moreover, the use of outdated methods in the industries and import of raw material escalate the cost of production. Earlier, the energy crisis did damage to the industrial sector and now high tariff rates are doing the same. It is important, in this backdrop, that Pakistan shall make a national industrial policy after proper consultation

with all stakeholders. The policy shall contained framework for horizontal and vertical interventions.

This comprehensive research provides a critical evaluation of Pakistan's industrial policies, sectoral performance, and regulatory framework. The study highlights key challenges, opportunities, and prospects for fostering industrial growth through effective policymaking, bridging gaps in regulatory mechanisms, and ensuring alignment with global standards.

The report begins with an introduction to the historical evolution of industrial policies in Pakistan, followed by a legal and situational analysis of the industrial sector. Key policies such as the Textile and Apparel Policy 2020-25, Electric Vehicle Policy 2019, and Small and Medium Enterprises (SME) Policy 2021 are examined for their strengths, weaknesses, and policy gaps.

Special focus is given to the impact of Special Economic Zones (SEZs) in Khyber Pakhtunkhwa (KP) on industrialization. A comparative analysis with successful models from China and Bangladesh offers valuable lessons for Pakistan. Similarly, the auto industry, information technology sector, high-tech industries, and export sectors are critically analyzed through situational assessments, SWOT analyses, and stakeholder evaluations.

Key findings reveal significant gaps in policy implementation, rigid regulatory mechanisms, and limited technological adaptation in industries like textiles, IT, and high-tech manufacturing. The study also explores the potential of reverse engineering, e-commerce, and digital policies to enhance competitiveness.

Sector-specific analyses, such as energy, pharmaceuticals, and fertilizers, underscore the critical role of targeted reforms in overcoming challenges. Comparative evaluations of industrial policies with India, China, and Malaysia further identify actionable insights for policy refinement.

Issues and Challenges

1. **Lack of a Unified Industrial Policy:**
    - The country lacks an integrated industrial policy, with each sector having its own policy.
    - Provincial governments have different policies, leading to fragmented goals and no national framework.
    - The absence of a coherent strategy and a whole-of-government approach hampers progress.
2. **Political Economy and Policy Inconsistency:**
    - Each political party introduces its own industrial policies, leading to discontinuity and lack of consistency.
    - Aligning policies with international best practices remains a challenge.
3. **Stakeholder Exclusion in Policy Formulation:**
    - Industrial policies are often formulated without stakeholder consultation.
    - Even when input is sought, it is rarely incorporated into the final policy.
4. **Elite Capture in Policy Decisions:**

- Policies favor stakeholders with political influence or financial contributions to ruling parties.
- For example, APTMA exerts disproportionate influence over industrial policies.

5. **Misaligned Priorities and Neglect of Innovation:**
   - Pakistan has prioritized textiles and fertilizer subsidies over IT, AI, and R&D.
   - Subsidies benefit mill owners rather than farmers, and labor capacity building is ignored.
6. **Challenges in SME Financing and Integration:**
   - Providing concessionary loans and integrating SMEs into the mainstream industry remains a challenge.
7. **Low Adoption of Modern Technologies:**
   - Industries rely heavily on manual labor, reducing efficiency and product quality.
   - Balancing automation with employment remains a key challenge.
8. **Energy Crisis and High Tariff Rates:**
   - Industrial growth is negatively affected by high energy costs and regional non-competitiveness.
   - International financial pressures complicate tariff adjustments.
9. **Lack of Innovation and Resistance to Change:**
   - Cultural inertia hinders industrial innovation.
   - The electric vehicle policy, for instance, faced resistance from established industries.
10. **Overregulation and Bureaucratic Hurdles:**
    - Complex regulatory frameworks discourage industrialization and investment.
11. **Low Labor Productivity:**
    - The industrial workforce lacks productivity-enhancing skills.
12. **Governance and Funding Issues in TEVT Institutions:**
    - TVET institutions suffer from governance, monetary, and training challenges.
13. **Weak Linkages Between Industry and Training Institutes:**
    - Aligning technical skills training with international demands remains a challenge.
14. **Fake Certifications and Unregulated Institutes:**
    - The proliferation of fraudulent certifications undermines the TVET sector's credibility.
15. **Dependence on Imported Energy and Conventional Fuels:**
    - The oil and gas sector relies heavily on imports, with limited strategic reserves.
16. **Cybersecurity and IT Infrastructure Challenges:**
    - Concerns over data privacy, internet shutdowns, and regulatory clampdowns impact IT growth.
    - Poor IT infrastructure in rural areas hampers digital integration.
17. **Export Diversification and Industrial Base Expansion:**
    - Value addition and improving industrial capacity remain challenges.
18. **Investment Shortfall in High-Tech Sectors:**
    - Pakistan lacks professionals in AI and Virtual Reality, limiting high-tech industry expansion.

19. **Challenges for Freelancers and Digital Economy:**
    - Issues include the absence of PayPal, unreliable internet, and inconsistent tax policies.
20. **Taxation and Regulatory Challenges for Industries:**
    - Issues include refund delays, double taxation, and inconsistent incentives.
21. **Non-Compliance with Environmental and Labor Laws:**
    - Pakistan struggles with enforcing minimum wage, health insurance, and child labor laws.
22. **Untapped Potential in Emerging Sectors:**
    - Opportunities in EVs, electronics, lithium batteries, and clean technology remain underexplored.
23. **Global Branding and Compliance with International Standards:**
    - Pakistani products need better branding, certification, and adherence to global value chains.
24. **Trade Negotiations for Improved Exports:**
    - Strengthening international trade agreements is necessary for export growth.
25. **Slow Industrial Land Acquisition Processes:**
    - Lengthy bureaucratic delays hinder industrial expansion.
26. **Inefficiencies in Industrial Institutions:**
    - Bodies like PIDC, EDB, and NPO lack effectiveness.
27. **Frequent Political Changes Impacting Industry:**
    - Policy instability due to government transitions disrupts industrial progress.
28. **Relocation of Industries to Other Countries:**
    - Industries, including IT and textiles, are shifting to countries with better business environments.

Conclusion: The industrial sector lacks a national industrial policy, which hinders economic growth. Major challenges include an unskilled workforce, uncompetitive tariffs, taxation issues, low R&D investment, and excessive regulations. Political priorities often diverge from international best practices, further slowing progress.

Recommendations:

1. **Develop a National Industrial Policy:**
    - Define clear objectives and targets with stakeholder input.
    - Ensure a structured implementation and monitoring mechanism.
2. **Align Industrial Growth with International Competitiveness:**
    - Prioritize export-oriented industries and high-tech sectors.
3. **Ensure Inclusive Policy Formulation:**
    - Establish a National Business Council representing all sectors.
    - Prevent elite capture in policy decisions.
4. **Improve Policy Implementation and Coordination:**
    - Define Key Performance Indicators (KPIs) for execution.

- Require performance agreements for industrial bodies.

5. **Enhance Energy and Resource Exploration:**
   - Streamline licensing for oil and gas exploration.
   - Develop alternative energy sources.
6. **Promote Local Manufacturing in Emerging Industries:**
   - Provide incentives for EV production and high-tech sectors.
7. **Support SMEs with Concessionary Loans and Integration Policies.**
8. **Increase Investment in R&D and Innovation:**
   - Boost research funding and industry-academic collaboration.
9. **Bridge the Gap Between Industry and Training Institutes:**
   - Align curricula with market needs and global skill demands.
   - Conduct skill mapping for labor market optimization.
10. **Strengthen TVET Funding and Oversight:**
    - Increase per-trainee budget allocations.
    - Establish a centralized database for certificate verification.
11. **Focus on Export Diversification and Value Addition:**
    - Ensure regional competitiveness in key industries.
12. **Streamline Tax Policies and Reduce Harassment by FBR:**
    - Involve traders in tax policy discussions.
13. **Develop High-Tech Education and Training Programs:**
    - Send professionals abroad for training in emerging technologies.
14. **Ensure Industrial Compliance with Environmental Standards:**
    - Enforce regulations to promote clean technology adoption.
15. **Expedite Industrial Land Acquisition Processes:**
    - Amend the Land Acquisition Act for faster approvals.
16. **Improve Business Climate for Investment:**
    - Ensure ease of doing business through regulatory simplification.

By implementing these recommendations, Pakistan can foster industrial growth, enhance competitiveness, and achieve sustainable economic development.

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List of Acronyms

AML	Anti Money Laundering
BOI	Board of Investment
CPEC	China Pakistan Economic Corridor
CCI	Council of Common Interest
CFT	Combating the Financing of Tourism
FDI	Federal Direct Investment
E&P	Exploration and Production
GSP	Generalized Scheme of Preferences
IT	Information Technology
NCSC	National Cyber Security Center
NAVTTC	National Vocational & Technical Training Commission
PTA	Pakistan Telecommunication Authority
SBP	State Bank of Pakistan
SMEs	Small and Medium Enterprises
SMEDA	Small and Medium Enterprises Development Authority
STZ	Special Technology Zone
SEZs	Special Economic Zone
PSEB	Pakistan Software Export Board
TVET	Technical, Vocational and Educational Training
TEVTA	Technical Education and Vocational Training Authority

Introduction

Pakistan's economy primarily consists of three sectors i.e. agriculture, industry and services. Steady industrial growth is sine qua non for the progress and prosperity of a middle-income country like Pakistan having population of 241.49 million, 25.91 % are below 29 years, with growth rate of 2.55% (Statistics, 2024). Its ranking in Competitive Industrial Performance Index, 2021 was 81 out of 150 countries (Group, 2021). It has an unemployment rate of 6.3 % with 11.1 % unemployment in (15-29 years) age group, 10 % in males and 14.4 % in females (Profit, 2024). The world economies are swiftly shifting on artificial intelligence and latest technology to gear up their journey towards socio-economic development. The World Economic Forum views the rise of AI, particularly generative AI, as part of multifaceted transformation heralding a new era of global economic expansion with a potential to increase automation, productivity growth, efficiency and data analysis in economies in general and industries in particular.

Scope

This study aims at critically analysing following policies;

i. Overview of Industrialization in Pakistan

ii. Textile and Apparel Policy 2020-2025

iii. Auto Industry Development & Export Policies

iv. Electric Vehicle Policy 2019

v. Information Technology Sector, Digital Pakistan Policy 2018, Pakistan's Freelancers Policy, 2021

vi High Tech and innovative emerging sector industries and Pakistan's policies

vii. Pakistan's e-commerce policy

viii. Pakistan's Investment Policy 2023

ix. Small and Medium Enterprises Policy 2001

x. National Fertilizer Policy, 2001

xi. Energy Sector Policies

xii. Khyber Paktunkhwa & Punjab Industrial Policies

vi. The Policy of Technical Education & Vocational Training

iii. Government's regulatory regime's analysis

Exploration and Production policy 2012

- Tight gas export and production policy 2024
- National Electricity policy 2021
- Fertilizer policy 2001

- Economic survey of Pakistan 2023-24
- SME policy 2007
- Auto Industry development and export policy 2021-26
- Ministry of industries and production yearbook 2022-23
- Pakistan digital policy 2018
- Textile and Apparel Policy 2020-2025
- Auto Industry Development & Export Policies
- Alternative renewable policy 2019
- Electric Vehicle Policy 2019
- Employees old age benefits Act 1976
- Workers Children Ordinance 1972
- Minimum wages ordinance 1961
- Payment of wages act 1936
- Workmen's compensation act 1923
- Factories act 1934
- Disabled persons ordinance 1981
- China Pakistan free trade agreement
- World Bank Reports
- PIDE Report
- Reports of different Ministries etc.

Historical Overview of Industrial Policies

Early Era of Industrialization: Pakistan's industrial base, after independence, was markedly underdeveloped as the country had only 7-8 small textile mills and one cement plant (Ahmad, 2024). Subsequently, Pakistan experienced five waves of significant industrial policy changes. The first wave was based on a decision by India to impose a trade embargo on Pakistan in 1948 shortly after independence (S.A.Abbas, 1972). India blocked the transfer of funds that they owed to Pakistan under the 1947 partition agreement. This trade war adversely affected Pakistan since it was highly dependent upon import of basic goods from India. Pakistan at the very beginning encouraged investment in consumption of goods and provided protection from external competition. This approach resulted in an increase in industrial output for domestic consumption. The next wave was part of the Second (1960-65) and Third (1965-70) five-year development plans during President Ayub

Khan's regime. This was a continuation of the first wave with two distinctions. Firstly, it employed industrial licensing to increase the diffusion of the ownership of industries. Secondly, it drew on development finance companies like the Pakistan Industrial and Commercial Investment Corporation (PICIC) and the Industrial Development Bank of Pakistan (IDBP) to facilitate industrialization.

Era of Nationalization: The third wave of industrial policy involved the nationalization of large-scale manufacturing under President Zulfikar Ali Bhutto's administration (1971-1973). Actually, during the government of President Ayub Khan, it got famous that the entire wealth had been concentrated in the hands of few. Thus, to reverse this tide, Zulfiqar Ali Bhutto decided to take over control of industries related to ten sectors; iron and steel, basic metals, heavy engineering and electrical equipment, motor vehicles, tractors, petro-chemicals, electricity, gas, oil refinery, gas and cement (Brown, 1972). Public sector corporations were set up to finance the industrial sector which was the beginning of today's deep rooted public management distortions.

Era of Deregulation & Privatization: After Zulfiqar Ali Butto, an era of deregulation and privatization started in Pakistan's economy. The policies were primarily focused on decreasing governments footprints on economy. During this period, political governments remained changing frequently.

Post- 2000 Era: This period was plagued with uncertainties due to militancy, electricity outages and political crisis. From 2000 to 2007, the real estate sector eclipsed the industrial sector. From 2007 to 2013, the industries suffered due to electricity crisis. More than 40% of Pakistan textile Industry and around 0.2 million power looms shifted to Bangladesh in the last five years due to energy crisis in Pakistan (AZAD, 2012). Moreover, the negotiations on China Pakistan Economic Corridor got started and it had projects related to industrial sector too. And from 2013 to 2016, Pakistan tried to resolve the electricity crisis through installation of Independent Power Plants (IPPs), however, this policy ended in serious implications for the economy of Pakistan. Though, the electricity crisis got resolved, yet, this created the issue of circular debt and capacity payment charges. Despite so many years, Pakistan is still struggling to cope with these issues. From 2018 till to-date the major focus remained on institutional restructuring and ease of doing business. In 2020, Pakistan's ranking in Ease of Doing Business improved to 108 (Business, 2020). On 20th June, 2023, Special Investment Facilitation Council was created with a mandate to prepare long-term roadmap for growth, development, investment and capitalizing on untapped potential in key sectors of defence production, mining, information technology through local and foreign investments (Pakistan, Board of Investment , 2023). Moreover, the Federal Government on 15th July, 2024 notified a Committee for Rightsizing. And this Committee, in order to reduce the overdeveloped state structure, proposed to close and privatize few organizations of Ministry of Industries & Production as well. On 30th of December, a five year (2024-29) national economic transformation plan titled "Uraan – Pakistan", was announced consisting of five Es i.e. Exports, E-Pakistan, Equity and Empo-werment, Environment and Climate change and Energy and Infrastructure (Ministry of Planning, 2024). However, this period suffered from sharp political instability and internal rifts which had negative impacts on the economic outlook and, to avoid default, the government had to approach International Financial Institutions and friendly countries.

Legal Analysis of Industrial Sector

After Eighteenth Constitutional Amendment Act, 2010, the concurrent list was abolished and the subjects of the Industries & Production was transferred to the provincial governments. The amended Fourth Schedule [Article 70 (4)], Part II, mentions development of only those industries with the federal government which are under federal government's control or established under any federal law. (Justice, Pakistan Code, 2010). In terms of rule 3 (3) and Schedule II of the Rules of Business, 1973, the Ministry of Industries and Productions has been entrusted with the function of National Industrial planning and coordination and industrial policy (Division, 2024). Subsequently, some provincial governments conceived their own policies. At the moment, the provinces of Khyber Paktunkhwa and Punjab have their industrial policies titled "the Khyber Paktunkhwa Industrial Policy 2020-2030 and "the Punjab Industrial Policy, 2018", respectively. The industrial policy of the province of Sindh is still under consideration (Bhatti, 2024). The province of Balochistan has set of policies dealing with industries and investment. The federal government's policies impacting industrial sector include Fertilizer Policy, 2001, Auto Industry Development & Export Policy 2021-26, Small and Medium Enterprises Policy, 2021, Pakistan's Investment Policy 2013 etc. It is pertinent to mention that as per the Schedule II of the Rules of Business, 1973, the subject of textile industrial policy is dealt by Ministry of Commerce, the subject of sugar is the subject of Ministry of National Food Security & Research but the Sugar Advisory Board has been transferred to Ministry of Industries and Production (Ahmadani, 2023).

There are nearly 200 labour laws and rules in Pakistan such as Industrial Relations Ordinance, 1969, Industrial and Commercial Ordinance, 1968, the Sindh Industrial Relations Act, 2013, the Punjab Industrial Relations Act, 2010, the Balochistan Industrial Relations Act, 2010, the Khyber Paktunkhwa Industrial Relations Act, 2010, the Factories Act, 1934, workers' children ordinance, 1972, the Minimum Wages Ordinance, 1961, the Companies Profit Act, 1968, the Apprenticeship Ordinance 1962, the Disabled Persons Ordinance, 1981 etc (Rahim, 2023). Moreover, the Special Economic Zones Act, 2012, the Special Technology Zones Authority Act, 2021 and the Export Processing Zones Authority Ordinance, 1980 are relevant to industrial establishment and development. The Pakistan Environmental Act, 1997 (Justice, National Assembly of Pakistan, 1997), the Punjab Environmental Protection Act, 1997, the Sindh Environmental Protection Act, 2014, the Khyber Paktunkhwa Environmental Protection Act, 2014 and the Balochistan Environment Protection Act, 2012 are also significant in the context of low-carbon industrial growth.

As Pakistan intends to diversify its exports in the world so it has signed free Trade Agreements with Sri Lanka, China, Malaysia etc. It has preferential trade agreements with Iran, Indonesia, Turkey and Mauritius (Administration, 2022). Pakistan's Generalized Scheme of Preferences status by the European Union has been extended till 2027 (Treaty Implementation Cell, 2022).

Situational Analysis of Industrial Sector

Pakistan's Industrial Sector's share in GDP shrunk from in GDP from 19.94 % in 2017-18 to 18.2 % in 2023-24 (Usman, 2024). The industrial sector posted a positive growth rate of 1.21 percent in FY2024. Industrial sector performance is mainly driven by the

manufacturing sector (2.42%) and construction sector (5.86%). The Manufacturing and Mining sectors' contribution to GDP is 13.6 percent and 11.9 percent the GDP in FY-2024, respectively. (Finance M. o., The Pakistan Economic Survey 2023-24, 2023-24). Machinery & Equipment recorded highest growth of 61.5 percent, followed by Pharmaceuticals (23.2%), Furniture (23.1%), Wood products (12.1%), Chemicals (8.0%), Wearing apparel (5.4%), Leather products (5.3%), Coke & Petroleum products (4.9%), Rubber products (3.6%) and Food (1.7%). The sectors which recorded negative growth are Automobiles (37.4%), Tobacco (33.6%), Computer, electronic & optical products (16.0%), Textile (8.3%), Electrical equipment (7.5%), Non metallic mineral products (3.9%), Beverages (3.4%), Iron & steel products (2.2%) and Paper & Board (2.0%). The Mining and Quarrying sector posted growth of 4.9 percent during FY2024 against contraction of 3.3 percent last year. In period from July-March FY2024, production of minerals witnessed significant growth such as Coal (37.7%), Chromite (36.9%), Iron Ore (63.9%), Soap stone (29.3%), Magnesite (34.4%) and Marble (23.2%). However, some minerals witnessed negative growth such as Natural Gas (2.0%), Dolomite (2.1%), Sulphur (20.3%), Barytes (10.9%) and Ocher (24.8%) (Finance M. o., The Pakistan Economic Survey 2023-24, 2023-24). The textile sector, a major component of Large-Scale Manufacturing, however, was found struggling in the financial year 2023-24 primarily because of rising input costs, lower export values, competition from China, higher power tariffs, discontinuation of the Export Finance Scheme, high interest rates and lack of value addition**.**

Textile and Apparel Policy 2020-25

As per Schedule II of the Rules of Business, 1973, the subject of Textile Policy is dealt by Ministry of Commerce. Earlier, it was dealt by Textile Division, however, the same was merged into Ministry of Commerce in 2019 (Bhutta, 2019). Pakistan, prior to this policy, had Textiles Policies of 2009-14 & 2014-19 which were aimed at addressing immediate looming issues such as reducing the cost of doing business. This Policy, however, intends to achieve textile target of $ 40,000 million till 2025. Key success factor that influenced the exports of garment sector in Bangladesh included lower labour wages, 2.5 times lower than that of Vietnam the closest competitor and 3 times lower that of African SEZs.

SWOT Analysis

Strengths:

i. Policy aims at fully utilizing potential of home-grown Cotton augmented by manmade fibres/filaments to boost value-added exports and become one of the major players in global textiles and apparel supply chain.

ii. The proposal to National Tariff Policy will rationalize tariff structure of the textiles and apparel value-chain.

iii. Provision of raw material to value added exporters at competitive rate

iv. Product diversification

v. Supply of energy (RLNG & Electricity) to export oriented units at regionally competitive rates

vi. Duty Drawback scheme provided only to value-added textile products such as technical textile, apparel, made-ups and carpets

vii. Export and long-term financing facilities to be provided at the rates of 3% and 5% respectively for FY 2021-22.

viii. The private sector was consulted at the time of drafting of this policy so much so that when there were rumours in 2022 regarding its withdrawal, the then minister for commerce came on TV to issue denial.

ix. The policy identified following factors responsible for impeding the growth of Textile sector:

- Withdrawal of zero-rating regime and non-payment of sales tax & withholding tax refunds and customs duty drawback
- Though, Technology Up-gradation Fund (TUF) scheme was included in previous policies with special provisions to support SMEs. However, payments were disbursed, only for first fiscal year, of second TUF scheme, thus, investment in machinery and new technology remained abysmally low.
- To reduce the cost of doing business, DLTL scheme was launched in first Textile policy, however, payments were made for only two years and that too not on time, whereas, in the second policy, the scope of the scheme was linked to incremental increase in exports.

Weaknesses: The incentives, in this policy, only focus on reducing the cost of doing business in existing industries and no specific link is proposed to either enhance exports or expand production lines. (Khan M. Z., 2021).

ii. Despite this policy, the textile sector witnessed a dip of 8.3 percent during July-March of 2024, compared to a contraction of 16.0 percent in the same period last year. The significant decline seen in cotton yarn is 12.2 percent, and cotton cloth is 7.3 percent, which accounts for more than 80 percent of the textile sector (Finance M. o., Pakistan Economic Survey. 2023-24, 2024).

iii. Since 2009 textile sector has experienced three such five-years Textile policies to enhance value addition and promote the level of exports in the sector. However, these policies failed to achieve the desired results and help the textile sector in moving towards a higher ladder of comparative advantage. The primary reason has been the shortage of funds and the late disbursement of financial resources promised through the incentive schemes.

iv. The target of achieving export of $ US 40,000 was ambitious one. This target was set without prior determination of strategies to achieve it.

v. Frequent power outages and energy shortages significantly affected production. The government couldn't do much in this regard.

vi. Due to the devastating floods, the production of the cotton crop was extremely low and the government had to rely on imports

vii. The government couldn't fulfill the agenda of tax refunds

viii. Out of total textile exports during March 2021 around 23% constituted the exports of low value-added products like cotton yarn

ix. The other major problem faced by the entire industry relates to the quality and volume of the raw material, i.e. cotton. Its production is on the low and quality is very poor. Over the last two decades, the area of cotton cultivation has decreased by 18%. Pakistan's cotton is one of the most contaminated cotton in the region. Untrained cotton pickers from field to low ginned quality standards all add to cotton fetching lower value in the market. Pakistani ginned bales contain 8-10% trash, while in the world it averages around 2-3% only. Poor quality cotton in terms of its physical properties not only raises the processing costs but also reduces the output and quality of the final products.

x. To increase cotton production, we need to offer farmers high-yielding seeds which bring more profitability. Provision of such high-yielding seeds is only possible after accomplishing necessary research and innovation regarding the seed quality. We need further research on the type of seeds that are resistant to pests/insects and plant diseases. All these concerns put a big question mark on the performance of government agriculture research bodies.

Opportunities:

i. providing support for technological upgrades, skill development, and infrastructure improvements.

ii. Modernizing textile units with the latest technology can significantly improve productivity and reduce waste. Investment in automation, digital printing, and eco-friendly processes can help make Pakistan's textile products more competitive globally

iii. While traditional markets like the USA and Europe remain essential, there is a need to diversify export destinations. exploring markets in Africa, Central Asia, and the Middle East can open new avenues for growth.

iv. Investing in value-added textile products like fashion apparel, technical textiles, and high-end home textiles can significantly boost export revenues.

v. Branding and marketing Pakistani-made garments as quality products can further increase their value.

vi. The future of Pakistan's textile industry looks promising if key reforms and investments are made. With global fashion and retail brands sourcing from Pakistan, the country has the potential to further expand its textile footprint on the international stage. By focusing on value addition, sustainability, and technology, Pakistan can solidify its position as a leading textile.

vii. The global demand for sustainable and environmentally-friendly products is growing. Pakistani textile producers can tap into this by adopting green manufacturing processes, using organic cotton, and focusing on recycling and reducing water consumption

Threats:

i. The leading cause of reduced production was the drop in the unit value of exports amidst weak external demand for textiles, coupled with intensified competition from China. Additionally, increased power tariffs following the removal of energy subsidies for export-oriented sectors, the high cost of imported raw materials, the phasing out of the Export Finance Scheme, and high interest rates were among the significant factors affecting textile output. (Finance M. o., The Economic Survey of Pakistan, 2023-24, 2024).

ii. Rising energy cost is a threat to the Textile sector in general and to the implementation of this policy in particular.

iii. In Bangladesh, the price of cotton yarn is low compared to Pakistan due to the low utilities cost. Moreover, Bangladesh, India etc. have low labour cost in comparison to Pakistan.

iv. Other inputs are also imported, such as chemicals, dyes, accessories, packing material etc. And given the rupee-dollar disparity, ever since the commencement of this policy, remained a hurdle in successful implementation of this policy.

v. One another major threat and hurdle in achieving target of this policy is the higher competition in the international market. Countries like Bangladesh, Vietnam, India and Thailand are emerging as new textile exporters and have a comparative advantage in this sector. These countries use latest machinery and equipment, contrarily, the machinery used by Pakistan is out-dated.

vi. The cotton producer farmers must utilise high-yielding hybrid seed varieties to produce crops. The cotton production is decreasing and the government has to spend millions of dollars to bridge the gap in domestic demand.

vii. Most of the operations in the textile industry are conducted manually due to the need for more technology adoption. The global procurement process procedures have incorporated emerging technologies in the value chain process. However, due to a lack of digitisation, the whole value chain process of the textile industry is being impacted adversely and confronted with many inefficiencies in the system.

viii. Pakistan is known for producing raw materials like cotton yarn and fabric, but value-added products such as garments and home textiles can fetch higher export prices. A lack of focus on value addition reduces the overall profitability of the sector.

GAP Analysis:

No.	**Current State**	**Key Steps to Bridge the Gap**	**Desired State**
01	Unrealistic Export Target	A stakeholder consultative session be arranged to make the Export Target realistic	To set a realistic Export target which is achievable
02	Non-utilization of latest machinery & technology	Using the forum of APTMA to persuade the industrialists about usage of modern machinery & technology	Utilization of latest machinery to increase exports e.g. Machine based cotton picking

03	Unskilled Labour	Arranging an immediate interaction between Navttc and TEVTA Punjab so as to identify the problems faced by the Industry and the skills it required	✓ Skilled Labour which has higher productivity for the Industry ✓ Increasing Labour Productivity
04	Bangladesh, China, India and Vietnam are dominant	✓ Diversifying the Product ✓ Provision of Skilled Labour ✓ Usage of latest Machinery & Technology ✓ Diversifying export destinations ✓ Holding Expos & arranging pavilions for promotion of products using Commercial Counsellors & Trade Attaches'	To achieve competitive edge in market and improve exports
05	No Value Addition	✓ There is a dire need to establish a linkage between research institutions and the textile industry to create new products and value-added services ✓ Ministry of Commerce shall earmark a component of budget for Research, Development & Innovation	To achieve Value Addition and new products as per international market demand and standards
06	Tax Refunds Issues of Manufacturers	✓ Federal Board of Revenue shall clear this problem ✓ The Chairman FBR shall immediately hold meeting with the traders	Facilitation of Manufacturers and obtaining goal of policy
07	Energy Crisis & tariff issues	The NEPRA shall resolve this issue. If IMF has issues, Ministry of Finance shall first discuss this matter with the Country head	Provision of uninterrupted supply and ensuring regionally competitive energy cost
08	Devaluation of Rupee	After latest IMF package and cooperation of friendly countries, the overall economic outlook has improved, thus, the fluctuation in rupee value has been controlled	To ensure that the manufacturer is not at loss

Stakeholder Analysis

Stakeholder	Interest	Influence & Power	Engagement Strategy

Ministry of Commerce	✓ Economic growth ✓ Job creation ✓ Export promotion ✓ Improving Trade balance & Balance of Payments	✓ Policy making & ensuring implementation ✓ Branding Pakistan's products abroad	✓ Coordinating with Provincial Governments ✓ Ensuring compliance to International Standards ✓ Coordination with APTMA & other associations ✓ Facilitating Industries in resolving their issues
Private Sector (Industrialists-Exporters & Importers)	Sustaining & expanding Industry's Profitability	✓ Well connected with political executive ✓ Financial clout ✓ Employment Providers	✓ Input in policy formulation ✓ Facilitation in multiple government processes ✓ Awareness about International standards and best practices ✓ Compliance to prevailing laws e.g. Environmental & Labor Laws ✓ Incentives
✓ Chambers of Commerce & Industries ✓ All Pakistan Textiles Millers Association	✓ Political clout ✓ Promotion of Industries	✓ Influence on the industrialists i.e. manufacturers, exporters & importers ✓ Promoting goodwill for government policies ✓ Connect between Government and Industry	✓ Frequent meetings ✓ Representation in boards of public sector enterprises ✓ Representation in Taskforces or Committees constituted for revival or promotion of industrial sector
Political Leadership	✓ Voters	✓ Legislation	✓ Meetings

	✓ Contribution in Party fund ✓ Agenda setting	✓ Bridge between Industry & Government	✓ Making them part of consultative process in policy making
Employees	✓ Manpower Contribution ✓ Source of Income ✓ Other Incentives	✓ Labour Unions ✓ Agitation / Protest ✓ Industrial Relations Commissions	✓ Competency based Trainings ✓ Awareness about rights and safety
International & Local NGOs	✓ Workers Rights ✓ Child Rights ✓ Women Rights ✓ Bonded Labour	✓ Public Opinion ✓ International Outreach ✓ Image Building ✓ FDI	✓ Seeking their input ✓ Sharing positive side of the industry
Federal Board of Revenue	Broadening Tax base and improving Tax to GDP ratio	Tax Collection empowered under Income Tax Ordinance, 2001 & Federal Excise Act, 2005	It needs to be engaged to resolve the tax refunds issues of the manufacturers

Critical Evaluation of Special Economic Zones (SEZs) Policies and its impacts on Industrialization in KP

Legal Framework Analysis: The SEZs operate under the Special Economic Zones Act, 2012. The broader objectives of the SEZs were industrialization in the country. At a later stage Board of Investment (BoI) narrowed it slightly by targeting relocation of Chinese Industry in CPEC. The Government of Pakistan SEZs Act 2012, as amended by SEZs Act 2016, lays down the criteria, provisions and rules for the establishment and development of SEZ in Pakistan (SEZ, 2016). **Federal Framework**: At the federal level, a Board of Approval (BOA) under the chairmanship of the Prime Minister, having members from various ministries, provincial Chief Ministers, Chairman Board of Investment (BOI) and technical experts, have been constituted to head the apex body and execute the provisions of the act as enshrined in this SEZs Act (RSA, 2014).

ii. According to this act, any province as well as individual can establish SEZ; provided the land is at least 50 acres and the purpose of establishment of SEZ has been clearly defined.

iii. The developer shall be selected on open bidding who would be responsible for the development of the zone and provision of amenities to the industries within the zone.

iv. No more than 30% land can be used for amenities. Developer is responsible for provision of electricity, gas, water and other services for which he can establish hydro power projects and infrastructure (RSA, 2014).

v. The industrial parks, EPZs, hybrid export processing zones, extra territorial zones, multilateral zones, reconstruction opportunity zones, regional development zones and sector development zones which were established earlier, have been included in the provisions of SEZs Act.

vi. Similarly, under the act, the scope of SEZs has been enhanced through the inclusion of service sector to include IT, storage, communication, and allied infrastructure developments. Exemptions on accounts of custom duty which was available for the import of plants and machinery, has now been enhanced in scope to include wide variety of capital goods to be used in manufacturing and services. Similarly in order to accelerate the pace of development in public private partnerships, the specific exemptions available to developers have now been extended to co-developers as well. Income tax exemptions have enhanced from 5 to 10 years (SEZ, 2021-2022).

vi. According SEZ Act 2012, an economic zone is to start constructional activities within six months after allocation of land. They are also supposed to get into commercial production within 24 months after the approval date. If an enterprise is unable to start with the committed activities, then its status of land allocation can be withdrawn (SEZ, 2021-2022).

Provincial Framework for SEZs: Authority for the province would also be established headed by Chief Ministers to include provincial ministers, technical members, and representatives of business community. Authority would act as apex body in the province for execution and approval of projects as per this act.

Overall perspective of SEZs: Economic Survey of Pakistan 2021/22 gives the historical timelines for the establishment of SEZs. After the enactment of the SEZs Act 2012, three SEZs were set up in 2015, and after incorporating few amendments through Presidential Ordinance, 4 more SEZs were established in 2016 and nine SEZs were agreed under CPEC Phase II. In 2019, six new SEZs were approved including Rashakai SEZ in CPEC. In 2022 framework agreement on industrial cooperation under CPEC was signed (SEZ, 2021-2022). Till FY 2018-19, there were only seven SEZs as planned put into development; out of those, 6 were taken from their earlier status of industrial estate or industrial parks. Thereafter, in view of the CPEC developments which prompted industrial cooperation with the Chinese government, SEZs started coming into planning process in greater numbers across the country. This tendency also encouraged investors' confidence in industrial planning and commitments. The numbers rose to twenty in the approved state while twenty-one more have been notified under the Board of Investment (BOI). It also includes a Science and Technology Park which is being established under National University of Science and Technology (NUST).

On accounts of establishing SEZs in Pakistan, it has made reasonable progress by allocating over 10,000 acres of land for the 21 notified such zones. Out of the allocated land, 5,357 acres which makes 53% of the total allocation have been given to investing parties so that

they could set up planned industrial units. The planned investment is Rs. 823.42 billion. About 40% of the planned investment is in the shape of FDI.

Critical Success Factors (CSF) for SEZs- International Best Practices:

As opined by Zeng (2014) and others alike, there are five CSFs for SEZs; clear objectives, bold policy innovations, good location, customized design and effective management (Cheong, 2018; Zeng, 2015).

1.**Clear Objectives** Linked with Policy Initiatives, if the objective is job creation, then labour intensive industries have to be established and services sector gets preference. High-tech industries established by multinationals to produce high-tech equipment would be less labour intensive but they will have technologically advanced equipment. Though, this would increase FDI as well as exports but would not be able to provide employment. Similarly, development of a specific sector like tourism would have different objectives and requirements. Technology transfer would be another objective focusing on new technologies only. When Shenzhen SEZ in China was developed in 1980s, China was in the process of ideological shifting from central planning to a market economy. Thus, Shenzhen acted as testing ground for executing new principals of market economy, like tax exemptions and liberal business policies (Cheong, 2018).

2.**Bold Policy Innovations**: There is a tendency of holding back to old policies and less liberalization which remained hindrance in reaping optimal advantages of SEZs. Policy innovations of liberal tax exemptions, tax holidays, custom free import of plants and machinery, liberal labour policies and developing human resource would need to be prioritized in the same way. It also includes free access to foreign exchange for import and export of equipment

3. **Location of the SEZ:** One of the most important aspects of establishing a SEZ is its location. If it is meant for exports, then it should be near to ports and airports. If a SEZ is meant for manufacturing purpose, then it should be closer to area where sufficient skilled manpower and labor is available. Similarly, if it is meant for boosting agricultural exports, then it should be closer to the farms and orchards. If SEZs are planned and located in remote areas then they are likely to fail due to absence of these important facilities

4.**Customized Designs of the SEZs:** Customized design to cater for the industrial units, amenities, rail, road, and port infrastructure are important in the master plan for development of SEZs. Master plan caters for the need of industries and their future expansion. In Singapore for example, there is a requirement of going vertical due to space scarcity in logistic warehousing as well as industrial infrastructure. Therefore, the designing has to be according to local conditions.

5.**Proficient and Effective**: Effective management is important to cater for the infrastructural development and dealing with day-to-day affairs for the successful operations of SEZs. They should also be able to cater for the future requirements of the SEZs and their integration in the overall industrial setup of the country. Harmony between management and regulatory bodies would speed up if setups are made friction free and mutually supportive.

Foundational Success Factors of SEZs:

▪ Government's ownership, commitment and support at national and local levels is essential to sustained specialized operation of SEZs.

▪ Political consensus, social convergence, collective vision, comprehensive concept of growth and notion of national support is equally important.

▪ Integration of functional modalities with the local government policies, social structure and possible prosperous future provide hope and motivation to the people.

▪ SEZs are long-term projects which need to be based on comprehensive strategic plans and futuristic, elaborate and supportive infrastructures.

▪ Growth, security, safety and operation of SEZs depends upon people of the area, their commitment levels and motivation for provision of best possible human hands.

▪ Location of the SEZs is a strategic aspect which necessitates it being central having connections for services, transportation of goods and allied facilities.

Basic Requirements:

The success of SEZs depends on following factors:

- Strong External Linkages for Commerce and Trade
- Internal Connectivity and Integration
- SEZs Immersion with National Vision and Aspirations
- Growth Equalities and Uniform Incentives
- Resolving Structural Flaws

SWOT Analysis of SEZs in KP:

The Special Economic Zones (SEZs) and Export Processing Zones (EPZs) in Khyber Pakhtunkhwa (KP), Pakistan, have potential to drive economic growth, attract investment, and boost exports. However, they face several threats and weaknesses that can impede their effectiveness and development. Below is an analysis of these factors:

Strengths:

1. Establishment of Hattar Special Economic Zone:

- 316 new plots allotted
- 10 industrial units operationalized
- 107 industrial units under construction
- 50MW Grid Station completed
- Gas supply line to the zone is completed
- 100,000 direct and indirect jobs created
- Total PKR 40 billion private investment mobilized

2. Establishment of Special Economic Zone Rashakai:

- Access road completed
- 160 MW transmission line completed

- Gas supply line to the zone is completed
- PKR 75 billion private sector investment mobilized
- 2,066 applications for allotment of plots received

3. Revival of Sick Industrial Units/ Rehabilitation:

- 03 Industrial Estates – Peshawar, Hattar and Gadoon rehabilitated
- 162 closed/sick industrial units revived at Peshawar, Hattar, Gadoon and Nowshera
- 5,163 jobs restored
- PKR 30 billion investment made

4. New Zones:

- 07 new zones launched – Jalozai, Nowshera, Chitral, Ghazi, D.I Khan, Bannu and Mohmand
- 366 new industrial units added in new/existing zones
- PKR 150 billion private sector investment mobilized
- Approximately, 23,606 employments generated from new/existing zones

Weaknesses:

1. **Infrastructure Deficiency**

Poor connectivity, inadequate transport networks, and unreliable utilities (electricity, water, and gas) hinder industrial operations.

2. **Limited Skilled Workforce**

A lack of technical education and vocational training facilities in KP result in a shortage of skilled labour for industries.

3. **Underdeveloped Supply Chains**

Weak local supply chains increase costs for industries and reduce the competitiveness of exports.

4. **Ineffective Marketing**

Insufficient promotion and branding of KP SEZs and EPZs prevent them from attracting significant foreign direct investment (FDI).

5. **Financial Constraints**

Limited availability of credit and high borrowing costs discourage small and medium-sized enterprises (SMEs) from setting up operations.

6. **Coordination Issues**

Lack of synergy between federal and provincial governments leads to delays in policy implementation and infrastructure development.

7. **Land Acquisition Problems**

Legal disputes and resistance from local communities over land acquisition delay the establishment of zones.

8. **Technology Gap**

A lack of advanced technology and innovation ecosystems reduces the competitiveness of industries in the zones.

Opportunities:

1. Employment Generation
2. Flourishing local industry
3. Regional Development
4. Contributing to national economy & growth
5. Infrastructure development

Threats

1. **Political Instability**

Frequent political changes, governance issues, and inconsistent policies create an uncertain investment climate.

2. **Security Concerns**

Khyber Paktunkhwa's history of conflict and its proximity to Afghanistan can deter foreign and domestic investors due to concerns over safety.

3. **Economic Challenges**

The overall macroeconomic instability in Pakistan, such as inflation, currency devaluation, and high interest rates, impacts investor confidence.

4. **Environmental Risks**

The region is vulnerable to natural disasters such as floods and earthquakes, which can disrupt industrial activity.

5. **Geopolitical Tensions**

Border tensions with Afghanistan and strained regional relations can affect trade routes and investor sentiment.

6. **Global Competition**

SEZs and EPZs in KP face competition from better-developed zones in other parts of Pakistan (e.g., Karachi and Punjab) and regional competitors like India, Bangladesh, and China.

7. **Regulatory Challenges**

Complex and cumbersome bureaucratic processes can delay approvals, discouraging investment.

8. **Limited Market Access**

Despite being near the Afghan border, the unstable regional trade environment can limit access to Central Asian markets.

Comparative Analysis with China and lessons:

China has emerged most successful in developing SEZs for long term economic and social transformations of its people. They started with four zones initially and after successful experiments, expanded the program to many other parts of China. Shenzhen SEZ made China as the fastest growing economy which changed the pattern of global economy.

Reforms: In order to regulate SEZs efficiently; they undertook reforms in their system of taxes, provision of land, employment of working hands, raising finances, customs obligations and immigrations

Foundation pillars: There are seven pillars considered as the foundation of the Chinese model of SEZs; it includes government, leadership, policies, infrastructure, people, location, and integrated outlook.

Protocols: Besides foundational considerations, there are certain protocols required for the planning and establishment of SEZs. The protocols include preferential regulations, phased approach, ease of doing business, environmental considerations, international cooperation, innovations, compatible service delivery mechanisms, favorable investment climate, social system, export orientation and diversification (Robinson, 2022).

Comparative Analysis with Bangladesh:

i. Bangladesh government introduced fiscal incentives to the investors which included full tax exemption for the initial 10 years.

ii. Then for the next 5 years, further relief was provided by reducing the tax to 50 percent.

iii. They also provided relief on import and export of raw materials and finished goods on varying scales.

iv. Other incentive on fiscal ground includes duty-free import of construction materials, equipment, office machinery, spare parts, relief from double taxation, exemption from dividend tax and duty-free import of two to three vehicles for the operations of EPZ.

v. Furthermore, expatriates were exempted from income tax for the initial 3 years. The government also allowed accelerated depreciation allowance on machinery and remittance of royalty, technical, and consultancy fees.

vi. Similarly, on accounts of non-fiscal incentives, the government allowed 100% foreign ownership to the inland investment for infrastructures. In order to facilitate the operations of EPZs, investors were allowed to avail foreign currency loans directly from abroad. Similarly, they could maintain non-resident foreign currency deposit account,

GAP Analysis:

Present State	Actions required	Desired State

Highly regulated forex regime created hurdles in repatriation of profits for SEZ enterprises.	Relaxation for foreign investors is required. Ministry of Finance shall take appropriate action	Flexible forex regime for foreign investors
The generous tax incentives offered in SEZs were partially and unilaterally withdrawn by levying minimum tax / turnover tax.	FBR needs to revisit this policy. International Monetary Fund be taken on board.	Tax incentives based on the practice of Bangladesh and China
By the time some SEZs became operational, regional countries had offered better incentives in their own economic zones so Pakistan lagged behind.	Competitive model of incentives needs to be introduced	Attractive incentive package for the investors
SEZs became more of a source of minting money by the zone developers through elevated real estate prices and industrialization became a second priority.	Regulatory mechanism needs to be active but not irritating. Moderate approach is required	SEZs to bring prosperity and development for the country as well as profit for the investors. Balanced Model.
The management structure of the SEZs was too cumbersome to deliver efficiently.	National Industrial Regulatory Authority	Lenient model of management
SEZs are prohibited from transfer of plots before construction and operationalization of the unit, however, action against the non-utilization of the plot is impeded by the restraining orders from the courts.	Thorough analysis of the matter as why this is happening. Legal amendments may be incorporated after taking stakeholders e.g. Investors, Provincial Governments, Developers. However, it is to be noted that India also faced the same issue.	Operationalization of Unit

Rigid Regulatory Mechanism for SEZs in KP

Federal and Provincial Agencies to be approached by Enterprises

	Agency Name	**Responsibility**

Federal Agencies	Board of Investment (BOI)	Approval for SEZ entry and incentives under SEZ Act 2012.
	Federal Board of Revenue (FBR)	Tax registration, exemptions, and compliance.
	Securities and Exchange Commission of Pakistan (SECP)	Company incorporation and legal registration.
	National Electric Power Regulatory Authority (NEPRA)	Licensing for electricity distribution and grid connection.
	Ministry of Energy – Petroleum Division	Gas supply approvals and allocations.
	Pakistan Customs	Import/export clearances and duty exemptions.
	State Bank of Pakistan (SBP)	Foreign exchange approvals and banking oversight.
	Pakistan Standards and Quality Control Authority (PSQCA)	Certification and quality compliance for products.
	Trade Development Authority of Pakistan (TDAP)	Export promotion and international trade compliance.
Provincial Agencies	KP Economic Zones Development and Management Company (KPEZDMC)	Land allocation, infrastructure facilitation, and investor support.
	KP Board of Investment and Trade (KPBOIT)	Investment promotion and provincial-level facilitation.
	Excise and Taxation Department	Registration for property and business taxes.
	Environmental Protection Agency (EPA – KP)	Environmental Impact Assessment (EIA) approvals.
Provincial Agencies	Labor Department	Compliance with labor laws and workforce regulations.
	Local Government Authorities (District Level)	Approvals for building permits, water supply, and waste management.

Utilities	Sui Northern Gas Pipelines Limited (SNGPL)	Gas connections and agreements.
	Peshawar Electric Supply Company (PESCO)	Electricity connections, meter installations, and energy supply.
Security Agencies	KP Home Department	Issuance of No Objection Certificates (NOCs) for foreign investor visits.
	Special Security Division (SSD) and Special Security Unit (SSU)	Access permits and security clearance for SEZ areas.
Other Agencies	Chambers of Commerce and Industry	Industry-specific support and networking.

Auto Industry Development and Export Policy

Situational Analysis:

During the period July-Oct FY 2024-25, the automobile industry performed well as production and sales of all vehicles grew by 25.5 %. Key contributors to this growth included Cars (production up by 60.8 %), Trucks & buses by 89.9 % and Jeeps & pick ups by 64.2 % (Government of Pakistan, December 2024).

Aims & Objectives: The policy intends to enhance affordable mobility in the society and the target is to manufacture 6,50,000 Cars / LCVs/ SUVs, 100,000 tractors, 20,000 HCVs, 7 million 2-3 wheelers per annum and to promote local production.

SWOT Analysis

Strengths:

i. To improve competition, launching “make in Pakistan”.

ii. To increase the exports of parts and vehicles and implement WP-29 Safety Regulations.

iii. New Tariff plan for existing OEMs and new entrants.

iv. Provision of regulatory and enforcement mechanism for quality safety and standards.

v. Ensure consumer welfare, reimbursement @ KIBOR + 2% in case of delayed delivery.

vi. Under this policy, greenfield status was granted to 21 companies. In car segment Chinese, Malaysian, Korean and European makes were introduced.

vii. New technologies were committed such as EV and hybrids

Weakness:

i. The policy doesn't concentrate on technology transfer. The auto industry of Pakistan is restricted to the assembly work. Not a single company is producing the components for the following critical and functional parts; Engine, Transmission, Gear Box, Axles, Ignition System, Clutch System, Braking System, Wind Scene & Door Glasses.

ii. The policy does not cater for this aspect that a lot of vehicles being offered in Pakistan are undergoing assembly in certain areas, more specifically fabricating, welding, painting, and assembly.

iii. The policy is limited in scope, in the sense that it is not designed to hold the current players accountable for quality lapses and unregulated price rises.

iv. The share of profit of the major players of the automobile industry those were creating monopolies is not expected to decline even after the new policy.

Opportunities:

i. The Ministry of Industry and Production allowed United Motors Private Limited, Kia-Lucky Motors Pakistan Limited and Nishat Group to set up units for assembly and manufacturing of vehicles under the Greenfield investment category.

ii. To provide a truly supporting framework for the industry, will have to address two important areas. The first is to incentivise local spare parts manufacturers. A thriving local assembly sector will not only save foreign exchange, it will create foreign exchange, if the sector can reach export level quantity and quality.

iii. The Automotive Development Policy 2016-2021 gave attractive opportunities to 12 Chinese and two Korean projects (Khan A. S., 2022).

iv. Kia-Lucky Motors laid the foundations of disruption by launching their SUV, Sportage, a year ago in August 2019. They spotted a niche in the modestly priced, compact SUVs which the consumers whole-heartedly welcomed. The success of Sportage paved the way for the introduction of the Hyundai Tucson recently. With a promising launch that saw bookings filled to the brim, Tucson – like Sportage – is anticipated to fare well (Jawwaid, 2020).

v. Many new entrants came into the market, for which policy may be given full credit, but post-covid issues resulted in skyrocketing prices of cars and car parts in global markets, along with local import restrictions coupled with depreciation of Pak Rupee. All these issues were not good omens for new entrants in their infancy but majority of them have survived – at least so far.

Threats:

i. As it is evident from the name that the key objectives of the policy were two pronged: firstly, to develop the sector and secondly to increase exports. However, by the end of the policy, it failed miserably in achieving both the objectives as the sector is operating at around $1/4^{th}$ of the capacity, even in the current year when auto production increased by 54pc, and auto exports are still a distant dream.

ii. The achievement of export was envisaged through stronger tariff barriers. The policy was less of an export promotion and more of import substitution (the localized parts were taxed at double the rate of non-localized parts). There is broader consensus amongst the experts that protectionism does not increase exports. In the concluding years of this policy, we can witness it first-hand.

ii. "Mandatory Exports Targets" as percentage of cost and freight (C&F) value were assigned to auto-assemblers but not achieving such *"mandatory"* targets did not entail any penalties. Though, if auto manufacturers do achieve exports, further incentives were outlined but none of those incentives were definitive (almost all the export incentives hinged on government's further consideration).

iii. The policy is step in right direction, however, there are challenges in its implementation. During July-March FY in 2024, compared to the same period last year, there was a massive decline in all auto sectors except for farm tractors. Total tractor production during the period under review was 36,133 units, compared to 22,626 units produced last year, showing an increase of 59.7 percent. Passenger car production was down 36.7 percent during July-March FY 2024, with 55,670 units compared to 87,820 units produced during the same period last year. The fall in production has been in almost all passenger car segments due to persisting import restrictions and import quota restrictions tied to the new mandatory export requirements. Higher inflation and persisting higher policy rates have suppressed the bank leasing of local automobiles. The production of heavy commercial vehicles, i.e., buses and trucks, has registered a negative growth of 51 percent and 43.9 percent, respectively, during the period under review. Bus productions were 297 units during July March FY 2024 compared to 606 units produced during the same period last year (Finance M. o., The Economic Survey of Pakistan 2023-24, 2024).

Electric Vehicle Policy 2019

Salient Features:

i. Electric Vehicle Policy was launched in 2019, however, later on it was merged into Auto Industry Development & Export Policy 2021-2026

ii. Under EV Policy, corporate tax was abolished for its companies manufacturing EVs and EV-specific parts

iii. Provision of prompt provision of electricity connections for charging stations at reduced rates.

Present Government's Strategy:

i. Free electric bikes for the top 120 students of the Federal Board

ii. A plan to provide 39,000 electric bikes and 19,000 electric rickshaws on subsidized loans. Iii. The government is working on installing 40 charging stations along motorways and national highways, with a focus on transparency through digitized processes**.**

iv. CDA to install EV Charging stations at all petrol pumps.

GAP Analysis:

Current Status	Key Steps to bridge the Gap	Desired State
The government's decision to set up charging stations at every fuel station in Islamabad - positioning the capital as a model city for EV readiness (Abbas G. , 2024)	Ambitious target. The stakeholders have not been consulted. Policies made in vacuum or isolation don't work	Rationalization of targets after due consultations with stakeholders
Low number of EVs in Pakistan. Over the past year, fewer than 600 EVs were sold nationwide, with Japanese automakers yet to fully enter the market (Abbas G. , Profit Newspaper, 2024)	✓ Focus on local manufacturing ✓ Mandatory phase out policy ✓ Role of big 3 ✓ Focus on 2-3 wheelers ✓ BRT, NLC, Careem, Bykea	A robust EV ecosystem in Pakistan with whole supply chain secure
Inadequate charging infrastructure	✓ Priority connections with smart meters ✓ Low tariff to encourage private sector ✓ Reduce circular debt by utilizing idle capacity	Level 1 fast charging stations on inter and intra city routes
No incentives in the AIDEP for the consumers of EVs	✓ Yellow cab scheme and Rozgar scheme ✓ Earn carbon credits ✓ Reduce BoP through low oil imports	Both demand and supply side incentives through low cost financing
No whole of government approach and implementation mechanism	✓ NEECA and PEECA to take lead with defined targets ✓ Uniformity of policy between federal and provinces	A well defined stakeholder analysis and coordination mechanism
Lack of trained HR and no localization of manufacture	Role of NAVTCC - Centers of excellence in LUMS, NUST etc.	A robust R & D with industry academia linkages

Comparative Analysis – India:

i. National Electric Mobility Mission Plan (NEMMP) 2013

- Supply / Demand Side Incentives
- Research & Development
- Charging Infrastructure

ii. FAME-I (2015-2019) and FAME-II (2019-2024)

iii. Localisation – Incentives linked to percentage of electric vehicle parts sources within India

iv. Impact

- Collaboration between Local and Foreign industry
- Indigenous Growth
- Boost in 2-3 Wheeler Segment

Stakeholder Analysis

Stakeholder	Interest	Influence & Power	Engagement Strategy
Ministry of Industries & Production	Electric Vehicle Production Industry will be promoted	Under Schedule II of the Rules of Business, 1973, the Engineering Development Board is under Ministry of Industries & Production, thus, it is ultimately Ministry's power and influence to enforce the policy	The Ministry shall be asked to coordinate the implementation of policy and untap the real potential of this Industry
FBR / Ministry of Finance	✓ Bringing more importers in the Tax net ✓ Overall economic development of the country	FBR and the Ministry of Finance to provide mechanism to implement a planned reduction on taxes and duties for EV which will include limiting registration cost, import duties and yearly taken tax	✓ M/o Finance need to realise that the major component of import bill is from fuel, therefore, it is important to promote Electric Vehicles. ✓ FBR to incentivise production of EV ✓ A Committee be constituted having representation from FBR, Ministry of Finance and other

			stakeholders which shall monitor the implementation of EV Policy
Power Division	Increase in consumers	It shall develop an initial blue print for R & D centre for EVs. This centre will be mandated to work towards encouraging local R & D	Power Division be also made part of the Implementation Committee
Petroleum Division	Fuel Savings 25-40 %	It shall ensure that the impact assessment of EVs on oil value chain and plan future oil imports, storage accordingly	By providing them with cost benefit analysis of this policy
Ministry of Climate Change	Carbon Credits market, Green Climate Fund	The Ministry of Climate Change will lead this effort alongside Ministry of Industries and Production. It shall also facilitate linkages between national GHG inventory and the mechanism adopted for measuring the carbon emissions from vehicles / transport sector	The policy will help them meet international commitments
M/o Planning, Development, Reforms & Special Initiatives	Development & Modernization	It shall ensure that EV targets become part of five years plan	The policy is aligned with the target of the ministry to make Pakistan moderna and developed
Ministry of Communication	Motorways & Highways come within its control	Identifying optimal charging locations on motorways and highway Future Plans	Ministry shall be made part of the implementation committee
Ministry of Foreign Affairs	Under Rules of Business, 1973, the MoUs and engagement	It shall engage and facilitate various international	Improve Trade diplomacy

	with foreign countries are routed through Ministry of Foreign Affairs	stakeholders in the EV value chain to obtain related technologies from various partner countries such as Europe, US & China	
Provincial Governments /Metropolitan Corporation/ Development Authorities	They have the authority to propose amendment in laws. NOCs are provided by the local government	Reduction of provincial taxes and duties e.g. registration costs etc. Amendments in the Motor vehicle Ordinance, 1965 Metropolitan Corporations & Development Authorities shall facilitate public and private charging infrastructure along with reduction in taxes and other charges	Improved transportation infrastructure & improve air quality index
NTDC	Enlarge consumer base	Shall include the EV targets in its generation	They will have to adjust their capacity accordingly so must know contours of the policy
NEPRA	Tariff rationalization	It shall develop policy to enact EV Tariffs and to ensure compliance with EV Standards and specifications. Safety Standards	EV Policy is important for resolving circular debt crisis.
Banking Sector	Provision of loans	SBP shall plan a policy that will provide financial support for EV purchase	It will generate business for them but the loans shall be low interest

Challenges & issues:

i. Despite nearly half a dozen companies in Pakistan introducing electric vehicles (EVs), the industry struggles to gain momentum, with average monthly sales of only 50 units (Abbas G. , Profit Newspaper, 2024).

ii. No specific focus on the lithium-ion battery industry, a critical component for EV chain.

ii. It had a disconnect in coordination with provincial governments i.e. variation of rules & regulations.

iii. Development of skilled human resource for the industry was not incorporated.

iv. Meeting of target of Electric Vehicles seems improbable to achieve.

v. The whole of government approach is missing in the policy implementation.

v. Inadequate Charging Infrastructure

- Only 2 Dozen Fast Chargers

vi. Range Anxiety

- Hindrance for Consumers

vii. No After-Sales Service, Low resale value

viii. Inconsistent Quality.

- No Industry / Market Standards

ix. Lack of Qualified Human Resource

- Separate Technological Field

x. Upfront Cost / Low Purchasing Power

- High Prices of EVs in Market

xi. Inefficient Supply Chain/Economies of scale issue

- Import of Vehicles, Batteries and Parts

x. Electricity charges, an underdeveloped road network and the elevated price of EVs

xi. Despite these promising developments, industry experts highlight challenges for foreign investors, particularly Chinese companies. High import tariffs imposed by the United States and other nations have prompted Chinese EV manufacturers to explore new markets, including Pakistan. (Abbas G. , Profit Newspaper, 2024)

Prospects:

Attracting Carbon credit market, green climate fund and reduced dependency on fossil fuels are prospects of this Industry.

Growing Population – Increasing Demand

- Over 50% Population under 30 Years *(Population Census of Pakistan, 2017)*
- Large Market for 2-3 Wheelers
- Sufficient Electricity Supply *(Iqbal et al., 2021)*

- Excess Generation by 2025
- Economic Development and Employment *(Asghar et al., 2021)*

Cheaper Maintenance of Electric Vehicles / Batteries

- Fewer Moving Parts

The Motor Vehicle Ordinance, 1965

GAP Analysis:

Present State of Affairs	Action required to fill Gap	Desired State
Under Section 3 of the Ordinance, no person shall drive a vehicle without valid public license. However, there is implementation gap.	The provision of petrol and purchase of vehicle be linked with valid driving license.	Road Safety
Under Section 4 of the Ordinance, minimum age limit for driving has been defined, however, not being implemented	Public Awareness campaigns by the Police and Administration in the Schools	Avoiding accidents
Issuance of driving license is subject to certain criteria but not being followed due to corruption & influence	Strict disciplinary action Learning License shall be made compulsory	Improving license issuance regime
Motor Vehicles not to be driven without registration, however, not being implemented, Even Government officials & officers are in use of such vehicles. Profiling of 113,908 NCP vehicles in Khyber Paktunkhwa alone (Khan J. A., 2024)	Strict action against the officers and officials involved in use of unregistered vehicles or protecting such people who facilitate usage	Only registered vehicle can travel which will improve tax collection as well as lower the crime rate

Information Technology Sector

Situational Analysis

The 2023 Global Services Location Index by Kearney ranks Pakistan as the world's most financially attractive IT outsourcing destination. Additionally, the International Labour Organization (ILO) has identified Pakistan as the second most significant supplier of digital labor in software development and technology services. The third most significant digital labor supplier includes clerical and data entry services, creative and multimedia services, professional services, sales and marketing support services, software development and technology services, and writing and translation services. (Finance M. o., Pakistan Economic Survey 2023-24, 2024)

The IT industry in Pakistan currently generates an annual export of around US$ 2.6 billion. IT & ITeS realized a trade surplus of US$1,996 billion, highest in all Services (87.4% of total ICT export remittances) during FY2024 (July-March), an increase of (15.84%) against

US$1. 723 million during last year. ICT export receipts surged by US$ 339 million (17.4%) to US$ 2.283 million during FY2024 (July to March) against US$ 1.944 million of the last year. (Finance M. o., Pakistan Economic Survey 2023-24, 2024).

Pakistan based freelancers contributed foreign exchange earnings to Pakistan's economy through remittances of US$ 350.2 million during July-March FY2024. Pakistan Software Export Board (PSEB) launched first-ever women's software technology park at the Women's University of Bagh AJK in February, 2024. Till March, 2024 the National Incubation Centers (NICs) have incubated over 1,480+ startups, with more than 710+ graduating successfully so far. These startups have generated over 128,000 jobs, received a total investment of more than Rs 23 billion, with a combined revenue of more than Rs 16 billion. Over 2,800+ women entrepreneurs have been empowered through the program. During July-March FY2024, the telecom sector showed resilience, expanding its services and generating telecom revenues to the tune of Rs 735 billion (estimated). (Finance M. o., Pakistan Economic Survey 2023-24, 2024)

Institutional Analysis

Ministry of Information and Technology

Ministry of Information and Technology is engaged in installing firewall instead of provision of fast internet. It has spent a lot of money on this project and during its installation regular disruption of internet has been witnessed in the country**.** The government's envisaged target of $15 billion IT exports is linked with market access, infrastructure stability, accommodative taxation policy as well as skilled human resources. Pakistan information technology sector suffers losses of more than 1 million dollars for closure of each 1 hour of internet as per report of Chairman of Pakistan Software House Association.

Pakistan Telecommunication Authority (PTA)

PTA should be headed by a professional, however it is otherwise. PTA faces challenges in keeping its regulatory framework up-to-date with emerging technologies, such as 5G and AI. Infrastructure development remains inconsistent, particularly in rural areas, contributing to a digital divide. Cybersecurity and data privacy issues persist, undermining consumer trust and hindering investment in the sector.

Pakistan Software Board

The Pakistan Software Export Board (PSEB) has faced several challenges in addressing the weaknesses within Pakistan's IT sector. These include limited infrastructure and internet connectivity in rural areas, which hampers the growth of software exports. Additionally, PSEB has struggled with inadequate talent development and retention due to a gap in advanced skill training and a lack of competitive salaries, leading to brain drain. Furthermore, PSEB's efforts in global marketing and establishing Pakistan as a competitive IT hub have been hindered by inconsistent policies and insufficient investment in R&D and innovation.

The National Information Technology Board (NITB)

National Information Technology Board has been working to implement e-governance to expedite the accessibility and quality of information and services provided to the public through ICT in a convenient and cost-effective manner. NITB faces weaknesses such as limited funding and budget constraints, hindering its capacity to execute large-scale IT projects. Bureaucratic inefficiencies slow down decision-making processes, reducing agility in responding to technological needs. Additionally, lack of skilled staff in specialized fields, coupled with poor inter-departmental coordination, results in delays and inefficiencies in implementing IT initiatives across government sectors. NITB is also working on e-office of the Federal Ministries, however, is unable to 100 percent digitize the entire Secretariat. The Islamabad Capital Territory's revenue record couldn't be digitized. Moreover, it couldn't introduce e-stamping in the Federal Capital. It shall learn from provincial information technology boards in general and from PITB in particular.

Pakistan Digital Policy,2018

Salient Features

he Pakistan Digital Policy 2018 is a framework that has been designed to promote the country's digital economy, enhance connectivity, and leverage technology to improve governance, education, healthcare, and other sectors.

SWOT Analysis

Strengths

Government Commitment: The policy indicates strong political will and an institutional framework to promote the digital economy.

Focus on Infrastructure Development: A robust push for expanding broadband infrastructure and improving internet connectivity across rural and urban areas.

Emphasis on E-Governance: The policy envisions a transparent, efficient, and accountable government through the adoption of e-Government services.

Skill Development: The policy emphasizes human resource development to ensure that Pakistan has a skilled workforce for the digital economy.

Regulatory Framework: A push for establishing regulatory bodies such as the Pakistan Telecommunication Authority (PTA) and the Universal Service Fund (USF) to facilitate digital growth.

Weaknesses

Lack of Effective Implementation: Despite a good framework, there has been insufficient follow-up and enforcement of the policy's provisions.

Digital Literacy Gap: The policy's provisions on digital literacy are still in the early stages of implementation, leading to a digital divide, particularly in rural areas.

Limited Private Sector Collaboration: The policy lacks a comprehensive strategy to effectively involve the private sector in the implementation and scaling of digital projects.

Cybersecurity Concerns: Insufficient focus on developing cybersecurity measures and ensuring data privacy.

Regulatory Hurdles: Overlapping regulations and lack of coordination between various governmental bodies can hinder progress.

Opportunities

Digital Economy Growth: There is immense potential for growing the digital economy by promoting e-commerce, fintech, and digital services.

Public-Private Partnerships (PPP): Enhancing collaboration between the government and private sector can create synergies in achieving policy goals.

Digital Inclusion: Focus on expanding digital services to rural areas and marginalized communities can create economic opportunities.

Regional Integration: The policy offers opportunities to strengthen digital trade with neighboring countries, boosting regional cooperation.

Threats

Political Instability: Political instability can disrupt long-term planning and implementation of digital policies.

Geopolitical Tensions: Regional tensions and conflicts can impact cross-border digital trade and infrastructure projects.

Cyber Threats: Growing cybersecurity risks, including hacking, data breaches, and digital espionage, threaten the digital economy's development.

Resistance to Change: Societal resistance to new technologies, particularly in conservative areas, can hinder digital adoption.

Global Technological Gaps: Fast technological advancements worldwide might leave Pakistan behind if local innovation does not catch up.

GAP Analysis:

Present State	Action required to achieve desired state	Desired state
Lack of Digital Infrastructure: While Pakistan has made progress in expanding broadband connectivity, many remote areas still lack high-speed internet, limiting access to digital services there are 110.0 million internet users in Pakistan at the start of 2024	Investment in broadband infrastructure, especially in remote and underserved areas.	High-speed internet should be accessible to both urban and rural populations, ensuring equitable access to the digital economy.
A significant portion of the population, especially in rural areas, lacks digital literacy, impeding the adoption of e-services	Public-private partnerships to expand network coverage, especially in rural and remote regions. NGOs may be included to launch National Rural Program for digital transformation	A substantial increase in the population's digital literacy, with targeted initiatives for women, youth, and marginalized groups

E-Government services are in the early stages, and many governmental services remain manual or partially digital.	Identification of key public services that can be digitized and develop user-friendly platforms for citizens to access these services	All government services should be available online, accessible through user-friendly digital platforms, enabling citizens to interact with the government efficiently from anywhere at any time.
The digital startup ecosystem is growing, but there is a lack of funding, mentoring, and infrastructural support for innovation.	Establish comprehensive startup incubators and accelerators that provide not only funding but also access to mentoring, networking, and technical infrastructure. This will help bridge the gap between early-stage ideas and market-ready products, facilitating growth in the digital startup ecosystem	A vibrant, self-sustaining digital startup ecosystem where startups have easy access to funding, expert mentorship, and state-of-the-art infrastructure, enabling them to scale quickly and contribute significantly to innovation, job creation, and economic growth.

Pakistan Freelancer Policy 2021

Salient Features:

To promote freelancing as a viable career path. The policy aims to support a structured framework to support freelancers, particularly in terms of financial and technological support.

Objectives:

Facilitating freelancers access to global markets (development of platforms that connect Pakistani freelancers with global clients), for better access to international projects.

- Financial and tax incentives (tax exemption for freelancers registered with Pakistan software export board PSEB), simplification of the tax filing process, enabling

easier and faster payments for freelancers foreign facilitating foreign currency remittances.

- Trainings and capacity building.
- Proposal to create a social security framework for freelancers including health, insurance, pensions and retirement program.
- Mediation mechanism for resoling conflict between freelancer and international or national client or platforms and providing legal protection for freelancers in terms of contracts.
- Support through digital infrastructure (internet connectivity and e-payments).
- Awareness to highlight freelancing as a viable career.

Situational Analysis:

Freelancing has become a rapidly growing industry in Pakistan. The country has been termed one of the top freelance markets by Pioneer's Global Gig Economy Index. The Pakistani freelancers generate a revenue of more than $500 million each year, said a report of the Pakistan Software Export Board. Pakistan based freelancers contributed foreign exchange earnings to Pakistan's economy through remittances of US$350.2 million during July-March FY 2024 (Ahmad, 2024) (Ministry of Finance, 2024).

The government is taking steps to increase the number of freelancers in the country because of the outstanding performance of the sector. The national community of freelancers has generated $216.788 million by exporting their services from July to December during the current fiscal year, which was a rise of 16.74 percent as compared to the earnings of the same period last year, according to the Ministry of Information Technology and Telecommunication.

Presently, more than one million freelancers are working in different specialized fields in Pakistan. The country has been ranked quite high in terms of the growth of freelancers.

Since it's a significant source of income generating over 1billion, as per report of (PSEB) and an opportunity for youth and women and despite 4 years of the policy, the present status can be elaborated as follows:

Gap Analysis:

No	Current State	Actions plans required	Desired State
01	An insecure job, period of no work	Security of job	Income diversification by working with multiple clients
02	Stay updated to new technologies	Support in technical and soft abilities, skills in IT, programming, digital marketing, content production and graphic designs	A technology driven industry in Pakistan
03	Is not treated as a career	Awareness to highlight as a career	To be treated and respected as a career

04	High competition	Facilitation to compete with international freelancers	To be among the top three
05	Difficulty in transferring money due to unavailability of proper money transfer channels	As per Express tribune report of 17th January, 2025, the country loses US $ 1.5b in absence of online payment system which is secure and can support online money transfers. Widely PayPal is used by freelancers	Availability of PayPal and other reliable money transfer mechanism
06	No safe and reliable mode of money transfer due to Strict regulatory mechanism (e.g. PayPal is reluctant to join hands with Pakistan due to overly regulated EMI and unfriendly business environment)	Relaxing regulatory mechanism, e-knowledge based govt and market, friendly business environment	Reliable & safe mode of money transfer
07	Poor accessibility to technology	Financial support to new technologies	Technology driven industry
08	Pakistan is standing at the bottom quantile of the inclusive internet index due to difficulty in accessibility of the internet and devices, Pakistan adds 140 M internet users	New projects to improve its capacity, internet infrastructure to meet demands of freelancers	Internet access everywhere with improved internet speed
09	Rising cost of electricity and frequent power outrages	Stabilize electricity and its cost	Uninterrupted supply of electricity with low cost
10	35 % tax for income above 6 million	To reduce the taxes and incentives to new freelancers	Reduced taxes to 10%
11	Untrained potential of freelancers	Trainings to the youth	Omar Chaudhry, a skilled data analyst and entrepreneur, said in his report that imparting training on freelancing to only five percent of Pakistan's 58 million youth can enable the country to generate a

			revenue of $26 billion annually.
12	Not earning as it should considering the potential	Financial and technological support to freelancers	More people are attracted to freelancing in Pakistan owing to its huge potential. "A full-time freelancer can earn $9,000 per annum. With the help of 2.9 million trained freelancers, Pakistan can easily earn $26.1 billion while the current account deficit of the country is around 13.7 billion dollars only,"

Export Sector of Pakistan: Policies, Regulations & Practices

Situational Analysis:

Pakistan's exports remained US $ 25.7 billion, while, imports were recorded as US $43.4 billion in (July-April) FY 2024. In the same period, the current account deficit was US $0.2 billion and trade deficit was US $17.7 billion. The remittances, in the same period, were $ 23.8 billion. The trade surplus of US$ 1.996 billion, the highest in all Services (87.43 percent of total ICT export remittances), has been realized by the IT &ITeS Industry during FY2024 (July-March), an increase of 15.84 percent as compared to a trade surplus of US$ 1.723 billion during the same period last year. At the same time, the Services sector has recorded a trade deficit of US$ 1.655 billion during FY2024 (July-March). ICT sector exports of US$ 2.283 billion are the highest among all services (39.31 percent of total export of services), with 'Other Business Services' trailing at US$ 1.205 billion fromFY2024 (July to March). Pakistan-based freelancers contributed foreign exchange earnings to Pakistan's economy through remittances of US$ 350.15m million during FY2024 (July-March). Pakistan's ICT industry exports to 170 countries and territories. The top 15 export destinations for Pakistan's ICT industry are the USA, UK, UAE, Ireland, Singapore, Canada, China, Saudi Arabia, Germany, Norway, Sweden, Australia, Switzerland, Japan, and Malaysia (Finance M. o., Pakistan Economic Survey 2023-24, 2024)

.Top 20 Exports Commodities during FY2024

COMMODITY	EXPORT (Million US$)		% CHANGE
	FY 2024	FY2023	
GRAND TOTAL	**30,675**	**27,724**	**10.6**
KNITWEAR	4,408	4,437	-0.7
READYMADE GARMENTS	3,564	3,492	2.1
NON-BASMATI RICE	3,055	1,499	103.8
BED WEAR	2,803	2,692	4.1
COTTON CLOTH	1,866	2,022	-7.7
TOWELS	1,055	1,000	5.6
COTTON YARN	956	844	13.2
BASMATI RICE	877	651	34.8
TERXTILES MADEUP (EXCL.TOWELS & BEDWEAR.)	715	693	3.3
MEAT AND MEAT PREPARATIONS	512	426	20.2
VEGETABLES	430	300	43.2
FISH & FISH PREPARATIONS	410	497	-17.4
OIL SEEDS, NUTS AND KERNALS	410	189	117.2
PLASTIC MATERIALS	400	268	49.3
SILK & SYNTHETIC TEXTILE	367	412	-10.9
PETROLEUM PRODUCTS	355	50	606
FRUITS	344	283	21.3
PHARMACEUTICAL PRODUCTS	341	328	3.9
LEATHER GLOVES	283	281	0.7
CEMENT	267	190	40.4

Source: Pakistan Bureau of Statistics

Top 20 Imports Commodities during FY2024

COMMODITY	IMPORT (Million US$)		% CHANGE
	FY 2024	FY2023	
GRAND TOTAL	**54,779**	**55,198**	**-0.8**
PETROLEUM PRODUCTS	6,644	7,628	-12.9
PETROLEUM CRUDE	5,531	4,947	11.8
NATURAL GAS, LIQUIFIED	3,946	3,764	4.8
PALM OIL	2,779	3,641	-23.7
PLASTIC MATERIALS	2,271	2,273	-0.1
IRON AND STEEL	2,043	1,890	8.1
ELECTRICAL MACHINERY & APPARATUS	3,275	1,674	95.7
RAW COTTON	448	1,679	-73.3
MEDICINAL PRODUCTS	1,087	1,329	-18.2
IRON AND STEEL SCRAP	1,230	1,152	6.8
WHEAT UNMILLED	1,032	1,072	-3.8
MOTOR CYCLE (CKD/SKD)	1,009	1,076	-6.2
PULSES	775	946	-18.1
PETROLEUM GAS, LIQUIFIED	789	675	16.9
SYNTHETIC & ARTIFICIAL SILK YARN	605	583	3.8
FERTILIZER MANUFACTURED	685	604	13.3
TEA	657	569	15.4
MOBILE PHONE	1,899	570	233.1
POWER GENERATING MACHINERY	418	500	-16.5

SYNTHETIC FIBRE	494	485	1.9

Source: Pakistan Bureau of Statistics

Interview with President Sialkot Chamber of Commerce and Industries

The President Chamber and Commerce, when we interviewed him, to know as why the exports of Pakistan are not increasing, he gave a detailed response which is reproduced as under;

i. Exports are not competitive with regional countries because of high electricity cost e.g. Bangladesh, India and Vietnam provide electricity to industry @ US $8.6 cents, $6cents and $7.2 respectively. However, in Pakistan, per unit is charged at US$18cents per unit. This makes the industry in-competitive. Even US $ 11 cent per unit is good for industrialists.

ii. Business community is a facing double taxation from Federal Board of Revenue i.e. 2 % on remittance in foreign currency. Earlier it was 1%. This 100 % increase in tax is killing the industry.

iii. The government has now introduced a National Tax Regime whereby they want traders to hand over book of accounts to FBR officials. In Sialkot there are as many as 24000 members of chamber so how will FBR, having short number of officials, will be able to inspect so many registers. This has increased misery of the exporters as they fear that it has opened a new avenue of corruption and threw them at the mercy of FBR inspectors.

iv. The China is relocating its industry so Pakistan shall capitalize on this opportunity. Pakistan Government needs to be proactive for that.

v. India, China and Bangladesh are already after breaking the monopoly of Sialkot in Football, surgical instruments and sports goods manufacturing.

vi. The Government, in 1991, introduced FTR which boosted exports and increased government revenue, only form Sialkot, by 149 %. We request for restoration of FTR.

vii. In 2015/16, considering a massive decline in exports, the Government launched local taxes and levies draw back (LTLD) and draw backs of duties and taxes (DDT) schemes. These measures had profound impact on national exports leading to 11.64 % increase in exports in 2017/18. These schemes continue until June 30th, 2021 during which exports rose $31.78 billion. However, discontinuation of the schemes exports once again declined by 12.78 % in 2022/23.

viii. Globally, no taxes are imposed on temporary imports i.e. raw material. The Federal Govt exempted it from tax and duties, however, the Govt Sindh imposed 1.85 % cess on temporary imports which increase production cost. Baochistan and Khyber Paktunkhwa Governments are worst because they have imposed 2 % cess on imports / exports.

ix. They are not consulted for making any policy. And if we send any suggestion, those are not accepted.

x. Textile sector has an edge due to volume of exports and political clout.

High Tech and Innovative Emerging Industries and Pakistan's Policies and Regulations

Situational Analysis

Digital Pakistan Initiative: Pakistan launched this initiative in 2018 and it aims to bridge the digital divide by enhancing broadband connectivity, improving e-governance, fostering digital workforce, and promoting digital innovation.

Pakistan E-Commerce Policy 2019: Aims to regulate and promote e-commerce by providing a safe, secure, and legal framework for digital transactions.

Micropayment Gateway (Raast): The Micro Payments Gateway (MPG) project is an on-going collaboration between Karandaaz and the State Bank of Pakistan (SBP). The project aims to improve payment infrastructure, with the objectives of further developing digital financial services, reducing reliance on cash, and driving financial inclusion in Pakistan

Pakistan's efforts to develop a digital economy, through initiatives like the Digital Pakistan Initiative, the Pakistan E-Commerce Policy, and the Micropayment Gateway (Raast), lay a solid foundation for digital transformation, but there is still much to be done to ensure inclusivity and sustainability. As of 2025, the High-Tech industry in Pakistan comprises 369 companies having collectively raised $33.2M in venture capital and private equity investments. A significant point is that 2 companies have achieved Series A+ funding, indicating a potential maturity in certain segments of the market. The sector is also witnessing some degree of consolidation, as shown by the 1 acquisition within the industry.

Prominent Hi-tech Companies

1. **TRG (The Resource Group)**: A leading technology services provider with a focus on outsourcing, AI, and data analytics. TRG has made notable strides in leveraging emerging technologies for its services.
2. **Mindstorm Studios**: Specializes in developing augmented reality (AR) and virtual reality (VR) solutions, catering to industries such as gaming, education, and marketing.
3. **3D Lab**: A company focused on 3D printing technologies, offering prototyping, product development, and manufacturing solutions in various sectors, including engineering and healthcare.
4. **Indus Valley Labs**: Known for its work in artificial intelligence (AI), machine learning (ML), and natural language processing (NLP), Indus Valley Labs is developing solutions in sectors like e-commerce, fintech, and customer service automation.
5. **CureMD**: While primarily a health-tech company, CureMD is innovating in deep tech by providing cloud-based health solutions that leverage AI for predictive analytics and improve healthcare management systems.

6. **Pak Wheels**: A tech-driven automotive platform that, while primarily e-commerce, integrates high-tech solutions like AI-based recommendation engines and data analytics for smarter car purchasing and selling.

Key Technologies in High-Tech Sector:

- **3D Printing**: Companies engaged in creating prototypes, manufacturing tools, and end-products via additive manufacturing.
- **Virtual Reality (VR) and Augmented Reality (AR)**: Firms developing immersive experiences for sectors like education, entertainment, and healthcare.
- **Artificial Intelligence and Machine Learning**: Businesses using AI to innovate in areas like customer service automation, predictive analytics, and intelligent data processing.
- **Natural Language Processing (NLP)**: Firms developing applications such as chatbots, voice recognition software, and text analytics.

Current Situation of High-Tech Industry in Pakistan

The High-Tech sector is in at nascent but growing stage. Despite some promising investments, the overall size of the market is still modest when compared to global counterparts. the total size of the software sector is approximately. It portrays a promising start but not yet sufficient to drive substantial transformation across the economy. Additionally, the sector is fragmented, with numerous small startups but few large players.

Challenges in the High-Tech Industry:

1. **Limited access to venture capital**: While venture funding is growing, it remains small relative to markets like India, China, or the US. This limits the growth of larger, more impactful players.
2. **Talent shortages**: Despite a strong pool of engineering graduates, many companies struggle to find skilled professionals in fields like AI, VR, and NLP.
3. **Infrastructure and policy challenges**: There are gaps in government support, incentives, and infrastructure, hindering the potential growth of emerging technologies.
4. **Market access**: Many tech companies in Pakistan struggle with global market access, whether due to perceptions of instability or logistical constraints.

Gap Analysis:

Current State:	**Action to be Taken**	**Desired State**:
Fragmented and underdeveloped ecosystem with limited	Increased Investment: Create initiatives to attract global venture capital.	A robust and scalable High-Tech ecosystem that fosters

funding and niche players	Public-private partnerships could play a vital role in scaling tech startups	global competitiveness for Pakistani startups
High-Tech companies face difficulty in recruiting skilled personnel for emerging tech sectors.	Focus on developing specialized training programs to bridge the skills gap in emerging tech fields.	Enhanced talent pool with specialized skills in AI, AR, VR, and NLP, thanks to increased collaboration between educational institutions and industry players.
While there have been strides towards supporting tech startups, government policies and infrastructure are still inadequate for the sector's growth.	Advocate for government reforms, including tax incentives and improved intellectual property (IP) protections, to foster a more conducive environment for high-tech innovation.	Improved policy environment that supports research and development, attracts foreign investment, and encourages entrepreneurship.
Limited Industry Adoption of Emerging Technologies	Launch awareness campaigns and pilot programs that showcase the benefits of emerging technologies (e.g., AI, AR, VR, IoT) to traditional industries, encouraging their adoption.	Widespread integration of emerging technologies into various industries, resulting in increased productivity, efficiency, and competitiveness within both the tech and traditional sectors.
Lack of Entrepreneurship Culture in Tech	Create national programs and competitions to promote entrepreneurship, provide mentorship, and incentivize innovation. Encourage local success stories to mentor and guide new tech entrepreneurs.	A vibrant entrepreneurial ecosystem where individuals are empowered to launch tech startups, supported by strong mentorship, access to resources, and a culture that celebrates innovation and risk-taking.

Reverse Engineering:

China and South Korea have excelled in reverse engineering to accelerate their technological advancements. China, supported by strong government policies, has used reverse engineering to improve industries like consumer electronics and telecommunications. Through heavy investment in R&D and a focus on manufacturing capabilities, Chinese companies such as Huawei and Xiaomi have leveraged reverse-engineered products to create competitive innovations. Similarly, South Korea's success, notably by companies like Samsung and LG, stemmed from reverse-engineering foreign products to improve their own technology, supported by a strong focus on education, long-term R&D investment, and the development of a robust innovation ecosystem.

Pakistan can learn from these countries by focusing on key sectors like electronics, telecommunications, medicine or agriculture for reverse engineering efforts. To foster technological growth, Pakistan should invest in R&D, strengthen its education system with an emphasis on STEM, and build manufacturing capacities for quick prototyping. Additionally, fostering international collaborations for technology transfer and developing a more flexible IP approach could help Pakistan enhance its innovation capabilities. By following a similar path, Pakistan could boost its technological competitiveness and reduce dependency on foreign products in the long run.

Special Technology Zones (STZs)

STZs was envisaged to nurture entrepreneurship and attract Foreign Direct Investment (FDI) to promote technology transfer. In view of the above, generous tax and forex concessions were awarded, however, the intended objectives could not be achieved. STZs could address some issues in terms of better incentives and more liberal forex regime compared to SEZs, however, the industry could not materialize its true potential.

GAP Analysis:

Following were the broader issues that have hampered successful materialization of Special Technology Zones:

a. STZs were envisaged to address issues in SEZs however STZs preferred to follow the same model of real estate development and complex structure to develop and manage the STZs. Technology is quite unlike manufacturing so it does not need a lot of physical space. At the outset such ambitious real estate development was not needed. STZA could have offered licenses to existing enterprises in their existing locations and worked more towards creating few success stories by attracting some large international tech companies as opposed to waiting for completion of the development projects.
b. Technology enterprises depend more on skilled human resource than any other sector, which happens more as a result of cluster development - such as Silicon Valley in California initially sponsored by Stanford University. Our educational institutions could not offer world-class skills, such as those offered by Indian Institutes of Technology (IITs), to serve and attract the world-class companies.

Pakistan E-Commerce Policy

Pakistan is the 46th largest market for e Commerce with a revenue of $5.2 billion in 2023. There are also more than 7.3 million Facebook users in Pakistan and several local companies now use social media to promote their products and services. According to the Pakistan Telecommunication Authority (PTA), the number of 3G and 4G users in Pakistan reached 124.1 million by the end of February 2023, and the mobile banking sector shows promise as per the report of International Trade Administration.

Salient features of Pakistan E-Commerce Policy:

It is designed to promote economy, enhance the ease of doing business and protect both the consumers and business

- Consumer protection, consumer right such as right to return, clear products description and transparent pricing.
- Encouraging digital payment system to support secure and reliable transactions.
- Payment of taxes including VAT and sales tax
- Establishment of clear guidelines for online business including registration, taxation and dispute resolution
- PTA is responsible for regulating electronic communication including internet services and digital platforms

Under the Electronic Transactions Ordinance 2002, criminalize the cybercrimes and recognizes electronic signatures and documents as legally binding

- Pakistan's data protection and privacy laws to be followed to protect consumers personal data and sensitive information
- Addresses cross border e-commerce providing a framework for business engaging in international trade
- The digital payment gateway regulations for secure and efficient online payment system
- SBP regulates digital payments
- Online platforms and financial institutions must ensure that transactions comply with Pakistan's Anti Money Laundering (AML) and combating the financing of terrorism (CFT) regulations to monitor and report suspicious financial activities

GAP Analysis:

Present state	Action required	Desired State

Economic uncertainty and currency devaluation that may influence consumer buying power as well as technology spending	Offer flexible payment plans, offer promotions and discounts, adapt marketing strategies, value for money	Sustained economic and currency stability
Cyber security and consumer trust in e commerce transactions remain a challenge and specially in terms of safe payment systems	E Commerce platforms and payment providers need to focus on security, privacy and fraud protection	Cyber Security and full consumer trust on pattern of India and Japan
While urban areas have high speed internet rural areas still face connectivity issues thereby limiting e commerce access	Government to provide internet facility and continuous power supply	Availability of internet at rural areas as well
Weak infrastructure for online payments and limited availability of secure shipping options	The Electronic transaction Ordinance of 2002 and IT Act of 2000 to be implemented in spirit as provides a legal framework for use of information technology and e commerce activities	Robust infrastructure for online payments and availability of secure shipping options
No efficient system for tracing cyber criminals thereby minimizing citizens trust in e commerce	Effective role of FIA and easy access to e commerce consumer courts, international agreements like Budapest convention on cybercrimes	Cyber Security Agency as in US Cyber Security and Infrastructure Security Agency (CISA) or National Cyber Security Centre (NSCC) in UK
Weak intellectual property laws to protect against intellectual property infringement	Copyright Ord 1962 and trademark Ord 2001 to be effectively implemented	Effective implementation of intellectual property laws

Dispute Resolution in e commerce remain an issue	Branches of e commerce consumer courts in every district	Easy access to e commerce consumer courts
Payment methods in the eCommerce sector of Pakistan is still cash dominated with cash on delivery COD being the most common and over 94.7 percent of all transactions made through this mode of payment.	Government to work on security of online transactions	Wider reach of consumers through digital marketing
Limited access to banking and digital payments	Government to make it easier to open bank accounts and encourage the use of mobile money and other digital payments	Access to banks and digital payments to everyone
Low internet penetration	Government and private companies to work to expand access to internet especially in rural areas	Equal access of facility of internet

Stakeholder Analysis:

Mapping Stakeholder	**Stake holder interest**	**Influence and power**	**Engagement Strategy**
Consumer	Facilitation	Process made easy	transactions
Merchants/ online sellers	Profit and brand awareness	Controls the transaction	Facebook, Instagram or e-commerce sites
Government (e.g Consumer Courts, FIA)	Consumer protection and cyber security	Deterrence for cyber criminals and defaulters	Decree, orders of court
Payment gateways (Easy paisa, Jazz cash and traditional bank based services)	Enable secure online payments	Confidence/trust of the consumers	Online
Regulatory Authorities (SBP, PTA, FBR)	Regulating e-commerce and taxation	Essential role in regulating	Taxes and policies

Internet Service providers	Access to internet facility	Makes the e-commerce possible	Availing its services
E Commerce platforms (websites and mobile apps where transaction take place)	Market place for buyers and sellers	Medium for transaction, Source of reliability for buyers and sellers,	Applications
Logistics and delivery companies (TCS, Leopards courier, Pakistan post)	Source of income	Completion of the transaction	Delivery services

Small and Medium Enterprises Policy 2021

Potential of Sector: Most Pakistani businesses i.e. 90 % or more than 5.2 million are classified SMEs. They employ some 80% of the non-agricultural labour force, contribute 40% to the country's GDP and 30 % in total export. About 70 % are estimated to be operating in the formal sector and most are modest in terms of sales turnover (annual turnover figures for 98% of these SMEs fall below PKR 150Million; SMEDA, 2022) (Rafiq Jaffar, 2024)

Aims & Objectives: The policy was aimed at achieving a globally competitive and innovative SME sector offering high value jobs and move towards value-added exports.

ii. Its major thrust was to ease the cost of doing business and provide a conducive environment that could facilitate enterprise growth.

iii. It recognized the enormous potential of women in the SME sector.

iv. The policy framework was divided into addressing four key domains; macro policy & regulatory environment, supply side challenges, demand side challenges and small-scale manufacturing.

Initiatives: It introduced a single definition of SMEs across Pakistan i.e. having annual sales turnover up to PKR 150 million. Medium enterprise would be the one having annual sales turnover above PKR 150 million and up to PKR 800 million.

ii. To reform regulatory framework, it introduced an E-Inspection Portal (for authorizing, scheduling, verification and validation, accessible to line departments and SMEs).

iii. Ministry of Finance was tasked to enhance credit limits for Micro and Small Enterprises and SBP to make it easier for SMEs to avail lower interest rates schemes.

iii. Ensure full implementation of the National TVET Policy and establish a steering committee for monitoring its implementation.

iv. Proposal to use government land to set up SME industrial estates based on a land lease model

v. To allow for preferential treatment of women-owned businesses amongst the SME regulatory and business support regimes.

vi. Using the Trade Development Authority of Pakistan (TDAP) to organize and facilitate the participation of small firms in international fairs and exhibitions at subsidized rates.

vii. Banks to provide collateral-free loans of Rs10m each to 30,000 new SMEs at a concessional interest rate of 9pc.

Policy Gap Analysis:

1. The major obstacle for SMEs is access to concessionary finance, international marketing, skilled labour, compliance with international standards, logistics and digital payment related issues.

2. The policy doesn't provide for a specific implementation mechanism. Effective execution requires detailed action plans and timelines, which are currently missing. Studies suggest that without a robust implementation framework, the policy's goals may not be fully realized.

3. A huge chunk of SMEs operates in the informal sector, which is not adequately addressed by the policy. Integrating these informal businesses into the formal economy is crucial for comprehensive SME development (World Bank, 2021).

4. Although the policy proposes measures to improve access to finance, it does not sufficiently address the underlying issues of financial literacy and the stringent requirements imposed by financial institutions. Enhancing financial literacy among SME owners and simplifying loan procedures are critical for better financial inclusion (ADB, 2021).

5. The policy does not differentiate between the needs of different types of SMEs, such as startups versus established businesses, or high-growth versus subsistence enterprises. Tailored support programs are essential to address the unique challenges faced by various SME segments (ITC, 2020).

Pakistan Investment Policy 2023

Pakistan Investment Policy 2023 derives from sector specific policies such as auto policy or mobile phone manufacturing policy so the policy is unable to clearly outline its objectives. Investment policy objectives are only as good as those of the sector specific policies. However, Pakistan Investment Policy 2023 has also failed to deliver its very fundamental objective of "investment promotion" as last year happened to be the year with the "lowest investment to GDP ratio" in the country.

Analysis:

Following are broad reasons for its lacklustre results:

i. The policy is geared more towards foreign direct investment (FDI) and less toward local investment. In this backdrop it is pertinent to mention that in the very last financial year, Pakistan witnessed investments amounting to around USD49bn out of which FDI was less than USD2bn (below 4pc). So, the priorities of the policy seem misplaced.

ii. Even in local investments, the complete focus is large industrial scale investors. However, while targeting such investments the policy almost completely ignores the common households. Generally speaking, common households are the only net-lenders in the economic eco-system where all other players, businesses, banks and government, are net borrowers. So, it is yet another fundamental flaw in the policy that the only group with surplus income to invest is fully ignored.

iii. Both the monetary and fiscal policies of the country have generally not been suitable to promote investment but none of those are addressed in the policy.

National Fertilizer Policy 2001

Analysis:

The policy was envisaged to keep fertilizer demand and supply in the balance. During the course of this policy more or less achieved its objectives. However, after the expiry of this policy the energy dynamics of the country had completely changed. Though, following issues may be considered while designing new policy of the sector:

i. The policy focused too much on "gas pricing" to lure in investors while such pricing was built on cross/direct subsidy not a good idea for a country such as ours – chronically in fiscal deficit.

ii. The policy could not foresee the changing energy dynamics in the country wherein the gas surplus converted to critical shortage.

iii. Primarily elite centric driven policy as there is no way to check whether the advantage of subsidy is trickling down to farmers or not.

iv. The Government provides subsidies on fertilizer without any analysis as if it's impact is trickling down to farmers or not. Mostly, farmers do not get any relief and benefits are enjoyed by those running this industry.

Pharmaceutical Industry Policy

Objectives: This industry is being regulated by the Drug Regulatory Authority of Pakistan which has been established under the DRAP Act, 1976, as amended on 13.11.2012 by the DRAP Act, 2012. The regulatory framework includes licensing, registration, pricing, import, export, quality assurance and control, lot of release, controlled drugs, clinical trials pharmacovigilance and post-marketing surveillance. The provincial role is limited to the extent of sale, storage, distribution, post marketing surveillance and pharmacovigilance. The mission of the Authority is health for all by 2025 through access of medicine. Its market size is Rs. 704.59 billion. Pharmaceuticals witnessed an encouraging growth of 23.2 percent during July-March FY2024, against a contraction of 23.1 percent last year, due to the significant increase observed in Liquids/Syrups, 47.4 percent, and Tablets, 3.8 percent. Pharmaceutical production increased due to the timely availability of imported medicinal raw materials. Additionally, the Drug Regulation Authority of Pakistan (DRAP) allowed retail prices of both general and essential medicines to rise, which also helped boost production. Electrical equipment declined by 7.5 percent compared to a dip of 11.2 percent

in the same period last year. The smuggling of products is the primary reason for the decline (Finance M. o., Pakistan Econmic Survey 2023-24, 2024). There are 655 pharmaceutical units, 450 health & over the counter products units, 57 medical device units (local production), 900 drugs importers, 460 medical device importers, 85000 registered drugs, 6281 medical devices and 80,000 pharmacies.

Issues: The Pharmaceutical Industry is also facing challenges such as delay in registration letter, NoC from import of raw material, machinery and registration in the DRAP and tariff management from the Federal Board of Revenue. The legal framework of the authority doesn't specify any particular time for issuance of approval for a particular medicine. Due to shortage of human resource, the applications of Pharmaceutical Companies remain pending. There are five laboratories in Punjab which are WHO qualified, however, other provinces don't have any WHO qualified laboratory.

Technical Education & Vocational Training Policies & Practices

Situational Analysis

It is governed by both federal and provincial laws. The National Vocational and Technical Training Commission was established in 2005 and a legislation was introduced in with the title as National Vocational and Technical Training Act, 2011. At provincial level, the Technical Education & Vocational Training is covered under the TEVTA Ordinance, 1999.

TVET Sector in Pakistan serves a small number of beneficiaries (.4 million per year) and a suboptimal TVET quality and efficiency. Major reasons are that TVET is not prioritized by the government especially in terms of financing, insufficient spending per trainee, absence of skill mapping of candidates, establishment of TVET institutes without any need analysis and without consideration economic and industrial profile of the area, capacity issues of the trainers, supply driven service delivery, out dated curriculum and ignorance of emerging trends.

TVET offers the shortest and swiftest way of employability to an economy. It is a critical tool to prepare youth for labor market by providing them lifelong skills.

In 2018 the National TVET Policy of Pakistan was developed as a comprehensive framework to address the challenges in the Technical and Vocational Education and Training (TVET) sector and align it with national development goals. The policy aimed to modernize the TVET system, enhance employability, and meet the demands of a dynamic labor market. Below are the key objectives of the policy:

1. Secure national commitment by governments, employers, workers, and community organizations to enhance skills for economic growth and community development.

2. Increase training opportunities, aiming to train at least one million individuals annually, by involving public, private, and development partners.

3. Establish a national standards-based qualification, assessment, and certification system.

4. Design and deliver competency-based education and training programs tailored to secure job opportunities.

5. Forge strong partnerships between the public and private sectors, encouraging employer investment in training and TVET reforms.

6. Maintain and expand labor export by promoting internationally recognized qualifications and skill sets.

7. Strengthen linkages with the informal sector by providing mechanisms for formal recognition of informally acquired skills.

8. Continue reforms in the public TVET sector to ensure demand-driven, equitable, and high-quality skill development

GAP Analysis:

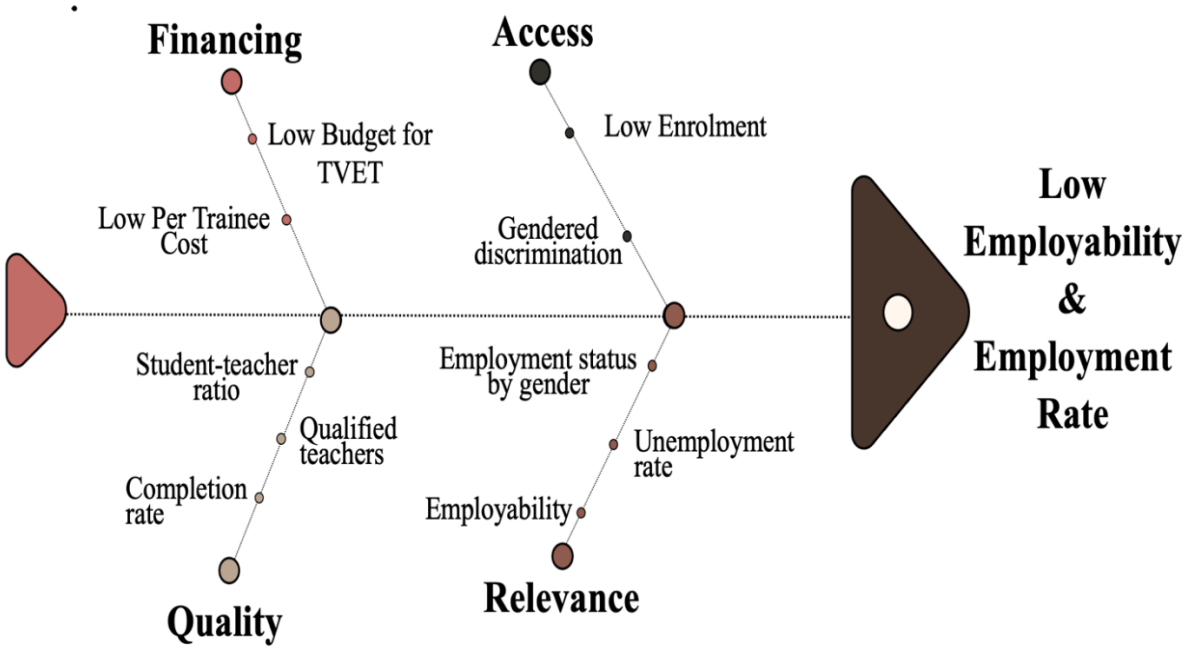
Present State	**Actions Required**	**Future State**
TVET Misalignment with industry needs	Trainings to be planned as per the market needs	Trainings on the basis of market needs
Financial constraints, budget for TVET is usually not released fully and poor training cost due to lesser priority of govt,	Government to financially support the sector, budget planning and preparation is not accurately done	TVET sector to be prioritized
Overlapping functions of Federal and Provincial level	Defined functions of Province and Federal	No overlapping
Massive fake certification in TVET Sector	Legal consequences, stricter regulations, digital certification, collaborative efforts between government private sectors and educational institute to address root cause of fake certification	Centralized verification database
Social Sigma around TVET Sector	Awareness campaigns	TVET to be considered as a respectable sector, understanding its real worth vis a vis formal and higher education
Weak monitoring and evaluation mechanism	Effective monitoring and evaluation system	Proper evaluation
Mismatched trainings with market needs	Identify market needs	Skill based employment

Conventional Courses in TVET, emerging industrial technology is changing the nature of work and required skills in industrial sector	Regularly review the curriculum as per the needs of the time. Curriculum development to be done in close collaboration of industries	Regular reviewing of the curriculum like practice in Malaysia

Stakeholder Analysis:

Mapping Stakeholder	**Stake holder interest**	**Influence and power**	**Engagement Strategy**
M/o FEPT (Ministry of Federal Education and Professional Training)	Formulating national TVET policies, implementation of national programs, standards and curricula	Regulation of TVET Sector	Acts, Policies
NAVTTC	Training, public awareness quality assurance and monitoring, labor market linkages	Capacity building at federal level	Trainings, certification, workshops at federal level
Provincial TEVTA's	Trainings and capacity building at provincial level	Capacity building at provincial level	Trainings, certification, workshops at provincial level
National accreditation council for technical and vocational stream NAC-TVS	Accreditation of TVET programs and institutes, certification, curriculum review,	Establishing standards for TVET institutions	Issuance of accreditation certificates
Private training institutes	Capacity building of the workers	Developing a workforce with practical skills tailored to industry needs	Trainings and workshops
Chamber of Commerce & Industries	Identifying skills gap, advisory role, internship and apprenticeship opportunities, linking TVET graduates with	Bridge the gap between educational institutions and industry needs	Establish collaborative platforms, Sector specific committees

	industry, funding and investment in TVET		



Analysis of Energy Policies impacting Industries

Evaluation of Energy Policies vis-à-vis industrial development in Pakistan.

Gap Analysis:

Following are the broader gaps in relation to energy landscape in the country.

a. There is no integrated energy policy, resulting in huge discrepancies and bottlenecks in the energy value-chain of the country.
b. Almost all the energy companies, except oil exploration and production companies which follow global price parity model, operate in the "cost plus" pricing regime. Such regime entails inefficiencies and at times artificially inflated costs. In the best case scenario, the regime does not incentivise efficiency.
c. Across different sources of energy, the households are cross-subsidized by the industry, resulting in unnecessary burden on the industrial consumers. Such cross-subsidy hinders industrial growth and in turn the same households lose jobs and government loses tax revenue.
d. Some energy value chain partners are gaining at the expense of the others – for instance power generation companies at the expense of distribution companies and the consumers.
e. Government's focus is too revenue centric vis-à-vis oil and gas production and exploration companies. Such revenue centric approach compromises new explorations and thus, future tax revenue from the same companies.

Policies:

Following policies have been analysed vis-à-vis their contribution to industrial development in the country:

1. Policy Landscape in the Power Sector
2. Policy Landscape in the Natural Gas Sector
3. Policy Landscape in the Oil & Gas Sector
    a. Exploration and Production Sector
    b. Refining Sector
    c. Oil Marketing Sector

1. Policy Landscape in the Power Sector

Power Sector has multiple policies and plans in terms of the sector's vertical integration. The sector has been further broken down as follows:

a. Generation
b. Transmission
c. Distribution

Each sub-sector, such as generation, has its own policies and plans. For instance, generation is governed by "Power Generation Policy 2015" which has been updated to "National Electricity Policy 2021". National Electricity Policy 2021 is more cross-cutting as it involves all the sub-sectors of the power and it also clearly outlines the objectives of the policy – reduce power tariffs. However, the policy has generally been torpedoed by "Indicative Generation Capacity Expansion Plan", which is amalgamation of multiple power generation projects committed by government of Pakistan at multiple occasion, completely disregarding the financial benchmarks of their selection. Some of the key issues of the power sector are as under:

i. Entire sector is either monopoly, such as transmission and distribution sub-sector, or captive market, such as generation sub-sector. Such monopolies and captive markets are not a good omen for industrialization in the country. The result is that a typical distribution company takes around 3 years to electrify an industrial consumer of 5MW or above, that too at consumer's cost.
ii. Entire sector is operating at cost plus regime, totally unsuitable for efficiency enhancement. At times, the sector has been reported to inflate its cost despite scrutiny of the regulator i.e. NEPRA.
iii. The small domestic consumer is being cross-subsidized by other consumers including inter-alia industrial consumers, thus, hindering industrial growth in the country.

2. Policy Landscape in the Natural Gas Sector

The sector has been further broken down into as follows:

d. Oil and Gas Exploration and Production
e. Natural Gas Transmission and Distribution (SNGPL and SSGC)
f. Liquefied Natural Gas (LNG) Importers (PSO and PLL)

Following are the broader issues with this sector.

i. This sector is also a monopoly. The result of the monopoly is no different from the power sector. In this instance, millions of consumers are waiting for their gas connections at one place but distribution companies time and again demand gas curtailment at gas well-heads to decrease pipeline pressure caused by the unsold gas.
ii. The sector is also operating at cost plus regime.
iii. The domestic consumer is also being cross-subsidized by the industry.

3. Policy Landscape in the Oil Sector

This sector has been further broken down as follows:

a. Exploration and Production Sector
b. Refining Sector
c. Oil Marketing Sector

Following are the broader issues hampering industrialization in the country.

i. Over last few decades, the oil and gas exploration and production sector has been marred with circular debt caused partially by inefficient gas transmission and distribution. The unaccounted-for gas (gas theft) and very low recoveries (as low as 40pc) were just few of the symptoms. Recently though, the circular debt has been somewhat managed. The circular debt caused cash-flow problems for these companies which significantly hampered new discoveries turning Pakistan's natural gas surplus into deficit. After partially addressing the circular debt problems, we have witnessed multiple discoveries over last few months across all operators, such as OGDCL, PPL, POL, Mari, MOL etc.
ii. Taxes and other charges on E&P Companies have been generally much higher than the regional countries. For instance, India in recent years attracted large FDI in the E&P sector but we have seen exit of almost all multi-nationals, barring only MOL Pakistan (Hungarian Company).
iii. Refining sector has been the bottleneck for the whole energy value-chain as it produces Furnace Oil in very large quantities, thus, raising refined oil prices at one hand and much lower utilization of capacity on the other hand. Despite unveiling National Refinery Policy, geared towards addressing refining issues, the Government is yet to implement it.
iv. Oil Marketing Sector has been heavily regulated and is also offered cost plus prices. Generally, the Oil Marketing Company margins (~Rs8/Litre as of Jan 15th price determination) and to some extent dealer margins (~Rs9/Litre as of Jan 15th price determination) lag behind the actual costs depending on the volumes sold. Low margins coupled with higher taxes on oil increase sale of smuggled oil in the country.

The Exploration and Production Policy 2012

Objectives of the Policy:

1. Enhancing domestic oil and gas reserves to reduce the country's dependency on foreign energy sources.
2. Attracting foreign investment by offering a favorable regulatory framework and fiscal incentives.

3. Encouraging technological advancements in exploration and production activities.
4. Boosting the overall energy supply to meet the growing demand in Pakistan's economy.

Key Features of the Policy:

1. Investment Incentives:

- The policy offers attractive incentives to potential investors, both domestic and international, to stimulate the exploration of untapped hydrocarbon resources in Pakistan.
- Tax holidays and other fiscal incentives are provided, especially for deep and difficult exploration areas.
- Profit-sharing mechanisms have been defined to ensure that foreign investors are encouraged while also benefiting the national economy.

2. License and Contract Framework:

- The policy outlines a clear legal framework for the allocation of exploration licenses and the development of contracts, particularly for offshore, onshore, and unconventional resources.
- The Model Petroleum Concession Agreement was developed to streamline the process and make it more investor-friendly.
- The policy ensures transparency and fairness in awarding contracts and licenses through a competitive bidding process.

3. Pricing Regime:

- The policy introduces market-driven pricing mechanisms for oil and gas, ensuring prices are aligned with global market trends.
- For natural gas, the pricing mechanism allows for better market conditions and ensures the availability of gas to industries at competitive rates.
- In addition, gas pricing is tied to the cost of imported fuel and international crude oil prices, providing a more transparent and flexible system.

4. Fiscal Measures:

- The policy includes a revised fiscal regime, aiming to strike a balance between fair compensation to investors and a reasonable share for the government.
- The fiscal incentives vary by region, with greater incentives for exploration in frontier areas or in more technically challenging environments (offshore, deeper onshore, etc.).
- Tax rates, royalty structures, and depreciation methods are designed to encourage exploration while ensuring that Pakistan retains a fair share of the returns from these resources.

5. Environmental and Social Responsibilities:

- The policy stresses the importance of environmental sustainability and requires exploration and production activities to adhere to stringent environmental protection standards.
- The policy includes provisions for social responsibility, ensuring that the local communities benefit from exploration activities through employment opportunities, infrastructure development, and social welfare projects.

6. Regulatory Authority and Governance:

- The policy outlines the roles of various regulatory bodies, including the Petroleum Division and the Oil and Gas Regulatory Authority (OGRA), in overseeing the exploration and production activities.
- It emphasizes good governance and transparency in all dealings related to E&P activities.

7. Infrastructure Development:

- The policy recognizes the importance of developing supporting infrastructure, including pipelines, transportation systems, and storage facilities, to ensure that the oil and gas resources are effectively transported to domestic and international markets.

8. Unconventional Resources:

- With global trends moving towards unconventional resources, the policy provides guidelines for the exploration of shale oil and gas, tight gas, and coal bed methane (CBM), recognizing their potential to diversify Pakistan's energy mix.

9. Partnerships and Joint Ventures:

- The policy encourages joint ventures between national and international companies, allowing for the sharing of technical expertise and financial resources.
- It emphasizes cooperation between state-owned companies like OGDC (Oil and Gas Development Company Limited) and private sector players.

10. Commitment to Energy Security:

- The primary focus of the policy is to reduce Pakistan's dependence on imported oil and gas by increasing domestic production.
- The policy aims to maximize indigenous production, which will contribute to greater energy security and reduce the external energy trade deficit.

Challenges in Implementation:

1. **Security Concerns** in certain exploration areas, particularly in the Balochistan and Khyber Pakhtunkhwa regions, have posed a challenge for foreign investors.
2. The lack of infrastructure in remote areas, including transportation, pipelines, and storage facilities, has hindered efficient exploration and production.
3. Political instability and inconsistent energy policies in the past have sometimes undermined investor confidence in the sector.
4. The energy pricing system has faced criticism for not being entirely market-driven, especially given fluctuations in international oil prices.
5. The most glaring shortcoming in the applicable Petroleum Policy 2012 is that it has ad such no focus on environmental impact of the petroleum exploration and production activities. The Government of Pakistan is a signatory of Paris Agreement 2015 and is obligated to contribute towards the Global targets of Net Zero emissions by 2050. Since the emissions control and capturing is a capital intensive therefore policy incentives should be given to the industry with fixed targets and deadline of meeting those environmental standards of operations.
6. Since last 10-15 years, the global energy dynamics have changed as well as the pricing mechanism to address the increasing capital and operational costs. The existing price mechanism needs to be adjusted and revised. Suggestion could be to link the price of local gas with some percentage of RLNG imported into country.

7. Presently, GoP takes back about 55% of petroleum price in shape of royalty, corporate tax, area rentals and social welfare. This level of Government take in a country likes us where the investors are otherwise shy of investing, serves as investment blocking. The fact that all major E&P companies have left Pakistan and that no new FDI has flown to Pakistan Petroleum sector validates the situation.
8. Bureaucratic hurdles and delayed decision making only contribute to the investors' frustration. The policy lacks in terms of the enabling forums/mechanism where the petroleum ministry and concerned officials can be held accountable for lack of performance and failure in timely disposal of official work.
9. The policy should serve as one window for the investors for all matters relating to E&P business. However, in practice the industry has to deal with many Regulators like OGRA, FBR, provincial governments etc.

Gap Analysis

Present Situation	Action required	Desired statement
Security concerns in some regions, such as Balochistan and Khyber Pakhtunkhwa, continue to discourage both domestic and international investment.	The government must ensure greater protection for exploration and production operations through collaboration with local security forces and intelligence agencies.	Enhanced investor confidence due to better security arrangements, leading to increased exploration and production activities in these regions.
Inadequate infrastructure remote exploration areas, including the lack of pipelines, storage facilities, and transportation systems.	Develop a comprehensive infrastructure plan that includes pipelines, storage facilities, and roads connecting remote exploration areas to markets.	Adequate infrastructure supporting the seamless transportation of oil and gas resources from remote exploration sites to domestic markets and export hubs.
Political instability and inconsistent policies have caused delays in decision-making and policy implementation.	Policy stability: The government must ensure consistent energy policies and a commitment to long-term goals to foster investor confidence.	Consistent political environment and streamlined decision-making processes that foster trust in the system and attract new investments.
Bureaucratic hurdles and inefficiency in handling regulatory processes, permits, and approvals are common.	Enhance accountability: Create platforms where officials can be held accountable for delays and poor performance.	Efficient governance, with clear accountability mechanisms that lead to timely project approvals and smooth policy execution.
Limited focus on environmental standards in	Introduce environmental incentives for companies to adopt green technologies,	Environmentally sustainable exploration and

the Exploration and Production Policy 2012	reduce emissions, and focus on cleaner production methods.	production practices that align with global standards.

TIGHT GAS (EXPLORATION & PRODUCTION) POLICY 2024

- **Objective**
  To facilitate the exploration and production of Tight Gas reserves in Pakistan by offering incentives, clear regulations, and structured processes for discovery, production, and commercialization.
- **Early Commercial Production (ECP)**: Allows operators to begin production before full approval, with clear guidelines on royalty, bonuses, and pricing.
- **Mixed Production Management**: Ensures no commingling of Tight Gas and conventional gas unless approved, with a transparent method of allocation supported by third-party verification.
- **Gas Pricing**: Tight Gas is priced at a 40% premium over zonal prices, with provisional price notifications after initial certification.
- **Lease Terms**: Initial Tight Gas leases are granted for up to 30 years, with possible renewals for up to 10 years.
- **Incentives for Service Sector**: Customs duty exemptions for state-of-the-art equipment and machinery to encourage technological deployment in Tight Gas exploration.

  Issues:
- **Timely Implementation**: Delays in approving gas prices and incentives, especially for provisional prices, could affect operational timelines.
- **Ambiguities in Production Allocation**: Unclear guidelines on allocating production between Tight Gas and conventional gas may lead to inconsistencies.
- **Integration with Existing Policies**: Aligning the Tight Gas policy with existing Petroleum Policies, such as remittance provisions, may create coordination challenges.
- **Approval Delays**: Delays in obtaining approval for the appraisal program, commercial discovery, and the final development plan (FDP) could affect field development timelines.

  Challenges:
- **Technology and Expertise Gaps**: Local operators may lack specialized knowledge and the service sector may take time to adopt new technologies.
- **Regulatory Bottlenecks**: The process of obtaining regulatory approval (e.g., for ECP or gas pricing) could be delayed due to bureaucratic inefficiencies.
- **Financial and Investment Risks**: High capital requirements and long development timelines may deter investment, particularly in an uncertain economic or political environment.
- **Monitoring and Enforcement**: Ensuring adherence to rules, such as preventing gas commingling without approval and enforcing pricing, could be difficult without robust monitoring systems.

GAP Analysis

Present Situation	Actions Required	Desired State
No clear guidance on immediate production before the D&PL or OML approval.	Regulator/Authority needs to formalize processes for granting ECP and clarify accounting for royalties, bonuses, and gas pricing during this phase.	Clear guidelines for ECP approval, with full accounting for royalties and applicable gas pricing without discounts.
No uniform method for allocation of Tight Gas and conventional gas produced from the same well.	Develop protocols for the allocation of mixed production, with third-party verification. No commingled production unless approved by the Regulator/Authority.	Efficient allocation process with clear flow rates, third-party verification, and approved methods for dual completions.
Delivery point for Tight Gas is unclear when discovered in conventional fields.	Define delivery points for Tight Gas when processed through conventional infrastructure, with tariff implications clarified for government-constructed pipelines.	Clear and standardized delivery points for Tight Gas, with tariff structures for government pipelines well defined.
Tight Gas pricing is currently based on a 40% premium over zonal prices as per policy.	Ensure timely implementation of price notifications and formalize provisional and final incentive prices with clarity.	Timely notification of provisional and final prices, with clear pricing for all Tight Gas discoveries.
Carried interest is applied broadly and may not be limited to a specific well leading to the discovery.	Amend carried interest provisions to apply only to the first well leading to Tight Gas discovery in a given area.	Carried interest limited to the first well leading to Tight Gas discovery.
The lease term for Tight Gas is up to 30 years, with renewals possible for 10 years.	Ensure that lease amendments for Tight Gas under existing D&PLs are clearly defined and that adjoining areas are extended when technical justifications are provided.	Clear and structured process for lease term extension, including adjoining free areas for Tight Gas.
Provisions under Petroleum Policy 2012 apply, but this aspect needs more specificity under Tight Gas exploration.	Ensure tighter integration between Tight Gas policy and the Petroleum Policy 2012 for remittance provisions.	Well-integrated provisions for remittance of proceeds in alignment with the broader Petroleum Policy.
Policy review is set for every five years, with the List of	Ensure that review mechanisms are robust and timely, particularly for consultants and	Regular policy reviews with a systematic and timely process for

Consultants reviewed periodically.	laboratories, with clear timelines for reviews.	updating consultants and laboratories.
No current incentives for the service sector to promote technology transfer.	Implement duty exemptions for state-of-the-art equipment and machinery used in Tight Gas exploration, along with necessary amendments in the existing S.R.O.	A well-established system of incentives for the service sector, encouraging technology transfer and advanced machinery.

Khyber Paktunkhwa Industrial Policy 2020-30

Aims & Objectives: It aimed at the revival of sick and closed industrial units. It proposed the establishment of ten (10) economic zones over ten years and two special economic zones within five years. It included the development of nineteen (19) small industrial estates and conversion of six industrial estates into Special Economic Zones (SEZs). It highlighted support mechanisms to boost industrial e.g. provision of soft loans, uninterrupted supply of utilities and infrastructure development.

1. **Core Focus Areas**:

- Revival and rehabilitation of industries, including 25% of sick industrial units;
- Growth through Special Economic Zones (SEZs) and industrial clusters;
- Enhancing competitiveness via infrastructure improvements, skilled workforce and innovation;
- Inclusion of marginalized groups (e.g., women and persons with disabilities) in industrial development.

2. **Planned Outcomes**:

- Establishment of 19 small industrial estates in 10 years;
- Setting up training facilities like the Common Facility & Training Center in Darra Adamkhel;
- Encouragement of SMEs and cottage industries through branding and innovation.

3. **Incentives and Simplifications:**

- Financial incentives like tax exemptions for new projects and sick unit property transfers;
- Non-financial benefits, such as one-stop operations for licensing and regulatory compliance.

4. **Challenges:**

- Lack of clarity on monitoring mechanisms for progress and accountability;
- Insufficient data on the rehabilitation progress of sick units or SEZ development;
- Limited focus on technology adoption for SMEs;
- Need for better alignment with current global and local economic trends.

5. Way Forward

1. Immediate Interventions

- Energy Security: Ensure uninterrupted electricity and gas supply to existing industries through prioritized energy distribution and renewable energy integration.
- Financial Support: Launch a targeted financial relief program for struggling industries, including tax breaks, deferred payments, and subsidized loans.

2. Infrastructure Development

- Industrial Zones: Accelerate the operationalization of SEZs and industrial estates. Allocate resources for upgrading roads, drainage, and utilities in these areas.
- Transport Networks: Improve connectivity between industrial zones and markets through focused development of transportation infrastructure.

3. **Policy and Governance Support**

- Simplify Procedures: Enhance one-window facilitation for new and existing industries to reduce bureaucratic delays.
- Ease Regulatory Compliance: Review and streamline regulatory requirements to support industrial operations.

4. **Workforce and Skills Development**

- Partner with KP TEVTA and local universities to develop sector-specific training programs to address skill gaps.
- Incentivize industries to participate in apprenticeship programs to create a skilled workforce.

5. **Focus on Key Sectors**

- Textiles: Support existing textile units by improving access to raw materials and export incentives.
- Agro-industries: Promote value addition in agriculture by encouraging agro-processing industries in key agricultural zones.
- High-Tech Industries: Develop initiatives to attract investment in emerging technologies, such as IT and green technologies.

6. Monitoring and Accountability

- Form a task force to monitor the implementation of industrial policy initiatives. Regularly review progress and address bottlenecks in collaboration with stakeholders.

GAP Analysis:

- Weak Monitoring and Reporting: No robust tracking framework to ensure accountability for the listed objectives.
- Ambiguity on the implementation timeline for specific goals like SME cluster establishment.

- Technology and Innovation Deficit: Lack of detailed strategies for integrating digital transformation into small industries.
- Human Resource Development: Despite training commitments, specific programs for modern industrial demands are vague.
- Targets set in policy of 2020-30 has mostly not been achieved so far.
- Value addition has been missing in the policy
- Marginalized Groups: The policy mentions inclusivity but lacks specific mechanisms to enhance participation from women and disabled workers.
- SEZ Development: Progress on SEZs like Rashakai is unclear; these zones should serve as drivers of industrial clustering but face slow execution.

Way Forward:

- Policy Revision
- Stakeholder Engagement
- Public Private Partnership
- Establishment of Economic Zones and Industrial Estates
  The policy envisions ten economic zones within a decade and two special economic zones within five years. Specific locations like Abbottabad, Bannu, D.I. Khan, Dara Adam Khel, Shah Kas, and Mardan are to be declared Special Economic Zones (SEZs)
- Energy and Infrastructure Initiatives

Actions required under policy:

- Establish 10 economic zones in 10 years; 2 SEZs within 5 years.
- Convert 6 small industrial estates (Abbottabad, Bannu, D.I. Khan, Dara Adam Khel, Shakas, Mardan) into SEZs.
- Develop 19 small industrial estates across the province.
- Provide uninterrupted utilities and infrastructure to industries.
- Implement one-window facilitation for investors and streamline NOCs issuance.
- Ensure compliance with minimum wage laws and offer soft loans to SMEs.

Punjab Industrial Policy 2018-23

Salient features:

- The targets set in Punjab policy is till 2023 to stimulate investment and building an enabling environment
- Driven towards boosting competitiveness and productivity
- Targets are to achieve an average industrial growth of 10% per annum, increase the formal employment creation to 1.2 million annually, Train 0.5 million skilled labour annually, Improve product competitiveness in priority sectors
- Provides for a single interface between relevant government authorities and enterprises in the zones. These one-stop shops will liaise with 21 different

government departments to facilitate processes ranging from company incorporation to acquisition of land and electricity connections

- Encouraging the private sector to play a pivotal role in development and operation of zones through PPP arrangements
- Upskill Punjab's workforce through skills sector reform: The Government of Punjab is on track to achieve its ambitious target of delivering 2 million vocational person trainings during the five-year period 2013-2018. In addition to delivering more than 500,000 trainings annually
- The Government of Punjab will facilitate the creation of model factories and demonstration centres. These centres will be funded through a co-funding model where firms will be expected to contribute. Punjab can follow a number of examples from around the world, including in India and Morocco

GAP Analysis:

- Skill development gap**:** The existing skill development programs does not meet the demands of industry
- Ease of doing business gap: steps has taken in ease of doing business but considerable bureaucratic challenges and inefficiencies effecting its effectiveness for investors
- Punjab industries lack adequate international marketing strategies for meeting challenges in competing on global stage
- Implementation is hindered by political instability and inefficiency in public administration
- Despite policy's aim at regional balance, industries are mainly located in and around urban centres
- Access to financial resources, SME being the backbone of industrial development often face financial issues.
- Challenges such as power shortage and high rates remain unsolved

SWOT-EETH Analysis of the Organizations & Institutions Responsible for Industrial Sector Development & Management

Organization	Institutional Role	Performance	
Strengths			**Enhancement of Strengths**
Ministry of Industries & Production	As per the Schedule III of the Rules of Business, it is responsible for Industrial Policy, Industrial Planning & Coordination and Promoting Industrial Productivity	Industrial Sector is contributing 18.22 % in GDP After experiencing a downturn, the industrial sector bounced back by recording growth of 1.21 % in FY-2024	New Industrial Policy Integrated Industrial Policy More focus on increasing Human Capital Index, Value Addition, Technical Assistance

			to industries to meet export requirements
National Productivity Organization	Promoting Industrial Productivity & Competitiveness in key economic sectors Measure, evaluate and improve productivity of various sectors of economy Prepare master plan to address the need of Productive Human Resource Information collection and dissemination to promote industrial productivity Total employees 52 while received non development grant of Rs. 278 in Million (2019-23)	Fulfilling international obligation as Pakistan is one of the 21 countries which are signatory to the APO charter for promoting productivity and NPO, Pakistan is working as a Liaison Office of the Asian Productivity Organization (APO), Tokyo, Japan National Certified Quality & Productivity Training Programs = 389 Participation in Intl. Productivity Training Courses Japan, Singapore, Korea = 256 Productivity Services Value Addition = Rs. 6.3 Billion Pakistan ranks at No.1 in availing APO international services of worth US $ 1.4 million NPO revenue generation increased from Rs. 2.13 million in 2019-20 reached to record Rs. 78.9 million in 2023-24 Helping expansion of NPO operations while becoming a profitable company first time since inception National Productivity Master Plan NPMP & *Funded by the APO and Developed by the KDI* Shop Floor Productivity / Energy Efficiency Audits Textile, Leather, Auto, Sports = 346	Increasing Productivity Improving Pakistan's Global Competitive Index Investing more in Training Taking advantage from best Practices of APO Countries

PAKISTAN INDUSTRIAL TECHNICAL ASSISTANCE CENTRE (PITAC)	Established in 1962 – Autonomous Body Non-Profit / Non-Commercial Services Oriented Organization Registered under Societies Registration Act 1860 Skill Development & Technical Education Services Entrepreneurship Training & Development Services Technical Assistance & Advisory Services	PITAC College of Technology (PCT) DAE in Mechanical, Electrical and Computer Information Technology with approx. 500 students are enrolled 26,079 Nos of personnel trained in Technical and Managerial Fields all over Pakistan, last 5 Years 13,158 Nos of Precision Engineering parts , design and developed for local Industries / SMEs etc. and Defense organizations, under Technical support services, last 5 Years NAVTTC Takamol Pilot Project – 339 Skill Test for KSA NAVTTC Funded Programs – 1544 Trainees NAVTTC – UNHCR Funded – 170 Trainees Chinese Language Training Programs 164 Trainees PITAC offers 25% special discounts to Female Participants. 530 Female Participants in last 02 Years	
SMEDA	Small & Medium Enterprises Development Authority is only an SME policy-advisory body for the government of Pakistan but also facilitates other stakeholders in	Crucial force behind poverty reduction (Finance M. o., Pakistan Economic Survey, 2023-24, 2024) It collaborated with Revenue Mobilization Investment Trade (ReMIT) in four (04) year project (June 2020-June 2024) to	Learning from Malaysia & Turkey Model

	addressing their SME development agendas Works under SMEDA Ordinance 2002	promote trade competitiveness in Pakistan It is coordinating program "Growth for Rural Advancement and Sustainable Progress-GRASP" Conducts pre-business studies Provides a Business Guide Productivity training programs & short courses Conducting energy audits in Textile, Jute, Automotive, Furniture, Marble etc.) through Energy Efficiency Experts. Academic institutions are also involved in this Programme as their students get trained on energy efficiency and auditing As a result of Energy audits and Energy Management System, depending upon the nature of sector, identified energy saving potentials in some of Marble Sector as 5-8 %, power-looms up to 10%, furniture 15-20 and Textile 10-30 %	
Pakistan Industrial Development Corporation	PIDC is a Federal Govt. entity established in 1952 initially to set up industrial base in the country. However, over the course of last several decades, industrialization has been picked up by Private Sector, and	Pioneer of Industrial Development Operates as an infrastructure developer of industrial parks /estates to facilitate industrial growth across Pakistan Bin Qasim Industrial Park - SEZ Korangi Creek Industrial Park - SEZ	

	PIDC role has evolved into that of a facilitator of industrial development by creating enabling environments for different segments of industries, mainly through subsidiary Companies	Rachna Industrial Park - SEZ Nausharo Feroz Industrial Park - SEZ Karachi Industrial Park – SEZ	
Board of Investment	Board of Investment Ordinance 2001 as amended in 2023 Facilitating investors by providing one-window service to investors for registration, incorporation, taxation, immigration, utilities, land acquisition, environmental clearance, and other approvals and permissions required for setting up and operating a business in Pakistan	Ease of Doing ranking improved to 108 Reduced the number of stages business development The total investment contains three components; GFCF, changes in inventories, and net acquisition value. GFCF was recorded as Rs.12,122.5 billion in FY-2024, an increase of 16.4 % in 2024 in comparison to 2023 GFCF of private sector is estimated at Rs. 9189.3 billion in FY 2024 in comparison to Rs. 7934.6 billion in FY 2023 Concluded Investment Treaties with multiple countries Managing SEZs	One Stop Shop Initiative Simplifying Business Procedures Improving Pakistan Business Portal
Pakistan Bureau of Statistics	Established under section 3 of the General Statistics (Reorganization) Act, 2011 Responsible to collect, compile, analyze, abstract, publish, market and disseminate	Development of Industrial sector is data driven these days and reports of the Bureau play important role in empirical decision making	Using AI & IT methods for Data collection

	statistical information relating to the commerce and trade, industrial, financial, social, economic, demographic, agriculture and any other area to be specified by the Federal Government and conditions of the people of Pakistan and to foster the evolution of product lines in response to pressing needs of society		
Ministry of Commerce	As per Schedule II of the Rules of Business, 1973, it is responsible for ; Import & Export Treaty, Agreement & Protocols E-Commerce Policy Textile Industrial Policy Intellectual Property Organization of Pakistan	Pakistan's GSP Plus status extended till 2027 Textile Industry contributes to nearly one-fourth of industrial value added and employs about 40 % of industrial labor force Textile sector has maintained an average share of 54.5 % in national exports Ancillary Textile Industry includes Cotton spinning sector, cloth sector, textile made up sector, synthetic textile sector, woolen industry, jute industry Pakistan Azerbaijan Transit Trade Agreement Pakistan Tajikistan Transit Trade Agreement Pakistan Uzbakistan Preferential Trade Agreement Pakistan Sri Lanka Free Trade Agreement Pakistan	Diversifying Textile Industry Reducing Tariffs Reviewing the Trade Agree- -ments Concessionary loans

		Mauritius Free Trade Agreement etc.	
Engineering Development Board (EDB)	Engineering Development Board was established in 1995 Develop a long-term vision for the development of the engineering sector Formulate and coordinate all government policies relating to the engineering sector	Automotive Industry Development and Export Plan 2021-26 Production of farm tractors, during FY-2023/24 (July-March), was 36,133 units as compared to 22,626 units produced last year, showing an increase of 59.7 % (Finance M. o., 2023-24) Electric Vehicle Development Policy Facilitating mechanised Agriculture, mobile and electronics, pumps and motors, cutlery and utensils Engineering Sector contribute 0.86% in GDP (Rehman, 2023)	Eliminating disconnect with Private sector Inducting professionals on the Board of Directors Investing in R & D
District Administration	District Administration performs land acquisition role Enforcement of Minimum Wages Laws Facilitating Labour Department Facilitating Environmental Protection Agency Controlling agitations	Enforcement of environmental laws in some districts Interaction with Industrialists Resolving land transaction/acquisition related matters	More vigilance regarding labour laws Digitalisation of Land Record Doorstep services Making business processes easy
Environmental Protection Agency	Enforcement of Environment Laws	Enforced EPA in Federal & Provincial Governments	Use of AI & modern technology Awareness Campaign
NAVTTC /TEVT	Imparting skills to labour	Potential to provide skilled labour to the industry	Connecting industry with the Institute will help
Federal Board of Revenue	Tax Collection i.e. direct & indirect taxes	Increase Tax base, incentives, customs to facilitate exports	Digitization

Weakness		Elimination of Weaknesses
Ministry of Industries & Production	Bureaucratic delays hinder decision-making Innovation & spending on Research and Development is missing No plan or strategy to diversify the industry Unsuccessful in forming integrated industrial policy	Use of E-Office Ministry and its attached departments to allocate budget for R & D Diversifycation of Industry Unified & Integrated Industrial Policy
National Productivity Organization	Lack of productivity strategic framework An organization – Club Model **Pakistan Productivity/Competitiveness Ranking** Global Competitive Index : 110 / 141 Technology Readiness : 98/134 Labour Market : 120/141 Pakistan's average Labour Productivity growth during 2011–20 was 1.83%, whereas in Bangladesh, PR China, India, and Sri Lanka the average LP growth during the same period was 4.74%, 6.08%, 4.40%, and 2.88%, respectively	Strategies to improve Pakistan's Ranking Improving labour productivity growth by training
PAKISTAN INDUSTRIAL TECHNICAL ASSISTANCE CENTRE (PITAC)	Financial issues – Grant-in-aid Rs. 503 million from Govt Lack focus on R & D Overlapping functions with Navttcc & National Skills University Couldn't enhance students' enrolment in dual track system e.g. Pakistan = 7 %, Turkey = 40 %, Germany 50 % & Switzerland = 70 %	Invest more in R &D Removing duplicity of functions Presenting Government a model To improve enrolment in dual Track system
SMEDA	SMEs financing is less than 7 % of Private Sector credit (Khan A. , 2025). This lack of access to liquidity at reasonable costs restricts the SMEs' ability to expand their operations and create jobs.	Enabling environment geared towards SME incubation and growth.

	Use of obsolete technology Dearth of skilled and certified labour force High cost of electricity	In addition to promoting small businesses, the government should empower and steer the business chambers in all economic hubs in the country to engage in international business development and effective business matchmaking for Pakistan's SMEs
Ministry of Commerce	The China Pakistan Free Trade Agreement is increasing trade imbalance During FY 2024 (July to March), the Textile sector witnessed a dip of 8.3 % compared to a contraction of 16 % in the same period in FY 2023 (Finance M. o., Pakistan Economic Survey 2023-24, 2024). The increased power tariff, removal of energy subsidies for export-oriented sectors, the high cost of imported raw materials, the phasing out of the Export Finance Scheme, high interest rates and intensified competition from China were few causes. Cotton spinning sector comprises of 408 Textile Units (40 composite and 368 spinning units), 13409 million Spindles and 198,800 rotors installed. However, 9.70 million spindles and 126,583 rotors are in operation, with capacity utilization of 72.3 % and 63.7 % respectively in FY 2024 (July – March) (Finance M. o., Pakistan Economic Survey 2023-24, 2024) For cloth production, the number of looms installed in cotton mills is 9,084 with 6,398 are in operation (Finance M.	Renegotiating trade agreement with China with the support of Ministry of Foreign Affairs Negotiate future Free Trade Agreements carefully Tariff barriers be placed in a way that imports of those products get discouraged which damage local industry Fixing better tariff for textile indus--try

	o., Pakistan Economic Survey 2023-24, 2024)	
Pakistan Industrial Development Corporation	No longer spearheads the Industrial Development The organizations like BoI have taken over the role No investment in upgrading technology Lack of collaboration with private sector	Upgrade technology Improve SEZs functioning Completion of under-construction SEZs
Pakistan Bureau of Statistics	Use of outdate technology which sometimes make the date doubtful or controversial No use of Artificial Intelligence Singapore's Smart Nation Initiative: Singapore's approach to using technology for societal improvement is another exemplary model. Through the Smart Nation platform, the government collects and analyses data to improve urban living, healthcare, and transportation. Pakistan could adopt similar strategies, focusing on urban areas where the population density and service requirements are higher (Khuhro, 2024)	Use of modern technology Seeking help of Punjab Informat- -ion Technology Board
Board of Investment	The investment to GDP ratio of Pakistan is stagnant at around 14 %, the lowest among regional countries (Finance M. o., Pakistan Economic Survey, 2023-24, 2024) More focus on MoUs and less on materializing the investment Overshadowed by SIFC Division The factors which trigger are beyond its control Exercise for ease of doing business got postponed	Improving coordination with Ministry of Industries & Commerce First materializing the earlier MoUs before concluding the new Ones Narrative building Restarting the ease for doing busi- -ness exercise
Engineering Development Board	Status hanging in the balance as the Prime Minister directed it to be abolished During FY 2024 (July-March) passenger car production was down by 36.7 %, the production buses and trucks	Innovation Interaction with Private Sector Encouraging Projects which transfer technology

	registered a negative growth rate of 51 % and 43.9 % respectively and two/three wheel sector's growth declined 9 % (Finance M. o., Pakistan Economic Survey 2023-24, 202).	
District Administration	Lack of KPIs regarding Industrial promotion More regulatory than reformative Land related issues of Business community	Amendments in land related laws to ease the process Training for being more business friendly
Environmental Protection Agency (EPA)	Laxity in implementation	Vigilance to implement environmental regulations
Federal Board of Revenue	Corruption, rent seeking	Punitive Action against corrupt official, Faceless Assessment System
Opportunities		**Taking advantage of Opportunities**
Ministry of Industries & Production	Developing an integrated unified policy Use of Information Technology e.g. E-office can accelerate the disposal of official business Through rightsizing initiative Ministry can privatize or outsource or close dysfunctional entities Use of Artificial Intelligence can improve its oversight on Industrial output and growth Converting recent bouncing back into sustainable growth	Time to formulate new Industrial Policy Take provinces on Board through Council of Common Interest Outsource & Privatize dysfunction al entities
National Productivity Organization	Development of Productivity plan Developing Productivity Measurement System to Provide Productivity Based Incentives - MPC, Malaysia Model Implementing National Productivity Master Plan	National Productivity Plan Implementing Malaysia Model
PAKISTAN INDUSTRIAL TECHNICAL ASSISTANCE CENTRE (PITAC)	Rightsizing initiative provides an opportunity for merging it with NAVTCC or National Skills University Invest more in R & D	Merger through rightsizing Comm- -ittee

SMEDA	As Government's focus is on economy so it provides opportunity to improve SMEs in following ways; lessons of Turkey's successful SME development programme, KOSGEB. The Turkish approach towards SMEs combines financial support, technical assistance and market access facilitation. Another programme worthy of attention is Malaysia's SME Masterplan. According to data published by EuroSTAT, the KOSGEB has been successful in enhancing SME exports revenue contribution in Turkey from 15 percent in 2015 to 55 percent in 2023. This represents staggering revenue growth of $112 billion. Similarly, according to data published by the Malaysian government, their SME Masterplan has resulted in an increase in the share in GDP of SMEs from 29 percent in 2000 to 38.30 percent in 2023— an addition $126 billion	The role of TDAP must also be enhanced. Our trade sections at international consulates should focus on building lucrative international linkages with a specific focus on fashion industry and international relationship management Pakistan's SMEs should scale up their participation in international trade shows to enhance their contribution to national export revenue
Ministry of Commerce	Negotiating Trade Agreement, in a way, that it doesn't bear any consequences on local products Diversifying Textile production Investing more in R & D Affordable tariff rate	Diversifying Textile Production Talking to Power Ministry for Tariff Rate
Board of Investment	Pakistan's strategic location offers investment opportunity Now that military and civil government are on same page, its an opportunity to attract investment from Gulf Countries	Simplifying regulatory regime India's ranking is 63 in ease of Doing business
Engineering Development Board	Government's renewed commitment to industrialization and intention to develop a new policy gives an opportunity to the organization to revitalize itself	Focus on automobile industry Policy
Pakistan Bureau of Statistics	Use of AI & advanced technology is an opportunity for the organization to increase its credibility and also reduce workforce burden	AI & Technology is the way out

Pakistan Industrial Development Corporation	The Government's plan to create an authority National Industrial Development Regulatory Authority provides an opportunity that the experienced Human Resource of PIDC can be used for making the new authority effective	
District Administration	Learning from international best practices Amendments in land related laws e.g. Land Revenue Act, 1967 & Land Acquisition Act. 1894 as per difficulties faced in field	Propose amendments Restructure archaic systems
Environmental Protection Agency	Compliance of International Targets	Capacity building of department Modern technology
Federal Board of Revenue	Improving perception Achieving Tax targets	Use of technology
	Threats	**Hedge against the threats**
Ministry of Industries & Production	The increasing dominance and role of provincial governments in making their own industrial policies is a threat	Integrated Industrial Policy by Using forum of CCI with consensus of provinces
Board of Investment	The growing perception that Board of Investment is more focused on MoUs signing than genuine investment is a threat	It should build public opinion by highlighting what it has done
Ministry of Commerce	The rapidly declining growth of Textile sector and running of textile industry below its optimal potential are threats	Taking APTMA on board and Resolving issues of mill owners
Pakistan Bureau of Statistics	Data security breach and cyber attacks are genuine threats	Ensuring that Data integrity & Security is maintained
Engineering Development Board	The continuous decline in production of engineering sector in general, and auto sector in particular, is a genuine threat Lack of Value Addition is also eroding the vitality of the organization	Either the organization shall improve its performance or it be closed Or privatized by the rightsizing

		Committee
Pakistan Industrial Development Corporation	Rightsizing Committee's plans to close PIDC is a threat for the organization	This threat can only be avoided if PIDC improves its performance on SEZs under its control
National Productivity Organization & Pakistan Industrial Technical Assistance Centre (PITAC)	Due to continuous poor ranking of Pakistan in Global Competitive & Innovative Index, the Government is losing interest in retaining these organizations	Reorganization or Closure
District Administration	Industrialists and Businessman suffer and complain Bad name for bureaucracy	Reorganization of processes Mapping business processes Eliminating redundant ones
Federal Board of Revenue	Complaints of Business community (Business Recorder, 2024) Failure to meet revenue targets (Profit, 2024) Neither Government nor International Financial Institutions are satisfied with performance	Improving performance Meeting tax targets through direct taxes rather than indirect taxation

Oxford Index of Public Administration

Comparative Analysis of Pakistan & India- Industrial Sector

Pakistan and India have divergent sectoral aspirations towards Industry. The India's industrial development is primarily technology, artificial intelligence, innovation, research and development driven, however, in Pakistan sugar, petroleum, food, fertilizer etc. are priorities. On March 24, 2024, the Tata Group of Industries–India's largest conglomerate–recorded a market capitalisation of $382 billion - a sum larger than the entire GDP of Pakistan ($338 billion). Within the last year, the group became the first Indian company to join Apple's iPhone supply chain, unveiled an $11 billion investment to set up the first semiconductor fab facility in Gujarat, and introduced plans to develop an end-to-end cutting-edge chips assembly and packaging unit in Assam. Contrast the aims of India's top group to penetrate the global high-tech manufacturing space with the colourless aspirations of one of Pakistan's largest conglomerates, which recently announced its vision to expand its product portfolio by grabbing a further stake in the food and cereal business.

India's Sectoral Distribution of Top 10 Listed Co.	Pakistan's Sectoral Distribution of Top 10 Listed Co.
Reliance Industries Limited (Information Technology)	OGDCL (Energy) Pakistan Tobacco Company (Food)
HDFC Bank (Banking)	Meezan Bank Ltd (Banking)
Tata Consultancy Services (Information Technology)	Mari Petroleum Ltd (Energy)
ICICI Bank Ltd (Banking)	Nestle Pakistan (Food & Beverages)
Bharti Airtel (Information Technology)	Colgate Palmolive Pakistan (Household)
Hindustan Unilever Consumer Staples	Pakistan Petroleum Limited (Energy)
Infosys Information Technology ITC Conglomerate	Muslim Commercial Bank Limited (Banking)
State Bank of India (Banking)	Lucky Cement Limited (Material / Construction)
Housing Development Finance Corporation (Banking)	Engro Fertilizers Limited (Materials)

The business world looks to diversify its supply chains–a phenomenon known as the 'China plus one business strategy, and there are lessons for Pakistan. Pakistan needs to reimagine its industrial policy and the political economy that underpins it. Such rethinking must go beyond the archaic binaries of state versus private, free trade versus protectionism, and exchange-rate flexibility versus fixity. As Dani Rodrik points out, the discussion on industrial policy should rarely ever be about "whether the government should be involved; rather, it should be about the how dimension. The recent rise of Indian firms cannot be seen in isolation from the decisions of political executive. The studies unfold that the meteoric rise of Tata, and its rapid expansion in the high-tech manufacturing space, are intricately tied with the government's Make-in-India programme and the massive amounts of financial incentives offered to sectors under the Production Linked Incentive (PLI) scheme. The PLI scheme is an initiative that offers targeted incentives to firms operating in specific sectors to "promote domestic manufacturing and reduce reliance on imports".

However, the Tata Group is not the only beneficiary of the PLI scheme; a host of companies are claiming a stake in India's future as an industrial powerhouse. This remarkable ascent is backed by a host of rising stars in the high-tech sector in 2024: Star Trace (Chennai) amassed a revenue growth of 223% in the domain of Industrial Supplies; Allied Engineering Works (Delhi) doubled its revenues in the Electronic and Electrical Goods Industry, while Synnova Gears and Transmissions recorded a 43% growth spurt in the Industrial Engineering sector. This is exactly what economic theory predicts: a networked effect of sectoral accumulation ensues when steered by appropriate targeted incentives by the state, resulting in a diffusion of economy-wide effects. The market capitalisation as a percentage of GDP–a measure of how the valuations of publicly listed firms relate to the overall output of the economy–stands at 102% for the Indian economy. Market valuations reflect investor's assessments of the long-term earnings potential of a business and are, as

such, a measure of the cash flow generating potential of a firm on the one hand and investor's optimism on the other. The comparable number for Pakistan is 7%.

The Production Linked Incentive (PLI) scheme is an initiative introduced by the Government of India to boost domestic manufacturing and attract investments in key sectors. Launched in 2020, this scheme aims to enhance India's self-reliance and competitiveness in the global market by providing financial incentives to eligible companies. Under the PLI scheme, select sectors such as electronics, pharmaceuticals, automobiles and telecom equipment are targeted to promote large-scale manufacturing. The government identified these sectors as having significant growth potential and strategic importance in India's economic development.

The scheme offers a fixed percentage of incentives on the incremental sales of manufactured goods. The incentives are provided to eligible companies over a period of five years, based on their production and sales targets. These targets are set to encourage companies to increase their manufacturing capabilities and market share. The PLI scheme not only encourages domestic manufacturing but also aims to attract foreign companies to invest in India. By providing financial incentives, the government aims to make India an attractive destination for investors and enable the country to become a global manufacturing hub (Khan, 2020).

To ensure transparency and fairness, the PLI scheme incorporates a competitive bidding process. Eligible companies submit their proposals, which are evaluated based on various criteria such as production capacity, technology, and financial viability. This ensures that the manufacturing incentives are allocated to deserving and capable companies.

These criteria may vary depending on the sector and specific guidelines issued by the government (PIB, 2023). However, some common eligibility criteria for companies to benefit from the PLI scheme are as follows: 1. Registration: Companies must be registered as a legal entity in India under the Companies Act, 2013 or any other relevant legislation. 2. Sector-specific criteria: Companies must operate in sectors identified by the government for the PLI scheme. Currently, sectors such as electronics, pharmaceuticals, automobile, telecom, and textiles among others are covered under the scheme. 3. Investment: Companies must commit to making a specific minimum investment in their manufacturing facilities as per the guidelines of the scheme. The investment requirement may vary across sectors and is usually linked to the expected production output. 4. Production targets: Companies must commit to achieving specific production targets within a predetermined time frame. These targets are set by the government to encourage companies to increase production and contribute to the growth of the sector. 5. Additionality: Companies must demonstrate incremental production capacity or turnover over the base year as specified by the government. This means that the scheme is designed to reward companies that increase their manufacturing capabilities and contribute to the growth of the sector. 6. Compliance with quality standards: Companies must comply with relevant quality standards laid down by the government or industry-specific regulatory bodies. Meeting these standards ensures that the manufactured products meet the required quality benchmarks. 7. Employment generation: Companies may be required to generate a certain level of direct and indirect

employment based on the size and nature of their operations. This criterion aims to promote job creation and economic growth.

These sectors include electronics, pharmaceuticals, automobiles, and textiles. 1. Electronics: The electronics industry has seen tremendous growth in recent years and has the potential to become a major contributor to India's GDP. The PLI scheme aims to make India a global hub for electronics production and exports. The government has allocated a budget of Rs. 40,995 crores for the electronics sector under the PLI scheme. This will provide an impetus to companies to manufacture electronic components and devices in India instead of importing them. 2. Pharmaceuticals: The Indian pharmaceutical industry is the third-largest in the world by volume and is expected to grow further in the coming years. The PLI scheme for pharmaceuticals aims to enhance the country's capabilities in producing Active Pharmaceutical Ingredients (APIs) and formulations. The government has allocated a budget of Rs. 15,000 crores for this sector, which will encourage companies to set up new manufacturing facilities and upgrade existing ones to meet international standards. This will not only reduce India's reliance on imported APIs but also promote exports, making India a global leader in the pharmaceutical sector. 3. Automobiles: The PLI scheme for the automobile sector aims to boost production and exports of vehicles and auto components. The government has allocated a budget of Rs. 57,042 crores for this sector, making it one of the largest beneficiaries under the PLI scheme. This will incentivize companies to invest in research and development, design, and manufacturing of vehicles and auto components in India. It will also attract foreign investment, create job opportunities, and enhance the competitiveness of the Indian automobile industry. 4. Textiles: The textile industry is one of the oldest and largest industries in India, contributing significantly to the country's economy. The PLI scheme for textiles aims to boost domestic production, promote exports, and attract investment in this sector. The government has allocated a budget of Rs. 10,683 crores for this sector, which will help in upgrading existing textile units and setting up new ones. This will not only create employment opportunities but also make India a global textile hub.

Apart from these key sectors, the PLI scheme also covers other sectors such as white goods, food processing, solar photovoltaic modules, and high-efficiency solar modules. The scheme offers a range of benefits to eligible companies, including a financial incentive of 4-6% on incremental sales for a period of 5 years, enabling them to become globally competitive. Thus, the PLI scheme is a game-changer for the Indian manufacturing sector.

Some of the main benefits and incentives offered under the PLI scheme include:

1. Financial Assistance: The PLI scheme provides financial assistance to eligible companies in the form of incentives, grants, or subsidies. These financial benefits serve as a catalyst for companies to invest in new and existing manufacturing facilities, upgrade technology, and expand capacity.

2. Performance-linked Subsidies: The PLI scheme offers performance-linked subsidies to companies based on their production performance. These subsidies are disbursed over a specified period, usually five years, and are directly linked to the incremental sales or production achieved by the participating companies. Such performance-driven incentives motivate companies to increase their production output and enhance their market share.

3. Tax Benefits: Under the PLI scheme, participating companies can avail themselves of various tax benefits. These benefits could include income tax exemptions, reduced custom duties on imported machinery, or concessional rates on land lease or rent. The tax incentives help reduce the overall cost of production and improve the profitability of the manufacturing units, making them more globally competitive.

4. R&D Support: The PLI scheme also includes provisions for research and development (R&D) support. Companies engaged in manufacturing activities that involve significant R&D efforts can receive additional incentives or grants to spur innovation, technology development, and product diversification. This incentivizes companies to invest in R&D, which leads to the creation of new and innovative products and technologies.

5. Employment Generation: Another crucial benefit of the PLI scheme is the promotion of employment generation. The incentives offered under the scheme encourage companies to set up or expand manufacturing facilities, which ultimately leads to increased employment opportunities. This helps in reducing unemployment rates, improving living standards, and stimulating economic growth.

6. Promoting Self-Reliance: The PLI scheme supports the vision of Atmanirbhar Bharat (Self-Reliant India) by promoting domestic manufacturing and reducing dependence on imports. The incentives provided under the scheme create a favourable environment for both local and foreign companies to invest in India, thus strengthening the country's manufacturing capabilities.

Comparative Analysis of China & Pakistan- Industrial Sector

Forty years ago in December, Deng Xiaoping delivered his historic speech "Emancipate the mind, seeking truth from facts and unite as one to face the future." This triggered four decades of reforms that have transformed China into the world's second largest economy. By some time in the next decade, China will be among the few countries in the world that will have transitioned from low income to high income status since World War II (Hofmann, 2018).

Open Door Policy & Economic Reforms:

Deng Xiaoping's speech at the Central Party Work Conference, in 1978, set the direction for China's economic reforms and modernization. Subsequently, they initiated open door policy and kickstarted foreign trade and investment reforms (Hofman, 2018).

Establishment of Special Economic Zones:

Xiaoping, these reforms shifted China from a centrally planned economy to a more market-oriented economy, encouraging foreign investment and private entrepreneurship (Naughton 2007).

Special Economic Zones (SEZs): The establishment of SEZs such as Shenzhen, Zhuhai, and Xiamen provided tax incentives, reduced tariffs, and infrastructure support to attract foreign direct investment.

Investment in Infrastructure: Massive investments were made in transportation, energy, and communication infrastructure, facilitating industrial growth and improving connectivity within the country.

Focus on Education and Skill Development: China significantly invested in education and vocational training to create a skilled workforce capable of supporting high-tech and advanced manufacturing industries.

State-Led Industrial Policy: The government strategically directed investments into key industries such as steel, automotive, electronics, and later high-tech sectors like robotics and biotechnology.

Innovation and R&D: Substantial funding for research and development was provided, coupled with policies encouraging innovation and the adoption of new technologies (Liu, 2015).

Global Expansion and Trade: Policies encouraging Chinese companies to invest abroad and acquire foreign technology and brands, along with active participation in global trade organizations, helped integrate China into the global economy (Buckley, Clegg, & Wang, 2002).

The key lessons learned from China's best practices highlight the importance of good infrastructure and effective organization and management. Essential components include a focus on security, policy support, investment promotion, environmental governance, service-oriented management, and the introduction of talent. These practices indicate that geography, resources market, human resources, and capital are crucial for the success of Special Economic Zones (SEZs). For Pakistan, SEZs should be located in areas with excellent transport, logistics, and local industry. Additionally, a high concentration of talent, innovative human resource policies, access to quality financial markets, investment facilities, and essential resources are vital for their success (Naughton, 2007; Wei, 1995).

Comparative Analysis- Malaysia & Pakistan

The following analysis has been made on the basis Blavatnik School of Government's Oxford Index of Public Administration.

Khazana Nasional Berhad

Khazanah Nasional Berhad is Malaysia's sovereign wealth fund. Incorporated as a public limited company by shares on 3 September, 1993 and commenced operations in 1994, owned by the Minister of Finance (incorporated), with the exception of one share held by the Federal Land's Commissioner (Incorporated). This impact fund is a RM6 billion commitment over five years to invest in catalytic sectors that will increase the nation's competitiveness and build its resilience. Investments are guided by six themes:

- Digital Society and Technology Hub
- Food and Energy Security
- Decent Work and Social Mobility
- Quality Health and Education for all
- Building Climate Resilience

- Competing in Global Markets

Work place health and safety: Engagement and treatment of employees, including remuneration, benefits & wellbeing (e.g. staff living conditions, forced and child labour, recruitment, fair benefits, equitable treatment of staff) Workplace Health & Safety Management of workplace health and safety issues arising from operations, including adequate policies & procedures, sufficient provision of PPE, safe work environment

Fair and Equitable Access: Provision of access and opportunities to products and services that is fair and equitable across different groups in society (e.g. access to basic infrastructure such as utilities, healthcare, digital connectivity, transportation, food and shelter)

Diversity and Inclusion: Promote diversity and inclusion without any forms of discrimination towards individuals, supporting racial and gender diversity, as well as unbiased access to opportunities for individuals across various backgrounds and income groups (including non-Malaysians working in Malaysia)

Revival of sick units: The Task Force on Sick and Abandoned Private Housing Projects (TFST), established by the Ministry of Housing and Local Government (KPKT), has successfully resolved 663 housing projects, benefiting 78,554 buyers with a gross development value (GDV) of RM57.09 billion in less than two years. Few strategies to revive are:

i. Financial restructuring
ii. Government support and policy initiatives. National Economic Recovery Plan (PENJANA) and other provided for packages during the COVID 19
iii. Industry specific Revitalization. Programs like Malaysia industrial revolution 4.0 (IR4.0)
iv. Corporate Governance
v. Private sector participation
vi. Sectoral focus (palm oil industry) and enhance value added products

Digitalization and use of AI: The digital transformation has shifted the dial in reshaping inherently traditional industries to create new customer experiences, or even business models, through the introduction of digital products and services. Nonetheless, organizations make the shift to digitalize services and digitize processes, through innovation and well focussed leadership, they can drive meaningful impact through digital transformation by balancing people, the planet and profit.

Big Data Analytics Big Data Analytics is the collection and evaluation of large amounts of data from many different sources, such as production equipment and systems. Real-time decisions are able to be taken based on the data gathered. In the long run, this improves product quality and production efficiency. Autonomous Robots will become independent and will learn to interact and work with other robots as well as humans. They are able to think, act and react autonomously as well as conduct remote decision making. This in turn contributes to a company's competitiveness, productivity and profitability. Robots are

already widely used in the Malaysian manufacturing sector, but often simply automated, i.e. at Industry 3.0 level

Cyber Security: Increased connectivity as part of Industry 4.0 makes it critical for businesses to protect industrial systems and manufacturing lines from cyber security threats. Therefore, it is essential to have reliable communications, as well as sophisticated identity and access management of machines and users. “Cyber security Malaysia” is an agency subordinated under the Ministry of Multimedia and Communications, which is continuously working to expand cyber security. Malaysia currently ranks eighth (2018) in the Global Cyber security Indexel.

Medium term plans: It set the economic growth targets as well as the allocation ceiling for the public sector development program. In addition, it also outlines the role of the private sector. The Mid-Term Reviews (MTR) are implemented in the middle of the five year plans. The MTR aims to review the performance of macro economic and sectoral policy plans for the first two years of the Plan as well as to realign strategies to achieve the revised targets, if necessary.

Three tiers of government:

Federal government: The central govt responsible for national level administration such as defense, foreign affairs and finance

State Governemnt: Malaysia is made uo of 13 states and three federal territories. Each state has its own govt, legislature and judiciary handling matters that fall under state jurisdiction such as land and local government

Local government: Local authorities such as municipal councils and city halls, handle local governance and services like waste management, public infrastructure and urban planning

Robust institutions: As specialised institutions, Developmental Financial Institutions provide a range of specialised financial products and services to suit the specific needs of the targeted strategic sectors. Ancillary services in the form of consultation and advisory services are also provided by DFIs to nurture and develop the identified sectors. DFIs therefore complement the banking institutions and act as a strategic conduit to bridge the gaps in the supply of financial products and services to the identified strategic areas for the purpose of long-term economic development. The DFIs have, to a large extent, contributed to the development and growth of the targeted sectors.

Human Capital Endowments: Focus is given on reforming the labour market to produce competent and skilled workforce towards supporting the economic growth. This reform address job mismatch which resulted in graduate underemployment, high youth unemployment and slow wage growth as well as over-reliance on low-skilled foreign workers. Efforts are undertaken to ensure more skilled jobs created and provide Malaysians with opportunities to earn high salary and wages under better working conditions. In addition, student outcomes and industry involvement will be improved to develop world class talent.

E Governance: Empowerment of the digitalisation of the government service delivery system has successfully pushed up the country’s ranking to 47th place in 2020 as compared

to 48th place in 2018 in the E-Government Development Index (EGDI) under the purview of the United Nations (UN). In this assessment, Malaysia was also recognised as among the 57 nations who fall in the Very High E-Government Development cluster.The nation's performance also stood out in one of EGDI's components which is the Online Service Index (OSI) where, in 2020, Malaysia was ranked at 24th place out of 27 in 2018. In Asia, Malaysia was ranked at 9th place and 2nd place in South East Asia for 2020. OSI is the mechanism to measure a nation's ability and preparedness to provide online services and interact with the people digitally through *End-to-End* (E2E).

Political Stability: Mahatir Mohammad: served as fourth and seventh Prime Minister of Malaysia from 1981-2003 & 2018-2020 (cumulative 24 years). Whereas in this period 9 prime ministers were changed, even governments have been short lived which weakened implementation of long-term policies. The political instability has led to undermining the development of strong institutions and has hindered Pakistan's ability to adopt consistent policies

Economic& Social outlook: Malaysia's model in the country which is based on a "diversified" economic structure, a strong external position, robust institutions, and significant natural resources and human capital endowments Malaysia was once an agricultural country but with its "holistic" socio-economic policies it has now become one of the most advanced "industrialized" countries in the region and beyond. Society has been nurtured through the help of strategic vision of "equitable" social development by implementing the concept of "shared prosperity". Regional development has been "consolidated" due to which widening gap between rural and urban poverty is continuously on the decline. Provision of basic necessities of life has been protected through "constitutional guarantee". A new social contract was signed to cater the needs of common people. Last but not least, "consistency" of economic policy has never been "hostage" to any political divide, social unrest, discomfort or administrative hurdle since its independence. Thus, caravans of socio-economic development have been on the right path to achieve immense socio-economic prosperity in Malaysia. In order to improve foreign reserve account Pakistan needs more diversity and vibrancy in export sector coupled with value addition, technological and product up-gradation. In Malaysia the successful development of the electronics and electrical (E&E) industry is particularly noteworthy from the perspective of diversification given its minimal links to resource-based industries. E&E exports are presently Malaysia's largest exported component, accounting for more than 45 percent of total exports. Pakistan also needs to focus on technological and product up-gradation towards medium value added and high valued exports. While capitalizing on textile, leather and other products with competitive advantage it needs to build its capacity in energy production and local manufacturing industries to support CPEC initiatives. In 1991, Malaysia adopted an export-oriented economic strategy. Under this strategy, the country pursued a policy of industrialisation to increase the productivity and quality of its exports. It also pursued policies of privatisation and corporatization which may also be replicated in our own country. Industry contributes to around 37.4 percent of GDP and employed 26.8 percent of the active population in 2020. Malaysia is one of the world's largest exporters of semi-conductor devices, electrical goods and appliances, and the government has ambitious plans to make the country a key producer and developer of high-

tech products, including software. It is a major outsourcing destination for components manufacturing, after China and India. It has attracted significant foreign investment, which has played a major role in the transformation of its economy. Malaysian service sector employs the majority of the population 63.1 percent in 2020 and accounts for 54.2 percent of GDP which is due mainly to healthcare services, transport, distributive trade and tourism. Tourism was the third biggest contributor to Malaysia's GDP, after manufacturing and commodities, with over 7 percent of GDP and 26.1 million foreign tourists in 2019, according to Tourism Malaysia.

Malaysia has a labour force of 15.9 million people out of a 32.5 million population in 2020. Agriculture employed 10.1 percent of Malaysians in 2020 and contributed to 7.3 percent of GDP. Malaysia is the second main producer of palm oil and tropical wood, and the fifth largest exporter of rubber. It has successfully developed its economy based on raw materials and has significant reserves of oil, gas, copper and bauxite.

Institutional Reforms: Pakistan may learn mechanism of "institutional reforms" from Malaysia which may be replicated in civil service reform effort. The "Spatial Planning System (SPS)" of Malaysia is another area from which Pakistan can be benefited. Actually, it has revolutionized the concept of regional economic development through federal, state and local administrative tiers. It has been instrumental for creating jobs, mitigating inequalities and ensuring basic public services in regions which are economically slow. Pakistan also needs to learn how, through a system of "robust monitoring" and evaluation; Malaysia ensures that medium-term development plans get implemented in a timely and cost-efficient manner.

Technological Developments: Easy and smooth institutionalization of "technological development" and its transfer has been the secret of Malaysian rapid growth towards innovation, Artificial Intelligence, digitalization and ICT. In this regard, Pakistan could certainly learn how Malaysia successfully put in place and practiced policies which could ensure technology transfer in high-end industrial manufacturing activities. A large segment of the country's electronics industry developed from policies by Malaysia's Ministry of International Trade and Investment.

Human Capital Development: Development of "qualitative human capital" is another area of interest to Pakistan. Malaysia's education policy has long focused on inclusiveness, and access to education has improved vastly in recent years. In line with the Millennium Development Goals, it has reached near-universal levels, with primary education enrolment at around 98 percent and secondary education enrolment more than 95 percent respectively. The quality of education has critically boosted human capital development and workforce productivity in Malaysia. It has increased the availability of skilled workers and improving Malaysia's attractiveness to investment in higher value-added activities. Ambitious reforms have been implemented to improve collaboration between industry and tertiary educators to align curricula to industry specifications and internationally recognized qualifications, while also increasing opportunities for job placements during and after the completion of studies. The Malaysian Education Blueprint (2013-2025) provides the overarching framework for reforms to basic education. Reforms have also been introduced for more

holistic examinations and student benchmarking, a comprehensive framework for teacher evaluation, training and career development.

Education Sector: Education promotes civic decency and supports prosperity too. It provides bases of a national skilled human capital. Malaysia is one of the few countries where education and healthcare are heavily subsidised. Malaysian citizens are entitled to free public education up to the secondary level and public tertiary education fees for them are subsidised by up to 90 percent. According to UNESCO (2019-2020) Malaysia has an adult literacy rate of 93.12 percent; male literacy rate is 95.43 percent while for females it is 90.75 percent. The policy makers of Pakistan should seek guidance from the Malaysian education system to replicate the same in the country.

Healthcare Sector: Moreover, throughout Malaysia basic healthcare services at government clinics available with prescription cost only one Malaysian ringgit 1 ($0.25). Disabled persons, senior citizens and public-school students are entitled to free healthcare. The UNDP (2020) termed the Malaysian healthcare system "a model to other regional countries". Pakistan has been striving hard to achieve this goal of Free National Health Facilities through distributions of health cards however, valuable lessons may also be learnt from Malaysia.

The Malaysian model upholds that formation of a vibrant and progressive society has direct correlation with economic development, stability and sustainability. Nations are built through "strategic visions" and sincere "leadership qualities" because shady characters always achieve nothing but promote corruption and injustice in the societies. Societies are built through their moral, ethical, and tolerant values and Malaysia exemplifies it. Survival is a complex and complicated "attribute" of human development. Societies could not be developed through "automated" philosophies of hatred, prejudice, discrimination and ethnic divide and political cosmetic orientations. The Malaysian Model underpin the importance of sincere leadership who can guide the nation through all ups & downs and pull it from all shores (Khan D. M., 2021) of uncertainties to the banks of national harmony, unity and productivity.

Overall Stakeholder Analysis re Industrial Policy in Pakistan

Stakeholder	Interest	Influence & Power	Engagement Strategy
Federal Government	Economic growth Job creation Export promotion Foreign Investment Improving trade balance	It is the principal advisory body of the Federal Government to give input on matters regarding Industry. It also regulates different industries	Coordinating with Provincial Governments Ensuring compliance to International Standards Coordination with Chambers of Commerce & Industries Facilitating Industries to resolve their issues Provision of guidance to Industrialists for establishing connect

			between local industry with international market
Private Sector (Industrialists-Exporters & Importers)	Sustaining & Expanding Industry Profitability	Well connected with political executive Financial clout Employment Providers	Input in policy formulation Facilitation in multiple government processes Awareness about International standards and best practices Compliance to prevailing laws e.g. Environmental & Labor Laws Incentives
Chambers of Commerce & Industries	Political clout Promotion of Industries	Influence on the industrialists i.e. manufacturers, exporters & importers Promoting goodwill for government policies Connect between Government and Industry	Frequent meetings Representation in boards of public sector enterprises Representation in Taskforces or Committees constituted for revival or promotion of Industry
Political Leadership	Voters Contribution in Party fund Agenda setting	Legislation Bridge between Industry & Government	Meetings Making them part of consultative process in policy making
Employees	Manpower Contribution Source of Income Other Incentives	Labour Unions Agitation / Protest Industrial Relations Commissions	Competency based Trainings Awareness about rights and safety
International & Local NGOs	Workers Rights Child Rights Women Rights	Public Opinion International Outreach Image Building FDI	Seeking their input Sharing positive side of the industry

Overall Pestle Analysis of Industrial Policy making in Pakistan

Political: The political instability, over the period of time, has hampered the growth of industry in Pakistan. Due to frequent changes of governments, there is no continuity in the policy. The decision making is more based on political interests and agendas than on the resolving issues faced by the industrial sector. For instance, as sugar industry is being controlled by the members of political parties, therefore, it gets incentives as well as preferential treatment. Similarly, some big real estate owners assist the political parties in canvassing and campaigns, thus, a tilt towards promoting real estate sector at the cost of

industry. The federal government and provincial governments are, most of the times, not on same page. No unified industrial policy. The strict regulatory regime and lack of provision of incentives to private sector also contribute to slow growth of industry. Within industry, the political angle of preferring big industries over small and medium enterprises. Volatile security situation across the country.

Economic: The rupee-dollar disparity contributes to increasing the cost of raw material used in manufacturing. Lack of facilitation to concessionary loans or credit lines. Energy crises and per unit tariff for industrial sector are causing damages. Modern technologies and equipment are not employed. High interest rates are also not good for industrial development particularly for small and medium enterprises. High tax rates and complex mechanisms are irritants for industrialists. Irrational scheme of subsidies without taking into account its impacts and benefits.

Social: 48.5 % of the population i.e. females do not get enabling environment in industrial establishments, therefore, cannot contribute effectively to growth of this sector. 28 women for every 100 men participate in labour force Pakistan and India, however, globally it is 64 women for every 100 men (Bank, 2020). Workers' rights are violated and workers welfare is not a priority e.g. as poor working environment, low wages, security of tenure, lack of compensation to workers in case of injury & death. Lack of fulfillment of corporate social responsibility. Pakistan has been running low on productivity for the last two decades — though it was once ahead of peer countries like India, Bangladesh, and China for at least one decade. According to the ILO, Pakistan had an average labour productivity rate of 1.5 per cent from 2000 to 2020 annually, compared to India's 5.7pc, Bangladesh's 3.9pc, and China's 8.5 pc in the same period (Alam, 2024).

Technological: Lack of investment from the Government in Research, Development & Innovation. Lack of utilization of Artificial Intelligence. Non-availability of latest technologies and equipment is impeding industrial growth. Competency based trainings and its linkage with the industry. Certification and standardization are also missing link. Lack of unified registry containing industrial requirements and available skilled labour. Due to internet disruptions, lasting for 9,735 hours and impacting 82.9 million users, and social media blackouts, Pakistan's economy, while topping the list, had impact of $1.62billion (Malik, 2025).

Legal: The laws, rules and regulations dealing with Industry are complex, cumbersome and irritating. The labour laws are not implemented e.g. Health & safety regulations, minimum wage law, child worker, women harassment at workplace etc. Weak enforcement of intellectual property rights. Negotiating such foreign trade agreements without taking into local industry. The bureaucratic hurdles are impacting negatively.

Environmental: Non-implementation of environmental regulations e.g., no proper mechanism of industrial waste disposal, carbon emissions, poor air quality index, soil erosion. Despite Pakistan's financial needs remaining high, the updated nationally determined contributions aim to decarbonize its economy and enhance its climate resilience by cutting 50 % emissions, shifting to 60 % renewable energy and targeting 30 % electric vehicles by 2030 (Pakistan, Pakistan : Updated Nationally Determined Contributions ,

2021). The Global Climate Risk index ranks Pakistan as the 5th most vulnerable country due to climate change.

Analysis of Governments Regulatory Regime & Facilitation

The ease of doing business is very important for attracting investment as well as for industrial growth. In terms of ease of doing business ranking in 2020, the ranking of Pakistan was improved to 118. In the same year, the ranking of India was 63, Bangladesh 168, Sri Lanka 99 and Iran 120. This index primarily provides outlines regarding business activity in any country e.g. procedures to legally start and formally operate a company, time required to complete each procedure, cost required to complete each procedure, paid in minimum capital and digitalization of business processes. In Pakistan, the following factors normally effect the efficiency of business processes- lack of use of technology, complex procedures, duplication of processes, complicated process of land transfer, unfriendly bureaucracy, non-enforcement of contractual rights, hurdles in getting permissions and political instability. Pakistan has three-tiered compliance structure i.e. Federal, Provincial and municipal laws. Most of the laws are outdated for e.g. the Law Revenue act 1967, Land Acquisition Act 1894, The Registration Act 1908, The Contract Act 1872 etc. Despite digitization, the processes of land transfer and land registration are so complex that land transfer is difficult. In 2017, Board of Investment was made the lead agency to analyze multiplicity and complexity of business process of the federal government and to eliminate redundant steps. After hectic efforts Pakistan's ranking been improved.

Second Generation Regulatory Reforms:

ASAAN Karobar program: The Board of Investment consulted private sector and analyzed procedures and regulations involved in registration of different businesses. For this purpose, they consulted business association of light engineering, pharmaceutical, textile, food, logistics, chemicals, I.T, leather and others. Based on their input business process was simplified.

Harmonizing food standards across the country: Different food standards for the same products were prescribed in different provinces/ areas. The manufacturers were facing difficulties in conforming to multiple standards, with separate testing and registration for sales in the country. The proposal of single national food standards was placed before the Council of Common Interests (CCI) which approved it and all standards were harmonized and adopted by all provinces and Federal Government.

Permitting I.T companies to make legitimate payments: Exporters of software ware not allowed to utilze their own export earnings in foreign currency accounts for certain purposes including payment of expenses incurred by employees travelling abroad to provide business related services. The proposal for payment for legitimate expenses on employee travelling abroad to provide business related services should be allowed. SBP has implemented the changes by amending the regulations.

Enhance Validity period of drug license from 2 to 5 years: Drug License issued by the health directorate was usually valid for two years, after which renewal was required. The process was cumbersome requiring the repetition of same regulatory compliances fulfilled

at the time of obtaining license for first time. To reduce compliance burden on business, the validity period of drug license was enhanced which also resulted in cost savings.

Eliminate multiple inspections by business control authorities for buildings in low-risk categories: Multiple inspections were conducted between approval of map and issuance of completion certificate for all categories of buildings. Inspecting all categories of buildings with same frequency is not justified. Rather, they should be categorized on the basis of risk, and less inspection should be conducted for low-risk buildings than those for high risk buildings. Hence to reduce burden on building control authorities, Risk based categorization.

Eliminate Requirement for Mandatory Registration with Social Security Department for Entities having less than 10 Employees. Registration with provincial Social Security Department was mandatory for all businesses having minimum of 05 employees, which was a regulatory burden on the small businesses. The problem was solved in 2022 that for registration with Social Security Department, the minimum number of employees required was raised to 10 employees and a scheme for optional registration was also introduced.

The following is the list of some reforms under ease of doing business:

- Company can now be registered in one day with SECP& FBR. Data is transferred to Labour Dept, PESSI, SESSI and EOBI in real time. Only SECP portal is used. End to End integration of 9 departments has been made.
- Getting construction permits now takes 108 days in Lahore and 134 days in Karachi as opposed to 266 and 261 days originally.
- Commercial property can now be registered in 22 days in Lahore and 149 days in Karachi instead of 25 and 208 days previously.
- Commercial electricity connection can now be obtained in 73 days in Lahore and 134 days in Karachi as opposed to 117 and 185 days in previous report. Online portals of LESCO and K-Electric have been launched. Tariff changes are announced in advance.
- Online payment of Taxes has been introduced. The numbers of payments are now measured at 34 from 47 and time for paying taxes has reduced substantially. Tax rates for small companies reduced from 25% to 2 4%
- WEBOC Customs software has reduced time to export for border compliance from 75 hrs to 58 hrs and time for Imports for documentary compliance from143 hrs 96hrs Company can now be registered in one day with SECP& FBR. Data is transferred to Labour Dept, PESSI, SSESSI and EOBI in real time. Only SECP portal is used. End to End integration of 9 departments has been made.
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- WEBOC Customs software has reduced time to export for border compliance from 75 hrs to 58 hrs and time for Imports for documentary compliance from143 hrs 96hrs. (**https://invest.gov.pk/eodb**)

At Federal level out of 62 reforms, 44 have been implemented and 18 are under process. Total 121 reforms in 75 departments have been proposed to make the process simplified. Single window facility has been preferred in all these reforms. The efforts were endorsed and recognized at National and International level. Following the same pattern, efforts are under way for an electronic one-stop-shop for businesses and formation Pakistan business portal for online payments and registrations. For this purpose, trainings are being conducted in SMART regulations to civil servants.

Sector	Industry	Difficulty	Legal Reference	Recommendation	Who
Information Technology	Software Companies	Exporters of software are not allowed to utilize their own export earnings in foreign currency accounts for certain purposes including payment of expenses incurred by employees travelling abroad to provide business related services	SBP Foreign Exchange Manual, Chapter 12, Clause 12 (ii)	Payment for legitimate expenses on employees travelling abroad to provide business related services and should be allowed	SBP
Manufacturing	Export House	To obtain clearance of	SRO 492(1)/2009	For export houses, usage of Risk	Pakistan Customs

		materials, accessories, components etc. for use in production of exportable goods, all importers have to get consignment examined, assessed and security deposited. This cause delay and additional expenses	dated 13 June 2009	Management System for Green channel clearance backed by revolving guarantee be provided	
Food	Plant Material	Manufacturers of Tea receive samples (non-commercial quantity) to participate in tea garden auction abroad. Department of Plant Protection regulations require Release Order for Customs Clearance, which takes time. Sometimes samples are cleared when auction has been done.	Import Policy Order Appendix – B, S.Nos. 286 to 291	Eliminate PPRO for samples imported by Registered manufacturers	DPP/MoC/ Customs
All Businesses / Industries liable to Tax	-	Taxpayers have to obtain & use multiple user identification numbers /	No Legal requirement for separate STNR	STNR should be discontinued and single number should be used for all activities	

		NTN/STNR for different activities			

Issues and Challenges

i. The country lacks a unified or integrated industrial policy. Each sector of industry has its own policy. The provincial governments have different policies. Each policy provides separate goals and there is absence of any framework providing national goals and targets. The coherent strategy is, thus, absent. The whole of government approach is lacking.

ii. The issue of political economy is of significant importance. Each political party has separate manifesto and as the policies stem out of that manifesto, thus, each party takes up industrial sector differently. Therefore, each government comes up with a different policy, discontinuing the old policy. Lack of consistency of in policies is the issue and how to make them consistent is a challenge. Another challenge stems out from this is to realign the policies with the international best practices.

iii. During research, it was unfolded that the exercise of policy making in Pakistan is, unfortunately, conducted without taking the stakeholders on board. The suggestions from concerned industrialists are either not sought or if sought then not incorporated.

iv. Among stakeholders, again, only those are preferred which are closer to political elite or can contribute significantly to party funds or vote bank. For instance, All Pakistan Textile Mills Association (APTMA) has been seen as an entity exercise more clout than the others. So how to install a balance is a challenge in political economy.

v. During research when comparison was drawn with International Countries, it got unfolded that setting priorities right matter. India prioritized in Information Technology, Artificial Intelligence, innovation and Research & Development, so, it gained envious progress. Contrarily, in Pakistan, investing in informational technology, research and development remained neglected. More preference was given to Textile Industry. More subsidies were given to fertilizer sector without analysing its impacts on farmers. The current subsidies for the fertilizers are benefitting mill owners instead of farmers. Capacity building of labour was ignored. So, setting priorities right remained an issue.

vi. Extending concessionary loans to the Small and Medium Enterprises as well as integrating SMEs is a challenge.

vii. Non-utilization of modern technologies in the Industrial sector is an issue. Most of the industries are relying on manual labour, thus, efficiency decreases and quality of product gets compromised. However, in a country like Pakistan where the unemployment rate and inflationary pressure are high, maintaining a balance between use of technology and keeping workforce employed is a challenge as Technology has potential to replace human beings.

viii. Energy crises and Tariff rate have been observed as an issue negatively affecting the growth of industrial sector. How to make tariff regionally competitive is a challenge given the pressure of International Financial Institutions to raise revenues.

ix. The lack of innovation in Industrial sector is also an issue. There seems a cultural inertia impeding this change. For instance, Electric Vehicle policy was good step. However, it received resistance from existing market.

x. During this research, it was unleashed that Pakistan has an overly regulated regime which discourages industrialization. How to make the processes simplified is a challenge.

xi. Low labour productivity is an issue which Pakistan is facing. How to make the labour productive is challenge.

xii. Technical Education and Vocational Training Institution face governance, monetary and training issues.

xii. Establishing a linkage between industrial sector and training institutes is also a challenge. Moreover, to impart such technical skills which are in demand internationally is also a challenge.

xiii. Fake Certifications and institutes pose a challenge to TEVT Sector.

xiv. Pakistan's oil and gas sector is heavily reliant on imports. The energy-mix depends a a lot on conventional fuels like oil and gas. Scarcity of strategic oil reserves.

xv. Growing concerns regarding cyber security, data privacy and massive shut downs of internet are issues. Moreover, the recent clamp down through firewall has also disturbed the Information Technology sector. In addition to this, the Information Technology sector has poor infrastructure in villages so their digital integration is a challenge.

xvi. Diversification of exports as well as export destination is also a challenge. How to add value in the product and to improve industrial base are challenges.

xvii. Increasing investment in high-tech industry is a challenge. There is significant shortage of professionals in the fields of Artificial Intelligence and Virtual Reality.

xviii. Training freelancers to compete in international market is an issue. Reliable and safe money transfer mechanism like PayPal doesn't exist. They also face issues related to internet. Applying uniform tax rate on the freelancers is also an issue as they don't have a permanent source of income.

xix. The industries are facing difficulty in tax related matters too. For instance, they complain of refunds related matter, double taxation, non provision of incentives, maltreatment by FBR officials.

xx. Non-compliance of environmental laws, labour related laws e.g. minimum wages, health insurance, child labour, workplace harassment etc. are important issues given Pakistan's international commitment.

xxi. Exploring untapped potential in electric vehicles, electronics, lithium batteries, clean technology is a challenge.

xxii. Branding Pakistan's products internationally is also a challenge. Certification of our products is also an issue. Moreover, to become part of Internation Value chain, Pakistan's products need to comply international standards and certifications. How to do that is also an issue.

xxii. For improving exports, there is a dire need to negotiate international agreements related to trade.

xxiii. The land acquisition for establishing industry takes a lot of time. How to quicken the process is also a challenge.

xxiv. The SWOT analysis of Industrial institutions establish that some government bodies related to industries such as PIDC, Engineering Development Board, National Productivity Organization etc. are not performing efficiently.

xxv. Frequent change of political governments is also impacting industry negatively as with the change of governments, the policies are also changed.

xxvi. Earlier, due to electricity crisis the textile industry shifted to Bangladesh (imadudin, 2012) and now IT industry is relocating to Dubai to more favourable business climate there (Ali, 2024).

Conclusion:

The analysis unfolds that the industrial sector does not have a national industrial policy. Overall economic growth is linked to the industrial productivity. However, the industrial sector is suffering from challenges such as unskilled workforce, lack of competitive tariff, issues of taxation, less spending on research and development and too many regulations. Moreover, the political priorities vis-a-vis industries are not aligned with the international best practices.

Recommendations

i. There shall be a national industrial policy defining clear objectives, goals and rationale targets. This policy shall be developed by taking all stakeholders on board such as industrialists, experts, provincial governments etc. The implementation strategy as well as monitoring mechanism shall be clear.

ii. The political considerations are a reality which cannot be ignored, however, for aligning industrial growth such sectors shall be given priority which can compete internationally and improve exports.

iii. The views of multiple stakeholders shall be taken into consideration while formulating the industrial policy. Only few influentials shall not be preferred else policies will remain hostage to elite capture. For this purpose, there shall be a business council at national level having representation from all sectors. This council shall be an advisory body to the government on industrial sector.

iv. The policy implementation is of critical importance but it fails as not Key Performance Indicators (KPIs) are defined and no coordination exits between different organizations / entities. Therefore, the industrial policy shall clearly define the KPIs, on the basis of which performance of implementing / executing agency is to be judged. The policy shall also define a mechanism of coordination between entities. The official entities related to industries shall sign a performance agreement.

v. Facilitating local and international exploration and production companies for exploration of oil and gas in Pakistan. The time required for issuance of license shall be minimized.

vi. Encourage the development of alternate energy sources to reduce dependence on oil and gas.

vii. Local manufacturing of Electric Vehicle and its parts be encouraged by offering them incentives such as land for establishing units in Industrial Estates at low rates.

vii. The SMEs be facilitated in getting concessionary loans. Moreover, they be integrated into mainstream industry.

viii. The Government shall focus on Research & Development as well innovation. R & D expenditure be increased.

ix. The disconnect between Industry and Training institute be bridged. The curriculum be designed on the basis of requirement in Industry as well as international requirements. This will increase manpower productivity. The government needs to commit to labour market outcomes and impart training by conducting skill mapping.

x. The Government to financially support the TEVT sector. The budget allocation per trainee shall be increased as same is low in comparison to Singapore, Philippines etc.

xi. The TEVT sector shall have a centralised verification data base in order to check fake certifications.

xii. The industrial policy shall focus on export diversification. Moreover, value addition needs to be done. The tariff for Textile Industry shall be made regionally competitive.

xiii. The Federal Board of Revenue shall not harass the traders in the garb of tax collection. The better way is to engage the traders at the time of finalization of budget proposals.

xiv. Develop special education and training programs for emerging technologies and send the professionals in the foreign universities for training regarding high-tech. It is high time that investment be made in this sector.

xv. The government shall enforce environmental standards on the industry by persuading them to shift on clean technology. This shall be part of new industrial policy.

xvi. The land acquisition process for the establishing Industry takes a lot of time so the Government needs to amend the Land Acquisition Act to facilitate the process.

xvii. The ease of doing business shall be ensured for industrial sector and investors. For that business processes need to be simplified. The Single Window initiative shall be promoted.

xviii. Development of Technology Parks and incubation centres for knowledge exchange, skills development etc. For this public private partnership shall be ensured.

xix. For promotion of IT sector, the government shall ensure uninterrupted supply of Internet. Moreover, for digital integration, the broadband connectivity be ensured in the rural and remote areas.

xxi. Enhancing digital literacy and skill development by redesigning the curriculum at primary and secondary level.

xxii. The labour laws shall be simplified. And strict enforcement of laws to prohibit child labour, minimum wages etc. be done. Healthy safe environment to the workers shall be provided. In case of death, during the course of duty, ample compensation be paid to the family of deceased. Elimination of forced labour and gender disparity in the industrial sector shall be ensured.

xxii. To address the issue of subsidy, the subsidy shall be directly transferred to the farmers. The government shall ensure monitoring of fertilizer distribution.

xxiii. The Government shall ensure security of online transaction in order to gain consumers trust in the backdrop of promoting e-commerce.

xxiv. The Government needs to improve enforcement of digital rights and privacy using FIA, PTA etc.

xxv. The data protection law be introduced.

xxvi. The Government needs to abolish or privatize or merge the public sector entities which are not aiding in growth of industrial sector e.g. PIDC, NPO, Engineering Development Board etc.

xxvii. Pakistan Regulatory Modernization Initiative for reforming regulatory environment in Pakistan shall be encouraged. The One Stop Shop by the name of Pakistan Business Portal shall be promoted.

xxviii. The SEZs regulatory regime shall be made easy.

xxix. There shall be easy mechanism to resolve disputes of investors and for that Alternate Dispute Resolution shall be encouraged.

Implementation Design of Recommendations in the shape of Log Fram Matix

Proposed Actions	**Responsibilities**	**Resources**	**Timeline**	**KPIs**
National Industrial Policy	Ministry of Industries & Production & final approval by the Cabinet	Technical Experts Data Analysis Research Experienced Industrialists	06 months	i. All stake holders have been consulted ii. Implementation mechanism iii. rational targets iv. International Best Practices v. Covering all sectors
Prioritizing Sectors	Ministry of Industries & Ministry of Commerce Ministry of IT & Telecommunication Pakistan Bureau of Statistics	Data from Commercial Counsellors Data from Ministry of Foreign Affairs and International Experts	06 months	i. List of sectors who have competitive advantage in international markets ii. List of areas where potential is untapped iii. Exact calculation of impact on GDP and Exports iv. 25% increase in exports after this. v. GDP share of Industry to increase by 2%
Establishing Business Advisory Council	Prime Minister's Office	Proposal from Ministries of Commerce, Industries & Production, IT & Telecommunication Proposal from Chamber of Commerce and Industries	02 months	i. Improving Doing Business Index from 108 to 106. ii. Industrial Growth rate increases by 3 % iii. Revival of 100 closed or loss making Units.

				iv. the proposed names shall have experience in industrial sector ii. proposed names shall have contribution in industrial sector
Reforms in TEVT Sector	Ministry of Federal Education & Professional Training NAVTTC & TEVTAs	Increase in budget Industry to provide the list of skills required Ministry of Commerce to provide list of skills which are in demand worldwide Competent Trainers	1 Year	i. 5 % increase in skilled labour ii. 2% increase in overseas employment iii. Remittances shall increase by 5 % iv. Increase in human productivity index
Ease of Doing Business	Board of Investment	Cooperation from Ministries, Divisions, Departments Cooperation from provincial governments Mapping of processes	1 Year	i. improved ranking in doing business index from 108 to 106 ii. reduction of steps in business processes iii. 100,000 new business registered iv. Reduced number of complaints registered on Citizen Portal
Concessionary Loans to SMEs and their integration in main industry	Ministry of Finance Ministry of Industries & Production Ministry of Professional Education & Training SMEDA State of Pakistan	Financial Support Technical Support	2 Years	Increase in SME growth by 8 % Increase in Exports by 10 % Credit Creation to increase by 30 % Number of SMEs to increase by 50,000 SMEs contribution to industrial sector

				be increased by 2% **Time Bound:** will end by 2027
Increasing budget component of Research & Development	Ministry of Industries Ministry of Commerce Ministry of IT & Telecommunication	Qualified & experienced researchers	1 Year	i. Already allocated budget be utilized ii. New products & technologies developed iii. Increase in local manufacturing iv. Diversification in exports
Development of Special Economic Zones	Board of Investment Ministry of Industries Provincial Industries Departments Provincial BoIs	Financial Infrastructure Security Incentives Land Transaction	3 years	i. Increase in FDI by 3 % ii. GDP Growth rate to increase by 1 % iii. Minimizing number of steps for approval of the case **Time Bound: will end in 2028**
Promotion of Information Technology usage in Industry	Ministry of IT & Telecommunication Ministry of Industries & Production Ministry of Science & Technology Ministry of Commerce IT Boards of Provinces	Financial Resources Technical Human Resource International Partnerships	02 years	i. Increase in Industrial Productivity ii. Increase in Exports by 2 % iii. Increase in Exports of Textile by 3 % iv. No. Of Electric Vehicles produced
To make Tariff Regionally competitive for Industries	NEPRA	Financial Resource	01 year	i. increase in exports by 2 % ii. Balance of Payment to be resolved
Resolving refund claims and tax related	Federal Board of Revenue	Data from Industrialists of pending claims, if any	06 months	i. How many tax refund claims disbursed

matters of Industrialists		For Tax incentives, need to take IMF team on board		ii. Feedback from industrialists iii. Impact on Industrial activity
Global branding of Industrial Products	Ministry of Foreign Affairs Ministry of Commerce Commercial Attache's & Counsellors	Financial Resource Human Resource	01 year	i. Increase in Exports by 5 % ii. Industrial Growth iii. Increase in global market share iv. No. of Events, Industrial Exhibitions and Pavilions arranged
Rightsizing of Ministry of Industries & Production	Cabinet Committee		03 months	Abolishing organizations which are not helping in industrial growth such EDB, PIDC, NPO etc.

Annexure:

Technical Note:

The Importance and Role of Input-Output Model

in Industrial Development for Pakistan

Background

Pakistan's industrial sector faces significant challenges, including fragmentation in governance, policy incoherence, and a lack of integration across industries. To address these issues and ensure sustainable industrial growth, the adoption of advanced planning tools like the Input-Output (I-O) Model is essential. This model provides a structured approach to planning and resource allocation, enabling effective industrial development by analyzing interdependencies among various sectors. By applying the I-O Model, Pakistan can create a unified framework to eliminate fragmentation and achieve industrial prosperity.

Understanding the Input-Output Model

The Input-Output Model, pioneered by Nobel laureate Wassily Leontief, is a quantitative economic technique that captures the relationships between different industries within an economy. It identifies how the output of one sector serves as an input for another, creating a detailed matrix of inter-industry dependencies. This model helps policymakers and planners:

1. **Identify Critical Industries**: Highlight sectors with significant backward and forward linkages, ensuring resources are prioritized where they generate maximum impact.
2. **Optimize Resource Allocation**: Ensure efficient use of resources across industries to reduce waste and inefficiencies.
3. **Forecast Economic Outcomes**: Simulate the effects of policy decisions, technological advancements, and external shocks on the industrial ecosystem.

Techniques for Using the I-O Model in Industrial Development

1. **Sectoral Analysis**:
    - Use the I-O matrix to identify key industries with high multipliers, such as energy, steel, and textiles, which influence multiple downstream sectors.
    - Example: Analyze how investments in steel manufacturing impact construction, automotive, and machinery sectors.
2. **Import Substitution Planning**:
    - Identify intermediary goods currently imported and prioritize their domestic production by analyzing the dependency matrix.
    - Example: Develop local capacity for EV battery components and semiconductor manufacturing, reducing reliance on imports.

3. **Export Diversification**:
    - Determine sectors with untapped export potential by assessing global supply-demand dynamics and aligning them with domestic production capabilities.
    - Example: Use the I-O model to expand Pakistan's presence in renewable energy products, such as solar panels and wind turbine components.
4. **Supply Chain Optimization**:
    - Map supply chains to identify bottlenecks and inefficiencies.
    - Example: Enhance logistics for the textile industry by integrating raw material suppliers, dyeing units, and garment manufacturers.
5. **Regional Industrial Planning**:
    - Develop specialized industrial zones tailored to regional strengths by analyzing regional I-O data.
    - Example: Promote surgical instrument manufacturing in Sialkot, leveraging existing expertise and global demand.

Examples of Successful Implementation

1. **China**:
    - China's use of I-O models enabled the development of interlinked industrial clusters, such as the electronics hub in Shenzhen and the automotive industry in Guangzhou. These clusters facilitated innovation, reduced production costs, and increased global competitiveness.
2. **Germany**:
    - Germany's precision engineering and automotive sectors thrive due to integrated industrial ecosystems supported by rigorous I-O analysis. The model helps maintain strong linkages between R&D, component manufacturing, and final assembly.
3. **South Korea**:
    - South Korea's rise as a global electronics and shipbuilding leader is rooted in targeted investments guided by I-O models. The government identified key sectors with high multiplier effects and aligned policies to strengthen them.

Benefits of the Input-Output Model for Pakistan

1. **Eliminating Fragmentation**:
    - The I-O model fosters coordination among federal, provincial, and local governments by providing a unified framework for industrial planning.
    - Example: Aligning policies for textile manufacturing in Punjab and Sindh to avoid duplication and inefficiencies.
2. **Enhancing Policy Coherence**:
    - Provides a data-driven foundation for policy decisions, ensuring alignment with national priorities and global trends.
3. **Boosting Domestic Production**:
    - Identifies opportunities for import substitution and value addition, reducing reliance on foreign goods and services.
4. **Promoting Regional Development**:

   - Tailors industrial strategies to regional strengths, ensuring balanced economic growth.
5. **Attracting Investment**:
   - Provides clear insights into sectoral dynamics, making Pakistan an attractive destination for both domestic and foreign investors.

Implementation Roadmap for Pakistan

1. **Develop National and Regional I-O Matrices**:
   - Establish comprehensive I-O tables capturing inter-industry relationships at national and provincial levels.
2. **Institutional Capacity Building**:
   - Train policymakers, economists, and planners in the application of I-O models for industrial strategy development.
3. **Strengthen Data Collection Mechanisms**:
   - Invest in reliable data collection systems to ensure accurate and up-to-date I-O analysis.
4. **Create Policy and Investment Frameworks**:
   - Design policies based on I-O findings, focusing on high-impact sectors.
5. **Engage Stakeholders**:
   - Collaborate with industry leaders, academia, and international organizations to refine strategies and ensure successful implementation.

Policy Conclusion:

The Input-Output Model offers a powerful tool for addressing the fragmentation and inefficiencies plaguing Pakistan's industrial sector. By leveraging this approach, Pakistan can identify critical industries, optimize resource allocation, and align industrial policies with national and global priorities. Success stories from countries like China, Germany, and South Korea demonstrate the transformative potential of I-O models in fostering industrial development. Adopting this model is not just an option but a necessity for building a prosperous and industrially advanced Pakistan.

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