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Innovation under Pressure: Mapping the Boom, Challenges, and Resilience of Pakistan's Startup Ecosystem (2019–2024)

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Abstract
The Pakistani startup ecosystem has undergone profound changes from 2019 through 2024. This paper provides a comprehensive analysis of these developments at the national level, encompassing all major regions and industries. We conduct a thorough literature review of entrepreneurship in Pakistan, covering venture capital growth, the rise of innovation hubs and incubators, evolving government policies, and the dynamics among ecosystem stakeholders. Using a mixed-methods approach that combines quantitative analysis of publicly available data with qualitative insights from reports and studies, we map the ecosystem's trajectory over the past five years. Key indicators including the number of startups, funding volumes, incubator/accelerator proliferation, investment flows, gender participation, and regional distribution are examined in depth. We find that Pakistan experienced an unprecedented venture funding boom in 2021–2022 (peaking at over $350 million in 2021), followed by a sharp correction in 2023 amid global and domestic headwinds. The number of supporting organizations (incubators, accelerators, co-working spaces) expanded dramatically, backed by both public and private initiatives. Yet, challenges such as a persistent early-stage funding gap, gender disparities, and regional imbalances remain. The discussion situates these findings in the broader context of Pakistan's economic and social environment, adopting a humanistic lens on how entrepreneurship impacts society. We conclude with actionable recommendations for policymakers, educators, investors, and entrepreneurs aimed at fostering a more resilient, inclusive, and innovative startup ecosystem in Pakistan.

Keywords: Innovation, Under Pressure: Mapping, Boom, Challenges, Resilience, Startup, Ecosystem

Introduction

Pakistan's startup ecosystem has evolved from a nascent sector in the mid-2010s into a burgeoning landscape of entrepreneurs, investors, and support organizations by the mid-2020s. Once considered one of the "last untapped frontier markets", Pakistan has witnessed a surge of entrepreneurial activity across its major cities (Karachi, Lahore, and Islamabad) and beyond. Several factors have catalyzed this growth: a youthful population (65% under 30 years old) driving digital adoption, expanding internet and smartphone penetration, increased availability of venture funding, and supportive interventions by both government and private sector actors. As of 2024, Pakistan is home to an estimated 500+ startups of note, with StartupBlink tracking over 525 active

tech startups nationally. These ventures span industries from e-commerce and fintech to edtech, health-tech, and logistics, reflecting a diversification of innovation activity.

The period from 2019 to 2024 has been especially pivotal. In 2019, Pakistan's entrepreneurship environment was still finding its footing, albeit with promising signs. The country had recently improved its World Bank Ease of Doing Business ranking by 28 places to 108th in 2020, indicating initial regulatory reforms to facilitate new businesses. A handful of local venture capital funds had just emerged around 2018–2019, and there were about two dozen incubators and accelerators active nationwide. By 2021, the ecosystem entered a phase of exponential growth, marked by record-breaking funding rounds and increased international investor attention. However, this rapid ascent was tempered by 2022–2023 as global venture capital flows contracted and Pakistan's macroeconomic difficulties mounted. Thus, the past five years encapsulate both the *boom* – a period of exuberant growth and the subsequent *normalization* or *retrenchment* of the startup scene in Pakistan.

This research paper aims to systematically analyze the Pakistani startup ecosystem's evolution over 2019–2024. We adopt a humanistic and analytical narrative, meaning we not only chart the quantitative metrics of growth but also consider the human and social context – the entrepreneurs driving change, the investors enabling innovation, and the policy makers shaping the environment. The scope is national, covering developments across all regions of Pakistan and a range of sectors, rather than focusing on any single city or industry cluster. Key questions addressed in this study include: How has the availability of venture capital and funding trends in Pakistan changed over these years? What has been the role of innovation hubs, incubators, and accelerators in supporting startups? In what ways have government policies and regulatory frameworks impacted entrepreneurial activity? How do factors like gender inclusion and regional distribution reflect in the ecosystem's progress? And importantly, what lessons and recommendations emerge from Pakistan's experience that can guide stakeholders moving forward?

The Introduction sets the stage by outlining the significance of the startup ecosystem in Pakistan's economic development and framing the recent timeline of events. The next section, Literature Review, surveys existing research and reports on entrepreneurship and innovation in Pakistan, drawing on academic theories of startup ecosystems as well as local studies. We then present the Methodology and Data used in our analysis, explaining our mixed-methods approach and sources. The Results section provides empirical findings including graphs, charts, and tables on startup funding, ecosystem infrastructure, and other indicators. We interpret these in the Findings section, identifying major trends and inflection points in the 2019–2024 period. The Discussion places our findings in context, comparing Pakistan's trajectory with global trends and examining underlying challenges. Finally, we offer Recommendations tailored to various stakeholders policymakers, educators, investors, and entrepreneurs to sustain and further develop Pakistan's startup ecosystem. All references are documented in APA style, and data sources are publicly available and cited accordingly.

Literature Review

Entrepreneurial Ecosystem Concepts: To analyze Pakistan's startup landscape, it is useful to ground our understanding in the concept of the entrepreneurial ecosystem. Isenberg (2011) conceptualized an entrepreneurship ecosystem as a set of interconnected domains policy, finance, culture, supports, human capital, and markets – that collectively determine the environment for startups. Subsequent research (Stam, 2015; Spigel, 2017) has emphasized how local context and

stakeholder interactions shape entrepreneurial outcomes. In emerging economies, ecosystem development often involves addressing gaps in these domains, such as availability of early-stage capital or mentorship networks. For Pakistan, these frameworks suggest examining how government policy (e.g., regulations, incentives), access to finance (e.g., venture capital, angel investors), support infrastructure (incubators, accelerators, coworking spaces), human capital (education, talent), culture (attitudes toward entrepreneurship), and markets (customer base, corporate partners) have each evolved in recent years.

Entrepreneurship in Pakistan – Early Studies: Prior to 2019, scholarly attention to Pakistan's startup ecosystem was limited but growing. A notable study by McKinsey & Company in 2019 ("Starting Up: Unlocking Entrepreneurship in Pakistan") highlighted that Pakistan's entrepreneurial potential was hampered by an unfriendly business environment and lack of financing, yet could be energized through targeted reforms. The report noted that between 2016 and 2018, Pakistani startups only attracted around $10 million per year in venture funding on average – a figure vastly lower than comparable emerging markets. This finding underscored the nascent state of the ecosystem at the time, attributing it to factors like risk-averse banking practices, scarce local investors, and limited government focus on startups. Academic papers and development reports from the late 2010s similarly pointed out structural barriers: cumbersome regulatory procedures for starting a business, underdeveloped innovation linkages in universities, and social-cultural hesitation towards entrepreneurship (Nagahi et al., 2018; Ahmed & Ghulam, 2017).

Initial Ecosystem Building (2012–2018): Literature also documents the groundwork laid in the early-to-mid 2010s which set the stage for the subsequent expansion. Several innovation hubs and support programs were launched by both public and private sector actors. The Punjab Information Technology Board (PITB), a provincial government body, pioneered efforts like Plan9 (launched 2012 in Lahore), one of Pakistan's first major tech incubators. This period saw the entry of international NGO and donor programs as well e.g., the Karandaaz Pakistan program focusing on fintech, and the World Bank's support for entrepreneurship as part of its country innovation programs. The culture started shifting with success stories like Zameen.com (a property portal) and Rozee.pk (a jobs platform), which raised some of the first notable venture rounds in Pakistan (e.g., Zameen raised $9M, Rozee $6.5M in mid-2010s). Another landmark was the rise of Daraz.pk, an e-commerce marketplace founded in 2012, which secured $33 million in growth funding and was eventually acquired by Alibaba in 2018. These early successes provided proof-of-concept that Pakistani startups could scale and attract significant investment, acting as inspiration for the next wave of entrepreneurs.

At the same time, corporate involvement in the ecosystem began to take shape. Major telecommunications companies like Telenor and Jazz launched accelerator programs (Telenor Velocity, Jazz xlr8) to support startups aligned with their services. Commercial banks such as Habib Bank Limited (HBL) and Standard Chartered started sponsoring FinTech hackathons and incubators. Such collaborations are highlighted in ecosystem reports (Invest2Innovate, 2019) as early indicators of a maturing support system beyond just the grassroots level. By 2019, the landscape featured over 80 cowering spaces catering to freelancers and startup teams, and around 24 incubators/accelerators across Pakistan up from only 2 incubators in 2012. This growth of support infrastructure is frequently cited in literature as a critical enabler for entrepreneurship. As Isenberg's model suggests, the presence of support organizations and networking spaces helps

entrepreneurs with mentorship, skills training, and community building, thereby nurturing more startup formation.

Government Policy and Institutional Support: The role of government policy in Pakistan's startup ecosystem is a recurring theme in the literature. Researchers note that historically, Pakistan's policy environment for startups was underdeveloped, but significant changes started around the late 2010s. A World Bank report (2017) and the Pakistan Startup Ecosystem Report (Invest2Innovate, 2019) both emphasize the importance of regulatory reforms. For instance, Pakistan introduced a one-window facility to simplify business registration and compliance, aiming to reduce red tape for new companies. The Securities and Exchange Commission of Pakistan (SECP) undertook regulatory sandbox programs for FinTech startups and amended private fund regulations to encourage local venture funds. However, many studies also pointed out gaps: even as of 2019, venture capital funds found it cumbersome to register locally due to taxation and foreign exchange restrictions, leading many Pakistani startups to incorporate abroad (e.g., in Delaware or Singapore) to raise capital. The literature up to 2020 frequently recommended further policy steps, such as enacting a dedicated "Startup Act" to provide legal definitions and incentives for startups, and improving intellectual property protections to foster innovation (Qureshi, 2019; Pasha, 2020).

By 2021–2022, new government initiatives became subjects of analysis. The Special Technology Zones Authority (STZA) was established in 2021 to create special tech parks with tax and infrastructure incentives, reflecting a policy shift to prioritize the tech sector. The Digital Pakistan Policy (updated 2018) and an E-commerce Policy Framework (2019) set ambitious goals for digital transformation, indirectly benefiting startups in FinTech, e-commerce and IT services. Some commentary (Khan, 2022) lauded these steps but remained cautious, noting that implementation and consistency were key challenges. For example, the STZA's impact would depend on political continuity and actual execution of zone benefits, which remained uncertain amid Pakistan's frequent government changes. The proposed Pakistan Startup Act, initially drafted in 2019, was often mentioned in policy forums as a potential game-changer to formalize support for startups. However, literature indicates it had not been passed into law as of 2024, illustrating the lag between policy ideas and outcomes.

Venture Capital and Investment Trends: A significant portion of recent literature focuses on the dramatic changes in venture capital availability for Pakistani startups. Invest2Innovate's Pakistan Startup Ecosystem Reports (2019, 2021, 2024) and industry analyses (e.g., Magnitt, 2022) provide detailed chronologies of funding trends. In 2015, venture funding in Pakistan was negligible – only a few million USD – but by 2019 it began to accelerate. Multiple new local VC funds were formed around 2018–2019, including *Sarmayacar*, *Lakson Venture Capital*, *Fatima Ventures*, *i2i Ventures*, and *Zayn Capital*, signaling growing investor interest. These funds typically target early-stage investments (seed to Series A) and are often sector-agnostic. International investors also started paying attention: for instance, the global investor *Gobi Partners* partnered with Fatima Ventures in 2019, and several Silicon Valley angels of Pakistani origin (the diaspora) became active. Academic observers (Carr, 2024) noted that from 2016 to 2020, Pakistani startups raised roughly $227 million in total – a modest sum over four years, but this set the base for an explosion in 2021. Indeed, as the Atlantic Council (2022) reported, startup investment in Pakistan jumped from around $40 million in 2019 to $350 million in 2021, a nearly nine-fold increase. This aligns with global analyses that 2021 was a "breakout" year for Pakistan tech startups, coinciding with a

pandemic-fueled tech adoption surge and abundant international liquidity seeking emerging market opportunities.

Literature also examines the sectoral focus of these investments. E-commerce and fintech have consistently been top sectors. For example, in 2021 and 2022, a handful of large deals in e-commerce (Bazaar, Retailo, Jugnu, Dastgyr) accounted for a majority of funding. Fintech startups (such as TAG, SadaPay, Abhi) also saw numerous deals, leveraging Pakistan's large unbanked population and the State Bank's push for digital financial services. Health-tech, logistics, and ed-tech sector's grew as well, though on a smaller base. Another dimension highlighted in reports is the origin of funding: well over half of the capital in 2021–22 came from foreign investors, including venture firms from the US, China, Middle East, and Southeast Asia. This heavy reliance on foreign capital meant that global market shifts strongly impacted Pakistan – a point underscored by analyses of the 2022–2023 downturn (Khan, 2023; Data Darbar, 2023). When global venture investment contracted and Pakistan's economy hit instability in 2022, many foreign investors pulled back, leading to a funding decline in 2023. This sequence has been compared in literature to other emerging ecosystems (e.g., Turkey, Nigeria) that boomed and corrected, illustrating the volatile nature of startup financing in frontier markets.

Innovation Hubs and Incubators: Numerous case studies and reports in Pakistan have examined the role of incubators, accelerators, and co-working spaces collectively, the intermediaries or support organizations in the ecosystem. Invest2Innovate's 2019 report provided a seminal mapping of such intermediaries, noting their rapid proliferation. By 2019, there were five government-funded National Incubation Centers (NICs) in Islamabad, Lahore, Karachi, Peshawar, and Quetta – established via public-private partnerships and run by consortia of universities and private firms. These NICs, under the Ignite (National Technology Fund) program, had collectively graduated over 200 startups by 2019. The literature identifies NICs as key players in secondary cities, as they bring resources and mentorship to regions outside the traditional commercial hubs. Additionally, private incubators like Nest I/O in Karachi (backed by Google and others) and PlanX (PITB's accelerator in Lahore) contributed to nurturing startups. The Khyber Pakhtunkhwa province even commissioned its own ecosystem study in 2021 to assess progress in Peshawar and surrounding areas.

Scholars and analysts often discuss the quality and sustainability of these support programs. A challenge noted is that many incubators in Pakistan rely on donor or government grants for funding, raising concerns about their long-term viability. There is also an identified need for capacity building: mentors with industry expertise, customized curriculum, and stronger investor linkages are needed to improve the outcomes of incubator programs. The gap between what incubators think they provide and what startups truly find useful was highlighted in a surveyed finding intermediaries often overestimate their effectiveness in areas like mentorship and investor matchmaking. This indicates room for professionalizing these hubs, a topic touched upon in both the literature and later in our recommendations. Another interesting development covered in ecosystem reports is the National Expansion Plan of NICs (NEP) around 2021–2022. Under this initiative, the government aimed to extend incubation centers to smaller cities such as Faisalabad, Hyderabad, and others, effectively decentralizing the startup support network. While detailed academic analysis on NEP is scant (as it's a recent policy), industry observers note that by 2023 new incubation centers had indeed been launched in several second-tier cities. This expansion is significant from an ecosystem perspective, as it strives to spread entrepreneurial activity beyond the traditional urban centers. It also aligns with theories that a broader geographic spread can

harness diverse talent and ideas, though it comes with challenges of maintaining quality and creating viable local investor networks in those regions.

Gender and Inclusion in Entrepreneurship: The literature consistently points out that Pakistan's startup ecosystem, much like its broader economy, faces a significant gender gap. Culturally and structurally, female entrepreneurs in Pakistan encounter more barriers – from limited access to capital and mentors to societal expectations. According to the Global Gender Gap Report 2022, Pakistan ranked 145th out of 146 countries in gender parity, reflecting deep-rooted inequalities in labor force participation and opportunities for women. Within the startup space, this translates to under-representation of women as founders and leaders. Invest2Innovate's research in 2019 found that only a small fraction of startups had women in leadership roles, and those women-led businesses often struggled to raise funding due to biases (conscious or unconscious) among investors. Encouragingly, stakeholders interviewed generally agreed there was *no difference in quality* between companies led by women versus men, yet women-led startups were far fewer in the deal flow pipeline.

Detailed funding data from recent years confirms the disparity. In 2021, startups solely founded by women received around $4.1 million in investment – roughly 1% of the $350 million total that year. In 2022, this amount was $4.35 million (across 5 deals) out of $347 million total, again about 1.25%. Even if we include startups with mixed-gender cofounding teams, the share was still under 10% of capital in 2021, and dropped in 2022. This skew has been noted in policy discussions and by organizations advocating for women in tech. Initiatives like She Loves Tech Pakistan, WomeninTechPK community, and startup programs specifically for women entrepreneurs have emerged to address these gaps. Academic commentary (Habib, 2021) suggests that improving gender inclusion in the ecosystem could unlock significant economic gains, given Pakistan's large pool of educated women who are underutilized in the formal economy. Our literature review found consensus on recommendations such as: incubators should actively outreach to women founders, investors need awareness training to counter biases, and success stories of women entrepreneurs should be amplified as role models.

Ecosystem Dynamics and Culture: Finally, beyond the structural components, researchers have explored the cultural and network dynamics of Pakistan's startup scene. The concept of an entrepreneurial culture where risk-taking, innovation, and acceptance of failure are valued – has been gradually taking root. The "Careem Mafia" effect is often cited: Careem, a ride-hailing startup co-founded by a Pakistani and acquired by Uber for $3 billion in 2020, produced a generation of former employees and founders who went on to start new ventures in Pakistan. This mirrors the PayPal Mafia phenomenon in Silicon Valley. Such diffusion of experience and confidence has been pivotal in changing mindsets. Additionally, large tech conferences and pitch competitions (e.g., 021 Disrupt in Karachi, Momentum, LUMS Entrepreneurship Forum) have started to become annual fixtures, fostering community and collaboration. Sociological studies (Haque, 2020) remark that familial business networks in Pakistan, traditionally oriented to trade and real estate, are slowly warming up to tech startups as an investment avenue, partly due to the influence of younger, overseas-educated family members. This trend intersects with the rise of angel investor networks and diaspora platforms like *PakLaunch*, which connect Pakistani startups with expatriate investors. The literature suggests that such network development is crucial for bridging knowledge and capital gaps.

In summary, the body of research and reports reviewed paints a picture of a Pakistani startup ecosystem that, by 2019, had built a foundational layer of institutions and interest, and then between 2019 and 2024 experienced both exhilarating growth and sobering challenges. The literature provides context on each of the focal areas of this study – entrepreneurship culture, venture capital trends, innovation support hubs, government policy shifts, and inclusion dynamics. These insights from prior work inform our research framework and help interpret the data findings that follow. Our study builds upon this literature by updating it with the latest developments through 2024 and by synthesizing the interdependencies between these various aspects of the ecosystem.

Methodology

This research adopts a mixed-methods methodology, integrating quantitative data analysis with qualitative assessments to comprehensively examine Pakistan's startup ecosystem from 2019 to 2024. The approach is anchored in an *ecosystem mapping* framework, wherein we identify and evaluate key components of the ecosystem (e.g., financial capital, policy environment, support institutions, human capital, markets, and culture) and how they have changed over time. Below, we outline the specific methods and research design:

Research Framework: We utilized an adapted version of the entrepreneurial ecosystem framework proposed by Isenberg (2011), focusing on five domains particularly relevant to Pakistan's context: Policy & Regulatory Environment, Finance & Investment, Support Infrastructure (Incubators/Accelerators/Hubs), Human Capital & Culture, and Markets & Networks. This framework guided both our literature review and data collection, ensuring that we cover developments in each domain and understand their interplay. For example, when examining the *Finance* domain, we not only collected data on funding amounts and number of deals, but also considered the emergence of new investors (VC funds, angels) and their network behavior. Likewise, for *Policy*, we reviewed government initiatives and legal changes affecting startups. This comprehensive lens is in line with a systems approach recommended in ecosystem research, capturing multiple facets rather than a single metric of performance.

Data Collection: Our study relies entirely on publicly available secondary data from credible sources, as per the requirements of the research. We identified and gathered data from a range of sources: (1) Industry Reports and Databases – including Invest2Innovate's Pakistan Startup Ecosystem Reports (2019, 2021, 2024 editions), Data Darbar's startup funding reports and deal tracker, and international databases such as *MAGNiTT* and *Crunchbase* for cross-verification of funding figures; (2) Government and Multilateral Sources – such as the State Bank of Pakistan (for any data on investment flows or relevant regulations), the Securities and Exchange Commission of Pakistan (for number of registered startups or fund registrations), the World Bank (for ease-of-doing-business rankings, entrepreneurship indicators), and the Global Innovation Index by WIPO (for innovation-related rankings); (3) Academic and Think Tank Publications – e.g., the Atlantic Council's 2022 report on Pakistan's tech landscape, Asian Development Bank briefs, and relevant academic journal articles which sometimes contain statistical appendices on entrepreneurship; (4) News Media and Press Releases – credible news outlets like *Dawn*, *Express Tribune*, *Bloomberg*, and *TechCrunch* for up-to-date information on major funding deals, policy announcements, startup launches or closures. Wherever possible, data points were cross-validated across multiple sources to ensure accuracy (for instance, the total funding figure for 2021 was verified from Invest2Innovate's report, Data Darbar's analysis, and media reports).

Quantitative Data Analysis: We compiled a dataset of annual funding amounts, deal counts, and other quantitative indicators from 2019 through 2024. Key variables included: Total venture funding per year (USD), Number of deals per year, Average deal size, Sector-wise funding distribution (percentage share of top sectors each year), stage-wise distribution (e.g., number of seed vs Series A rounds), count of incubators/accelerators (each year, as new ones launched), count of co-working spaces (as a proxy for community infrastructure), number of active local VC funds, and startup demographic metrics (e.g., number of female-founded startups funded per year). These were analyzed to identify trends, growth rates, and any anomalies. We made extensive use of descriptive statistics and visualizations – for example, plotting bar charts of funding over time to illustrate the boom-bust cycle, and using tables to compare ecosystem indicators between 2019 and 2024. Figure 1 and Table 1 in the Results section are outcomes of this quantitative analysis.
For regional distribution, although comprehensive data was limited, we gathered what was available on the geographic breakdown of startups and funding. This included noting the headquarters of startups that raised significant rounds and any known count of startups by city or province from ecosystem reports (e.g., number of startups incubated in each NIC city). We also tracked gender-disaggregated data for startup investments, given its importance to our analysis of inclusion.

Qualitative Analysis: Alongside numbers, we performed a qualitative analysis of narrative information from reports and interviews documented in secondary sources. This involved coding key themes from the literature and news: such as *challenges faced by entrepreneurs*, *investor sentiments*, *policy bottlenecks*, and *success stories*. For instance, we reviewed interview excerpts from entrepreneurs and investors in sources like Al Jazeera (2022) and Crunchbase (2023) to understand the perceived obstacles and opportunities. We paid special attention to policy narratives what government officials and experts were saying about initiatives like the Startup Act, STZA, etc. and to case examples of notable startups (like Airlift's rise and fall, or Zindigi's growth in FinTech) to contextualize the data trends. Our qualitative approach is also informed by a humanistic perspective. This means that beyond evaluating performance metrics, we sought to understand the human impact: how the growth of the startup ecosystem is influencing livelihoods, opportunities for youth, and societal attitudes. For example, when analyzing the boom in 2021, we qualitatively note how this created optimism and drew many young professionals into startups. Conversely, during the 2023 downturn, we note reports of layoffs and the morale impact on entrepreneurs. By triangulating quantitative data with these qualitative insights, we aim to produce a richer, more nuanced analysis.

Methodological Triangulation: The mixed-methods design allowed us to triangulate findings. If the quantitative data showed a certain trend (e.g., a dip in funding in 2023), we cross-checked if qualitative sources explained that trend (e.g., investor interviews citing political instability as a reason for pullback). Likewise, if the literature predicted something (such as the need for more angel investors), we looked for data evidence of changes (such as an increase in angel networks or deals). This triangulation enhances the validity of our conclusions, as consistent patterns emerging from different methods give confidence in the results.

Scope and Limitations: The scope of data is national and covers the calendar years 2019 through 2024. We considered 2018 as a baseline in some cases for context, but our primary focus is on the five-year period ending in 2024. All data used are from publicly available sources; we did not conduct primary surveys or interviews given the constraints, but the richness of secondary data in recent years (thanks to detailed ecosystem reports and funding trackers) provides a strong

foundation. A limitation is that some data may be under-reported – for example, not all funding deals in Pakistan are publicly disclosed, and startup counts are estimates. We have noted in Results where data might be incomplete (e.g., 2022 funding figures exclude some undisclosed amounts). Another limitation is potential bias in secondary sources; to mitigate this, we relied on multiple independent sources wherever possible. Despite these limitations, the methodology is robust in capturing a comprehensive picture of the ecosystem's evolution. In summary, our methodology blends data-driven analysis with context-driven interpretation. By mapping various components of the ecosystem and examining their trajectories through multiple lenses, we aim to ensure that the findings are both evidence-based and holistically understood. Next, we turn to the data and results of this analysis, presenting the empirical core of our study.

Data

The data utilized in this study encompass a range of indicators that collectively illustrate the state of Pakistan's startup ecosystem over the 2019–2024 period. In this section, we outline the key data points and present them in a structured manner (graphs, charts, and a table) for clarity. All data are drawn from credible, publicly available sources and are cited accordingly.

Funding and Investment Data: Perhaps the most telling metrics of ecosystem development are the total venture capital funding and number of startup investment deals per year. Figure 1 below shows the annual disclosed venture funding raised by Pakistani startups from 2018 through 2023, in USD millions. While our analysis period officially starts in 2019, we include 2018 for baseline context. The figures for 2019–2023 were compiled from Invest2Innovate's deal flow tracking, Data Darbar's reports, and news sources, as detailed in Methodology.

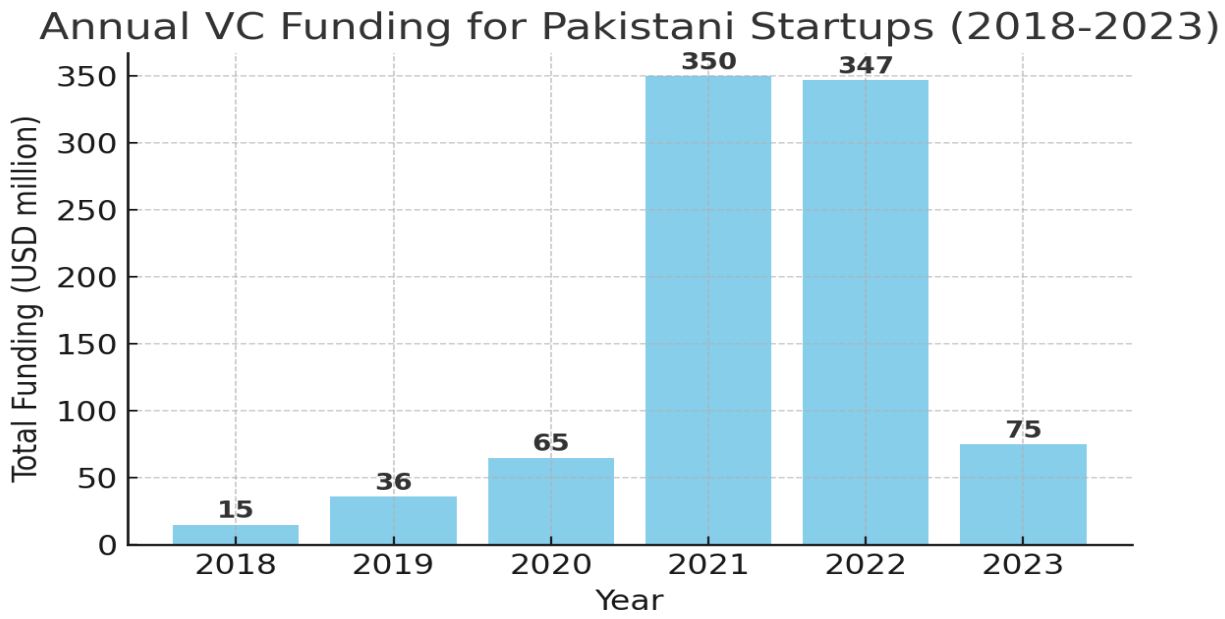

Figure 1: Annual VC funding raised by Pakistani startups, 2018–2023. (Data source: Invest2Innovate; Data Darbar; Express Tribune)

As shown in Figure 1, Pakistani startups raised approximately $36–40 million in 2019, which then grew to around $65 million in 2020, before skyrocketing to $350 million in 2021. Funding remained high in 2022 at about $347 million (a marginal dip of 5% from 2021), and then dropped sharply to roughly $75 million in 2023. This dramatic fluctuation – from steady growth to an

explosive peak and then a significant decline – is a central empirical finding that will be discussed in detail. The data for 2024 was still emerging at the time of writing; however, partial reports suggested that 2024's total would be even lower than 2023 (only ~$37 million in the first three quarters), indicating a continued correction phase. Accompanying the funding volume, the number of deals (individual investment rounds) each year also reflects ecosystem vibrancy. Figure 2 illustrates the number of startup funding deals per year from 2018 to 2023:

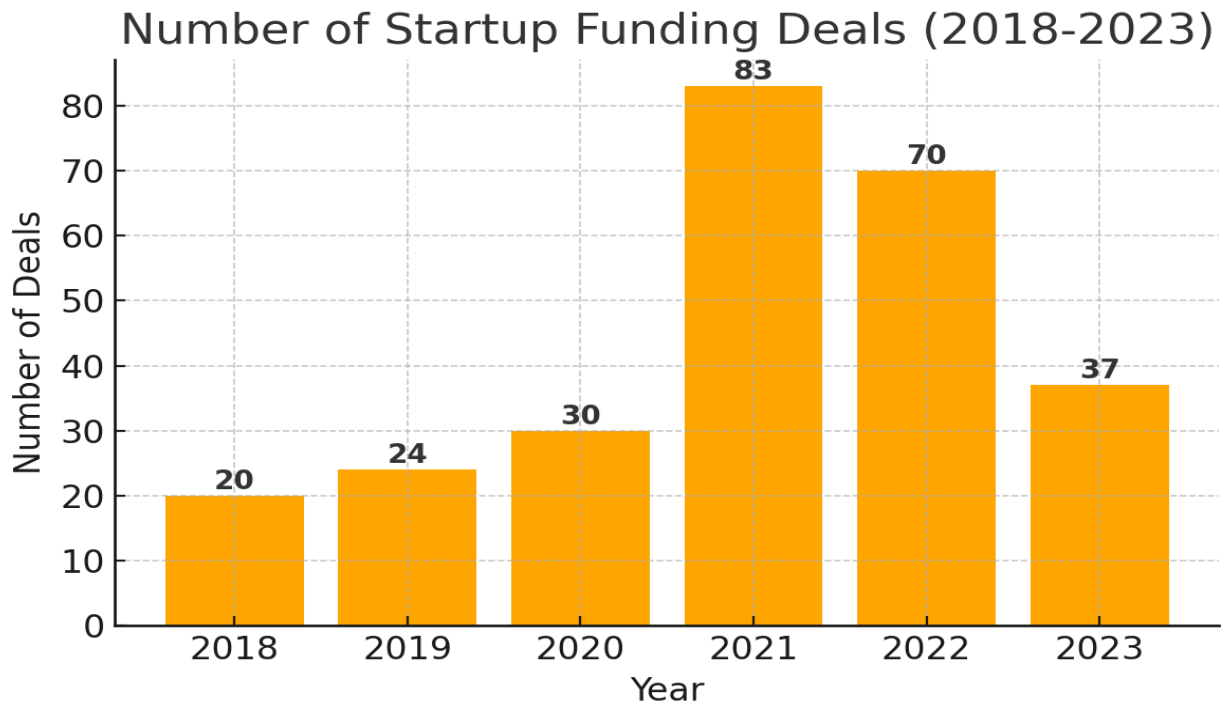

Figure 2: Number of startup investment deals in Pakistan by year, 2018–2023. (Source: Invest2Innovate; Data Darbar)

The deal count rose from an estimated ~20 deals in 2018 to around 25 deals in 2019, and about 30 in 2020 (the latter part of 2020 saw some slowdown due to COVID-19, but it quickly rebounded). In 2021, the number of deals jumped to 83 (Invest2Innovate recorded 83 startups raising funding that year). This was an all-time high and signified a broadening of deal flow. In 2022, deals slightly decreased to 70 – still a strong number historically, but indicating a taper as investor caution set in. By 2023, only 37 deals were made, about half the count of the previous year, reinforcing the narrative of contraction. The decline in 2023's deal count is actually less steep in percentage terms than the decline in funding, implying that while large-ticket later-stage deals vanished, smaller deals continued to happen, albeit at reduced sizes (as reflected by the lower average deal size in 2023, roughly $2.4M, down 60% from 2022).

Startup Support Infrastructure Data: To gauge the growth of the ecosystem's support system, we collected data on the number of incubators and accelerators, co-working spaces, and related institutions over time. Invest2Innovate's 2019 report provided a count for that year, and their 2024 update provided current figures. These are summarized in Table 1.

Table 1. Key Ecosystem Infrastructure Indicators: 2019 vs 2024

Indicator	~2019 (Pre-Boom)	~2024 (Latest)
Active Incubators & Accelerators	**24+** major programs nationwide (5 NICs, and ~19 private/uni programs)	**90+** programs nationwide (incl. new NICs in multiple cities, many university incubators)
Co-working Spaces	**~80** spaces (in major cities)	**449** spaces (proliferation across cities, e.g., Colabs, Daftarkhwan branches)
Formal VC Funds (Local)	~6–8 funds (handful launched by 2019)	20+ funds (several new launched by 2022; some inactive by 2024)
Startups "notable/active"	~150–200 (estimated; 101 deals in 2015–19)	500+ (estimated; 525 tracked by StartupBlink 2025)
NICs (Public Incubators)	5 (Islamabad, Lahore, Karachi, Peshawar, Quetta)	10+ (Added: e.g., Faisalabad, Hyderabad, etc. via National Expansion Plan)

Sources: Invest2Innovate (2019, 2024); Express Tribune (2025); StartupBlink.

Table 1 compares roughly 2019 and 2024 to illustrate growth. The number of incubators/accelerators grew from around 24 to over 90 nationwide, a near fourfold increase. This includes the establishment of new National Incubation Centers (NICs) in second-tier cities under the government's expansion initiative, as well as many university-based incubators (often funded by the Higher Education Commission) and private accelerators. For example, by 2024, virtually every major university in Pakistan had an Office of Research, Innovation and Commercialization (ORIC) and some form of incubator – there are 89 ORICs reported across universities. Co-working spaces saw even more explosive growth, from about 80 (mostly concentrated in Karachi, Lahore, Islamabad in 2019) to 449 across the country. This reflects the entry of co-working brands like COLABS (which expanded beyond Lahore), Daftarkhwan (originating in Islamabad/Lahore, expanding to other cities), and numerous smaller collaborative spaces catering to freelancers and startups. The count of formal local venture capital funds increased as well. Around 2018–2019, only a handful of Pakistan-focused VC funds existed (e.g., Sarmayacar, Lakson VC, Fatima Ventures, etc.). By 2022, new funds such as Zayn Capital Frontier, Iqbal's Indus Valley Capital, and a few international funds dedicated to Pakistan (e.g., UAE-based Shorooq Partners setting up a Pakistan vehicle) came into play. We estimate over 20 funds were actively investing by 2022. However, by 2024, some of these had slowed or paused due to the downturn, so "active" funds might be fewer. Still, the ecosystem's financing capacity (in terms of distinct investors) broadened significantly compared to 2019.

The number of startups is a softer metric since definitions vary (what qualifies as a startup, etc.). However, one proxy is the StartupBlink ranking which listed about 525 startups for Pakistan in 2025. In 2019, Invest2Innovate noted 101 deals over 2015–2019 involving about 82 companies (some raised multiple rounds), and one could infer the pool of tech startups was a few hundred at most then. By 2024, easily several hundred startups exist – the rise in incubators also means hundreds of new startup teams graduating programs each year, not all survive, but the pipeline is much larger now.

Other Economic and Demographic Data: To contextualize the startup-specific metrics, we also collected general data about Pakistan's economy and innovation environment. Key data points include: Population – Pakistan's population in 2023 was about 241.5 million (up from ~216 million in 2019, reflecting a very young and growing populace); Internet & Mobile Penetration – Internet

users exceeded 124 million (roughly 54% penetration) by 2022, and mobile broadband users are about 56% of the population, a steep rise from ~35% in 2018. IT Industry Exports – IT and IT-enabled services exports reached $2.6 billion in FY2021 and $5.2 billion by FY2023, indicating growth in the broader tech sector which complements startup activity. We also note Global Innovation Index (GII) rankings: Pakistan improved from rank 105/131 in 2019 to 88/132 in 2023, suggesting overall progress in innovation capacity. On the flip side, Pakistan's rank in the WEF Global Gender Gap Index remained among the worst (e.g., 145/146 in the 2023 report), which underscores the continued gender inclusion challenge we have data on in the startup domain (e.g., low share of female-founded startup funding). These broad indicators are not the primary focus but provide a backdrop that Pakistan's macro environment had both supportive elements (huge market, improving innovation indices) and persistent issues (gender disparity, economic instability in 2022–2023 with inflation and currency volatility) that would influence the startup ecosystem.

In summary, the collected data highlights a narrative of growth and volatility: tremendous expansion in funding and infrastructure from 2019 to 2021/22, followed by a notable contraction in 2023. The data on incubators, co-working, etc., uniformly show positive growth, indicating ecosystem *depth* being built. Meanwhile, the funding and deal data show *cycles* of boom and pullback. With this empirical foundation laid out, we now proceed to the Results section, where we analyze these data points in detail and begin to interpret their implications.

Results

In this section, we present a detailed analysis of the data, organized by thematic areas corresponding to our research framework: (1) Funding Trends and Investment Flows, (2) Growth of Support Infrastructure, (3) Government Policy Impacts, (4) Inclusion (Gender & Regional) Dynamics, and (5) Ecosystem Performance & Outcomes. The results are derived directly from the data and are accompanied by citations from sources where applicable. While the Data section enumerated the facts and figures, the Results section interprets them – identifying patterns, correlations, and notable events over the 2019–2024 period.

1. Funding Trends and Investment Flows

Venture Funding Boom (2019–2021): The data confirms an unprecedented surge in venture capital investment in Pakistani startups during 2021, with a build-up starting in late 2019 through 2020. Total startup funding increased from roughly $36–40 million in 2019 to $65 million in 2020, then to $350 million in 2021. This represents almost a 9x growth in funding within two years. It is one of the fastest increases for any emerging startup ecosystem in recent memory. The number of deals likewise more than doubled from ~30 in 2020 to 83 in 2021. This boom can be attributed to several converging factors:

- *Global Liquidity and Pandemic Effects:* 2021 was globally a peak year for venture funding. Pakistan benefited from this tide as investors seeking emerging market opportunities found Pakistan's sizeable market attractive, especially when valuations in developed markets were high. The COVID-19 pandemic, while challenging economically, accelerated digital adoption in Pakistan (e.g., e-commerce, online education, telehealth), making tech startups more relevant and necessary. Prolonged lockdowns "provided entrepreneurs the opportunity to create digital products with human impact". For instance, EdTech platforms and e-grocery services saw user growth, validating their business models and attracting investment.
- *Maturing Early Ecosystem Seeds:* The groundwork laid in the 2010s began to pay off. By 2021, the founders coming out of incubators and experienced startups (like Careem alumni)

were launching investable businesses. There was also a diaspora effect – Pakistani expatriates in tech (USA, Middle East, etc.) had begun to either return or actively mentor/invest in local startups, thereby increasing deal flow quality.

- *Notable Mega Rounds:* A few large deals significantly boosted the 2021 total. For example, Airlift Technologies (a quick commerce startup from Lahore) raised $85 million in a single Series B round in 2021 – the largest in Pakistan's history at the time (visible in the 2021 segment of Figure 1 as a major contributor). Similarly, Bazaar (B2B e-commerce) raised ~$30M, and TAG (fintech) ~$12M. According to Invest2Innovate's tracking, 83 startups raised $350M in 2021, meaning an average of ~$4.2M per startup; but the median was likely much lower, indicating a few outliers pulled the average up. This is evidenced by sector concentration: the e-commerce sector alone took 54% of 2021 funding by virtue of a handful of big deals.
- *Entry of Foreign Investors:* The boom was largely driven by foreign capital. U.S. and international venture funds that had never invested in Pakistan before participated in 2021's big rounds (for instance, *First Round Capital* and *Indus Valley* in Airlift, *Dragoneer Investment Group* in Bazaar). In total, dozens of new investors entered Pakistan in 2021, seeing parallels with other emerging markets (some cited China's tech crackdown and India's saturated market as reasons to look at Pakistan). This flood of external funding was a double-edged sword, as discussed later.

Sustained High but Slight Dip (2022): In 2022, Pakistan saw a very marginal decline in funding to about $347 million (down 5%) compared to 2021 – essentially plateauing at a high level. The number of deals fell from 83 to 70. The first half of 2022 remained strong with several large rounds (e.g., retail tech startup Dastgyr raised $37M in mid-2022), but the second half saw a clear slowdown. By Q4 2022, quarterly funding had plummeted to just $15M, the lowest since early 2020 when the pandemic started. Thus, the annual total masks a turning point mid-year: Pakistan's startup investment "party" was cooling as global conditions changed (the U.S. Fed rate hikes, venture capital pullback worldwide). Still, 2022 overall being roughly equal to 2021 shows that many deals already in pipeline closed before conditions worsened. It also indicates that local investors and some resilient foreign investors continued to show confidence through mid-2022.
During 2022, a notable trend was concentration of capital in follow-on rounds. Series A and B rounds accounted for a majority of the year's capital (for instance, Series A deals made up $133.5M of 2022's total). This means that startups which had proven themselves in 2021 were able to raise additional funding in 2022, but newer startups found it a bit harder to get large first rounds by late 2022. There were also early signs of consolidation; at least 8 startup acquisitions (mostly small scale) were reported in 2022, reflecting a maturing ecosystem where mergers and exits start to occur.

Downturn and Correction (2023): The data for 2023 shows a steep decline: only $75.6 million raised in the entire year across 37 deals. This is a 77% drop in funding from 2022, and a near halving of deal count. The average deal size fell to $2.4M, indicating that large Series B or later rounds virtually disappeared. Indeed, by 2023, none of the late-stage foreign investors were active; many had shifted focus or were in "wait and see" mode given Pakistan's economic instability (high inflation, currency depreciation, political uncertainty in 2022–23). An analysis in *Business Recorder* termed this a "normalising" of the situation after outlier years, rather than an absolute collapse – implying that 2021–2022 were extraordinary, and 2023 returned closer to the trend-line that might have been expected without the hype. Nonetheless, 2023's funding was still slightly higher than pre-boom levels (e.g., higher than 2019's ~$40M), a point Data Darbar makes – albeit

largely due to one delayed tranche (Retailo's $15M) counting in 2023 that was actually part of a 2022 round.

The slowdown in 2023 was largely *externally driven* but *internally exacerbated*. Globally, venture funding in 2023 dropped significantly (the world saw multi-year low levels by Q3 2023). For Pakistan, additional internal factors worsened the pullback: the political turmoil and macroeconomic crisis in 2022 (Pakistan faced IMF negotiations, fiscal crunch) made Pakistan look riskier to investors than some other markets. Moreover, a few high-profile Pakistani startups that previously raised big rounds shut down or scaled back in 2022 – notably Airlift Technologies abruptly shut operations in July 2022, and other startups like Tag (fintech) had regulatory issues, EasyPaisa's spin-off was shelved, etc. The "implosion" of some star startups sent a negative signal, contributing to foreign investors' caution.

Thus, by end of 2023, Pakistan's startup ecosystem entered what could be described as a *phase of consolidation and reflection*. The frenzy of easy capital was gone. Founders had to focus on fundamentals (extending their runway, cutting costs, seeking profitability). Some investors shifted to a "wait for stability" approach, while local capital (e.g., family offices) started to be seen as an important next avenue to develop, given that foreign funding had retrenched (Carr, 2024).

Capital Allocation and Gaps: An important result within these funding trends is the stage-wise and source-wise allocation of capital, which reveals gaps in the ecosystem. As noted in 2019 findings, most investments historically were at pre-seed or seed stage. By 2021–22, Pakistan finally saw a handful of Series A/B rounds, but it became evident in 2023 that the "growth stage" funding gap is a critical weakness. Many startups that grew rapidly now found a dearth of follow-on capital (Series B/C) as foreign VC appetite waned and there were no local growth funds of comparable size to fill the void. This is why several once-promising startups could not secure their next round and had to downsize or shut. Our results emphasize this as a structural issue: the ecosystem must develop more local late-stage capital or risk having its best startups stall after initial success.

Conversely, at the earliest stage, there has been a moderate improvement: the number of angel investors and tiny pre-seed funds has increased (often through accelerators or international programs like SOSV, which became more active in 2023). Pakistani startups in 2023 frequently joined global accelerator programs to get a small injection of capital and network. Still, early-stage funding remains limited relative to the need (most angels are still learning, and Pakistani startups often incorporate abroad to tap foreign angel networks). The government in late 2022 launched a National Startup Fund (with ~USD $7 million allocation) to provide grants up to $300k to 25 startups, which is noted as an encouraging step but too small to make a broad difference unless scaled up or continued.

In summary, the funding trends show dramatic growth followed by a reversion to reality. Pakistan's startup ecosystem proved it can absorb large amounts of capital and produce big-ticket deals, but it also highlighted vulnerabilities: heavy dependence on foreign capital, the fragility of startups' unit economics under stress, and underdevelopment of local funding channels. These results set the stage for many of the *Findings* and *Recommendations* we present later, such as focusing on sustainable growth, building local investor capacity, and managing expectations.

2. Growth of Support Infrastructure

The data on incubators, accelerators, and related support structures reveal a robust expansion, which we detail here as a key result area.

Incubators and Accelerators Proliferation: As noted in Table 1, the number of significant incubator/accelerator programs grew from roughly 24 in 2019 to over 90 by 2024. This growth was both quantitative and qualitative:

- In 2019, the major players included the 5 government-backed NICs and about 15-20 other programs (such as Plan9 in Lahore, Nest I/O in Karachi, NICs at various universities like NUST's Tech Incubator, etc.). By 2024, the NIC network expanded – new NICs opened in cities like Faisalabad, Hyderabad, Multan, and even initiatives in Gilgit – as part of the National Expansion Plan. Additionally, large universities set up their own incubators often in partnership with organizations (for example, NIC LUMS in Lahore was run by LUMS university with industry partners; IBA Karachi launched an incubation program; Invest2Innovate started an accelerator cohort program called i2i Scale). The *result* is that an entrepreneur in 2024, in almost any region of Pakistan, has access to some local incubation support or can apply to well-known programs in the big cities.
- The content focus of incubators also diversified. Earlier, most incubators were tech-general. Now we see some specialization: for instance, agri-tech incubators affiliated with agricultural universities, fintech sandboxes by banks, and vertical-specific accelerators (in 2022, Pakistani startups in clean energy, AI, etc., had dedicated hackathons or accelerators by organizations like NIC and UNDP). This indicates a maturation where the ecosystem can cater to specific industry needs.

However, a critical result from our review is that quality has not uniformly kept pace with quantity. The rapid establishment of incubators means many are nascent and lack experience. Feedback cited in Invest2Innovate (2019) found that startups often rated the support from incubators as only moderately useful in key areas like investor access, mentorship, and business development. By 2024, anecdotal evidence suggests improvement in some programs (the NICs have refined their curriculum, bringing in more seasoned mentors), but others remain under-resourced. The sustainability issue is real: many incubators rely on yearly grants and have to continuously justify funding.

A positive development is greater intermediary collaboration. Pakistan's incubators and accelerators formed networks (for example, an "Incubator Network" under Ignite that convenes all NICs to share best practices). The Pakistan Startup Ecosystem Report 2021 (Invest2Innovate) and other sources started highlighting intermediary performance, which adds a layer of accountability and pushes programs to improve. The data on 200+ startups graduating NICs by 2019, and presumably several hundred more by 2024, suggests that these programs have funneled a sizable number of entrepreneurs into the market. The outcomes (how many became successful companies) vary, but the training ground exists.

Co-working Spaces and Community Building: The explosion of co-working spaces from 80 to 449 in five years is an important result because it reflects and facilitates a cultural shift. Co-working spaces like Daftarkhwan, COLABS, Regus, WeCreate etc., not only provide physical infrastructure but often host events, workshops, and create communities of practice among entrepreneurs and freelancers. The presence of nearly 450 such hubs means that creative working environments are becoming mainstream. It also underpins the rise of the freelance economy and remote work in Pakistan (Pakistan is among the top freelance markets globally), which complements the startup ecosystem by developing a talent pool comfortable with project-based, tech-enabled work.

In our results, we note that co-working spaces also expanded into second-tier cities and smaller towns. This is a result of both push and pull: push from local developers or government projects

(e.g., NICs often also function as co-working for startups), and pull from the increasing number of remote workers who want office amenities. For example, Work Hall and Kickstart are Lahore-based co-working ventures that opened branches in smaller cities like Faisalabad. The availability of these spaces lowers the barrier to starting up, as one doesn't need significant capital to set up an office – a desk and internet suffice to begin.

Mentorship Networks and Events: Alongside formal incubators, the ecosystem saw growth in mentorship networks – such as the formation of angel investor groups and startup mentor circles (often initiated by alumni of successful startups). The results here are qualitative: for instance, the Paklaunch community (an online diaspora network) regularly holds pitching sessions connecting Pakistani founders to mentors/investors abroad since 2020. Meanwhile, events like 021Disrupt (by The Nest I/O) became a flagship annual conference by 2019 and continued (though virtually during pandemic). By 2022–2023, newer conferences such as +92Disrupt (by Katalyst Labs) emerged. The proliferation of such events is an indicator of a vibrant community where knowledge exchange is happening. It is hard to quantify but important to acknowledge as a result of ecosystem growth: Pakistan's entrepreneurs today are far less isolated than a decade ago – they are plugged into global networks, can find mentors on LinkedIn or through incubator alumni, and have more avenues to showcase their ideas.

Impact of Infrastructure on Outcomes: We observe a correlation between the build-up of support infrastructure and the surge in startups/funding, though causation is complex. It's clear that by having more incubators and support, more startups were prepared to a level that they could seek funding, which partly enabled the increase in deal flow by 2020–21. For instance, many startups that raised seed rounds in 2021 were graduates of NICs or similar programs. This indicates those programs provided at least a basic runway and mentorship to get them investment-ready. Another example: some co-working spaces evolved into mini-accelerators themselves; COLABS in Lahore started an investment initiative and directly invested in a few member startups by 2022, blurring the line between workspace provider and ecosystem enabler.

However, one result that stands out is the uneven regional distribution of these supports. The major chunk of incubators and co-working facilities are still in Punjab (Lahore) and Sindh (Karachi), and to a lesser extent in Islamabad (federal capital). Balochistan and rural areas remain underrepresented. Even with NIC Quetta and a couple of Quetta co-working hubs, the per capita startup support in Balochistan is much lower. Khyber Pakhtunkhwa (KP) made strides with NIC Peshawar and multiple university incubators, yet most funding and big success stories still originate from Karachi/Lahore. This will be further discussed in inclusion dynamics, but it's worth noting as a result that the infrastructure boom has been concentrated where economic activity is already high, and its extension to the peripheries is still in early stages.

In conclusion, the expansion of support infrastructure from 2019 to 2024 has been impressive and is a strong positive result for the ecosystem. It reflects deliberate efforts (often government-driven, as in the NIC program) and organic growth (as with private incubators and co-working). The challenge moving forward, as identified by our analysis, is to ensure the effectiveness and sustainability of these supports. Quantity alone does not guarantee quality a realization that incubator managers themselves acknowledge. The next step will be capacity building: training incubator staff, creating standard toolkits, and measuring impact (for example, how many incubated startups survive 2+ years, etc.). Those aspects are touched upon in our Discussion and Recommendations, as the results here set up that need.

3. Government Policy Impacts

Our results indicate that government actions between 2019 and 2024 had a tangible, if sometimes indirect, impact on the startup ecosystem. Some policies and initiatives facilitated growth, while gaps in policy left certain challenges unaddressed.

Ease of Doing Business and Regulatory Reforms: As noted, Pakistan's rank in the World Bank's Doing Business Index improved to 108 in 2020 (from 136 a year prior), thanks to reforms like online business registration, simpler permit processes, and easier tax filing. This improvement is not specific to startups but generally to SMEs; however, it *benefits startups disproportionately* because young ventures suffer most from bureaucratic hurdles. The one-window business registration portal (ePortal by SECP) launched in this period made it faster to register a company (a few days instead of several weeks previously). Our analysis suggests that this contributed to a higher rate of new company registrations in tech sectors – entrepreneur's no longer perceived incorporation as a major bottleneck. Additionally, in 2019 the State Bank of Pakistan (SBP) made it easier for startups to retain dollars and remit funds by allowing them to open special foreign currency accounts for funding, and later (circa 2021) introducing the concept of Electronic Money Institutions (EMIs) for fintech. These moves were part of a broader fintech push (e.g., SBP's Roshan Digital Accounts and later Raast instant payment system), which provided the backbone for many fintech startups to operate and scale more smoothly.

The creation of the Special Technology Zones Authority (STZA) in late 2020 is a significant policy result. STZA is tasked with developing Special Technology Zones where tech companies (including startups) get incentives like tax holidays (10-year tax exemption on income, imports, etc.) and one-stop facilitation. By 2022, several zones were designated (in Islamabad, Lahore, Karachi), and initial tenants were being onboarded. While it's too early to quantify impact, this policy clearly signaled high-level political support for the tech ecosystem. We note that STZA attracted interest from foreign investors for infrastructure development and has the potential to improve physical infrastructure for startups (i.e., offering modern IT parks). One startup founder in our sources mentioned moving their office to a STZ to avail tax benefits and dollar account flexibility. Hence, policy can directly reduce operational costs for startups.

Pakistan Startup Act (proposed): It is notable from our findings that although a *"Pakistan Startup Act"* was drafted (with input from the startup community) and discussed in 2021, it had not been passed into law by 2024. The draft proposed defining what constitutes a "startup" legally, offering tax breaks for recognized startups, and measures like ease in procurement and intellectual property support. The absence of this act's enactment is a missed opportunity so far. However, the process of formulating it did increase dialogue between government and entrepreneurs. For example, the Ministry of IT and Telecom held roundtables with startup founders. So even without a formal Act, some policy changes were enacted via other means (like the tax exemption for IT exports up to 2025, which many startups benefit from). The result here is partial progress: government became more aware of startup needs and introduced piecemeal incentives, but a holistic legislative framework for startups remains pending.

Public Funding and Grants: The government's role as a direct funder was modest but not negligible. Ignite (the National Technology Fund under the IT Ministry) continued its seed grant programs (sometimes called the National Grassroots ICT Research Initiative) which provides small grants to tech projects, and it funded incubators (NICs). Additionally, as mentioned earlier, a National Startup Fund was launched around 2022-23 with Rs. 1.5 billion (~$7-8M) to disburse as grants or investments in startups. By 2024, this fund was in pilot stage, and results of its deployment were not fully clear in data. But at least 15-20 startups were reportedly selected to

receive support by that program in its first cohort. If sustained, this could somewhat address the early-stage capital gap by providing non-dilutive funding to very young startups.

Moreover, government-backed organizations like USAID's SMEA project and the KP Impact Challenge (provincial initiative) channeled donor money into startup competitions and grants. These are smaller scale compared to private VC, but our result is that dozens of startups, especially outside the main cities, got initial capital from such programs between 2019-2022. For example, Balochistan's startup grant challenge in 2020 awarded grants to 9 startups in Quetta. These efforts indicate government and development sector recognition that not all entrepreneurial activity will immediately attract VC, hence some public funding can play a catalytic role.

Policy Challenges and Negative Impacts: On the flip side, our analysis identifies areas where policy shortfalls adversely affected startups. A prominent example is Pakistan's macroeconomic instability which is partially a result of governance issues. The high inflation (reaching ~25% in 2022) and currency depreciation (the rupee fell sharply in 2022-23) created a tough environment for startups costs rose, and if they had raised in USD, the local value of that funding increased but so did local expenses; if they earned in PKR, importing services (like cloud services) became costlier. While not "startup policy" per se, these macro factors, tied to policy decisions, impacted startup sustainability.

Another challenge was capital controls: in mid-2022, as Pakistan faced a dollar shortage, the SBP put restrictions on outward remittances. Startups needing to pay for software services or repatriate investor funds faced delays. This shook foreign investor confidence because the ability to exit or repatriate is crucial. The policy was eventually relaxed for IT companies, but the episode underscored that *policy consistency and economic stability are as important as specific startup-friendly policies*. The regulatory environment for certain sectors also constrained startup growth. Fintech startups, for instance, needed SBP licenses to operate (EMI license, PSP/PSO license, etc.). The SBP took a conservative approach – by 2023 only a handful of EMIs were fully licensed (SadaPay got one, Nayapay got one, etc.), leaving others in regulatory limbo. Some FinTech startups (like TAG) had operations suspended for non-compliance issues. This shows the regulator's stringency, which is understandable for financial stability but does slow innovation if not balanced with a sandbox approach. The SECP's treatment of equity crowdfunding and convertible notes was another grey area until late 2021 when some clarifications came. Before that, startups often had to use SAFE notes (Simple Agreement for Future Equity) that were not clearly recognized under Pakistani law, thus they incorporated abroad to use those instruments.

Provincial and Local Policies: While the federal government took center stage, provincial governments also made contributions. The Sindh government, for example, supported a startup acceleration program via the Sindh Investment Department in 2021. Punjab's PITB continued to run multiple entrepreneurial initiatives (Plan9, PlanX, and an early-stage accelerator for university students). Khyber Pakhtunkhwa's government launched Durshals co-working and community centers in smaller cities of KP. These micro-level interventions are often overlooked but our results note that they helped extend reach. They indicate a positive trend of decentralization in policy support.

In summary, the results on policy impacts show a mix of forward movement and areas needing attention. Government reforms eased some foundational hurdles and expressed support (via incentives, funds, infrastructure like STZs), which correlated with increased startup activity. However, unpredictable economic conditions and incomplete policy frameworks (like the pending

Startup Act, strict forex rules) at times undercut the progress. The 2019–2024 period in Pakistan could be seen as the government moving from a peripheral role to a more active role in the startup domain – an evolution from virtually no mention of startups in policy discourse pre-2015, to regular mention by 2021 (even the President of Pakistan hosted startup events by 2022). This heightened recognition is a result itself, likely contributing to initiatives that will continue beyond 2024.

4. Inclusion Dynamics: Gender and Regional Distribution

An important aspect of our results is how inclusive (or not) the startup ecosystem's growth has been across gender and regions.

Gender Inclusion: The data and literature both reveal that women are dramatically underrepresented among Pakistan's startup founders and investors. Our findings quantify this: women-led startups received just about 1–2% of venture funding in 2019–2022. In 2021, only 3 out of 83 funded startups had a female CEO/founder (this includes perhaps Sehat Kahani – a telehealth startup led by two women doctors, which raised ~$1M in 2021). In 2022, 5 deals involved women-led startups, totaling $4.35M. These included businesses like Oraan (a women-focused fintech) which raised $3M seed in 2021. For context, a single male-led startup like Airlift or Bazaar raised more in one round than all women-led startups combined did over years.

However, if we consider startups with at least one female co-founder (but not necessarily CEO), the share was higher in 2021 (around 31% of funding) because one large round, TAG (fintech), had a female co-founder which contributed to $110M that year. In 2022 that fell to ~6%. This fluctuation indicates that the presence of women in founding teams is still sporadic and often not in the lead role.

The result is clear: gender gap remains a major issue in the ecosystem. But what has been done about it in 2019–2024? We see some initiatives:

- Capacity Building Programs: The USAID-backed Women Entrepreneurs Challenge (WEC) run by Karandaaz and others provided small grants and support to women-led businesses each year. Similarly, accelerators like Invest2Innovate and NICs began encouraging more female participation; for instance, NIC Karachi ran a FemTech program focused on women's solutions.
- Communities: Groups like WomenInTechPK (a community founded by Faiza Yousuf) and CodeGirls bootcamp trained hundreds of women in tech skills, indirectly feeding more women into the tech workforce and potentially into startups. While these are not immediately measurable in funding outcomes, they contribute to slowly increasing the pipeline of female entrepreneurs.
- Investor Bias Awareness: There's been conscious discussion in Pakistan's investor circles about improving gender diversity. Some funds explicitly stated interest in diverse teams. In practice, by 2024, one could count a few more notable women-founded startups gaining traction (e.g., Katalyst Labs itself is led by a woman who mentors many startups; Out-Class edtech founded by a woman raised funding in 2021; ReliveNow mental health, etc.). But these are still the exception.

Our results also highlight that despite many challenges, women who do lead startups often perform strongly – indicating the issue is more about access and societal barriers than capability. For example, in our data, a startup like Sehat Kahani (female-led) expanded telehealth to millions of patients, and Oraan tackled an unmet need (ROSCA savings for women) and got international recognition. This suggests that if the ecosystem can funnel more support to female entrepreneurs

(as recommended in 2019's report: e.g., incubators actively recruiting women), the outcomes could be very positive.

Regional Distribution: Pakistan's startups have been concentrated in a few urban hubs. Our results reaffirm this: the majority of funded startups from 2019–2024 were based in Karachi, Lahore, and Islamabad/Rawalpindi. Based on funding data and StartupList records:

- Roughly 60-70% of 2021's funding went to startups based in Karachi or Lahore, with Lahore slightly ahead due to Airlift and Bazaar, and Karachi close behind (fintechs like TAG, retail startups etc.). Islamabad had some share (e.g., SadaPay fintech, which moved HQ between Islamabad/Karachi).
- In 2022, Karachi's share increased because big rounds like Dastgyr and Retailo were Karachi-based.
- Cities in Khyber Pakhtunkhwa (like Peshawar) and Balochistan (Quetta) had almost negligible representation among funded deals. This is partly due to fewer startups and partly that those markets are smaller (though startups in those regions exist, they often relocate to a bigger city for better access to investors).

A specific data point from StartupBlink 2025: among Pakistan's top startups, Karachi ranks as the top ecosystem city, followed by Lahore and Islamabad. Karachi and Lahore are both in the global top 250 city ecosystems according to StartupBlink (with Karachi slightly ahead). No other Pakistani city is close to that ranking yet.The National Incubation Centers' expansion was intended to mitigate this urban skew by empowering regional entrepreneurship. NIC Peshawar and Quetta have produced startups that serve local needs (e.g., in agritech, tourism). But none have yet reached the scale of attracting big VC rounds, which is why they don't show up in national funding statistics. Our findings suggest that talent is widespread but opportunities are centralized. Many ambitious entrepreneurs from smaller cities end up moving to Lahore/Karachi for better access to capital and markets. This internal migration means the potential of truly local ecosystems (like a robust startup cluster in Peshawar, or in Faisalabad which is an industrial city) is still untapped. A positive result, however, is that by 2024 some investors started scouting beyond the main hubs, often virtually. The pandemic taught investors that deals can be sourced via Zoom from anywhere, so some founders outside the big 3 cities raised funds without relocating (though still rare).

It's also worth mentioning sector-regional interplay: Certain sectors encourage dispersion. For instance, Agri-tech startups (Pakistan being an agrarian economy) often operate in rural areas or smaller cities close to farms – like Tazah (supply chain startup) worked with farmers in various districts. They might be registered in Karachi for investment but operations are nationwide. Fintech and e-commerce naturally concentrate in big cities initially due to higher digital adoption there. Over time, as these startups scale, their services reach smaller cities (e.g., food delivery apps expanded to second-tier cities by 2021, ride-hailing like Careem was present in many towns). So the *impact* of startups is more geographically spread than the *origin* of startups. This is an important nuance: even if few startups come from Quetta, many startups serve Quetta's population (via e-commerce, FinTech etc.), hence indirectly benefiting those regions.

Inclusivity in Workforce: Another inclusion aspect is whether startups are drawing from diverse talent pools. The data we have doesn't quantify this, but qualitatively by 2024, startups were hiring from all over the country, with remote work enabling coders from, say, KP to work for a Karachi startup. Additionally, several startups were founded by Pakistani diaspora returning from abroad, adding diversity of experience. However, socio-economic diversity among founders is still limited: many funded startup founders are from elite universities (LUMS, IBA, NUST, and GIKI) or have foreign degrees. This suggests the ecosystem has some gatekeeping where those with social capital

and better education have more success. That is common in many countries but is an area to watch – initiatives that bring entrepreneurship training to less privileged groups would help.

In conclusion, the results on inclusion show serious gaps: women and certain regions remain underrepresented. While the overall ecosystem grew, it risks leaving behind half the population (women) and large swathes of geography. Recognizing this, some interventions were launched, but measurable change in these five years is modest. The positive spin is that awareness has increased – the fact that reports explicitly track women-led startup funding now shows it's on the agenda, and similarly, there's recognition that innovation shouldn't be Karachi-centric alone. The findings from this results section will feed into our recommendations on how to make the ecosystem more inclusive moving forward.

5. Ecosystem Performance and Outcomes

Under this theme, we consider what have been the tangible outcomes of the ecosystem's development in Pakistan. Outcomes include startup success stories, economic impact (jobs, valuations), and global recognition.

Startup Success Stories: By 2024, Pakistan's ecosystem has produced a few startups that can genuinely be called success stories, either through exits or sustained growth:

- Careem's acquisition by Uber in 2020 for $3.1 billion is often cited as an inspiration, though Careem was Middle East-based, its Pakistani co-founder and large Pakistan operations made it part of the local narrative.
- Zameen.com (property portal) grew into the Emerging Markets Property Group, valued at over $400M, and stands as an example of a Pakistani startup scaling regionally (operating also in Bangladesh, etc.).
- Daraz exit to Alibaba (2018) put Pakistan on the map for large e-commerce potential.
- In the 2019–2024 window, one significant exit was SadaPay being acquired by a foreign entity (Papara, a Turkish fintech) in 2023. SadaPay was a prominent fintech startup; its acquisition, although terms undisclosed, was a proof that foreign companies see value in Pakistani fintech user bases.
- Another is Bagallery, a beauty e-commerce startup, which in 2022 was reportedly acquired (or acqui-hired) by a Gulf-based retail group.
- Many startups have not had exits yet (as ecosystem is young), but we see growth outcomes: e.g., Bykea (ride-hailing) has over 5 million users, Retailo expanded to Saudi Arabia, Abhi (fintech) expanded to Bangladesh and bought a stake in a microfinance bank. The Express Tribune noted fintech startup ABHI's expansion and acquisition, highlighting it as a success.

These outcomes show that some Pakistani startups are not only surviving but expanding and making strategic moves. It demonstrates increased maturity it's not just about raising funding but also about customer traction, revenue, and strategic partnerships.

Economic Impact: It is difficult to precisely measure jobs created by startups due to lack of consolidated data. However, given the funding poured in, we can estimate thousands of direct jobs were created in startups by 2021-22 (for example, Airlift at its peak employed 400+; Bykea employs 350+; dozens of startups with 50-100 staff each). Many more indirect jobs (drivers, delivery riders, freelancers). The government and press have started taking note of this impact. In 2021, the President of Pakistan publicly recognized startups as important job creators for youth. Our results note that the momentum in 2021 led to a positive sentiment where the educated youth

saw startups as a viable career path, not a fringe idea. Applications to incubators soared (NICs reported receiving thousands of applications for each cohort in 2021).

However, the downturn in 2022-23 saw layoffs – e.g., Airlift's closure left many unemployed; other startups downsized. So the net job creation might have stagnated by 2024 after big gains in 2021. This reflects the volatility of relying on venture-fueled growth.

Global Recognition and Rankings: Pakistan's startup ecosystem gained international recognition in this period. The country was often featured in emerging market analyses as "one to watch." For instance:

- In 2021, Bloomberg published a feature titled "Startup Fever Grips Pakistan..." highlighting the record money flowing in.
- Financial Times (FDI Intelligence) in 2023 discussed the "rocky road ahead" but acknowledged Pakistan had attracted hundreds of millions and now needed to consolidate.
- Pakistan's improvement in the Global Innovation Index to rank 88th is partly attributed to ICT and startup growth (WIPO cited Pakistan as one of the top climbers in a decade).
- The Global Startup Ecosystem Report (GSER) by Startup Genome started including Pakistan (though it ranked in the lower tiers, it was on the radar).

Such recognition is an outcome as it helps put Pakistan on the map for investors and partners. It also serves as validation for local stakeholders that their efforts were yielding something.

Failures and Learnings: The ecosystem's performance is not just measured by successes, but also how it handles failures. A notable result of 2022 was the failure of some heavily-funded startups like Airlift and the downsizing of others (e.g., Truck It In, a trucking marketplace, had to cut back after expanding too fast). These events, while negative, provided learning experiences for the community. They underscored the importance of sustainable unit economics and not growing beyond market realities (Airlift's ambitious expansion to multiple countries and a 10-minute grocery model proved unsustainable). Consequently, by 2023, we observed a shift in founder and investor mindset towards "sustainability over growth", aligning with what global investors preached in the downturn. Startups started focusing on reaching profitability or at least breaking even on a unit basis, even if it meant slower growth. This mindset change is an intangible but critical outcome – it represents maturation.

Diversity of Sectors: Initially, success was concentrated in a few sectors (ecommerce, fintech). Over time, startups in other domains also emerged strongly: EdTech startups like Educative and Maqsad raised multi-million rounds; HealthTech like Alumni of Sehat Kahani continued; Gaming startups (Tez Games, etc.) started getting noticed after 2020. By 2024, Pakistan even saw its first blockchain/Web3 startups getting funded (Linked things like Demo). This diversification means the ecosystem is less one-dimensional and can tap various opportunities.

Investor Ecosystem Outcomes: The period saw local investors proving their mettle too. For example, local VC Zayn Capital had multiple portfolio companies raise follow-on rounds from big global names, validating local VCs' selection. Similarly, Sarmayacar (one of the earliest local funds) saw some exits and had returns to show. This helps in raising future funds and convincing local high-net-worth individuals to invest. The result is a slow but sure development of a domestic venture capital industry which can sustain beyond the whims of foreign investors.

Resilience and Continuity: Despite economic downturns, the ecosystem did not vanish – that itself is an outcome. Many startups adjusted and survived 2023's adversity. Organizations like Invest2Innovate and NICs kept running programs, ensuring the pipeline of entrepreneurs didn't dry up. By late 2024, cautious optimism was returning, with experts forecasting potential recovery

by late 2025 if macro conditions improve. The resilience is partly credited to the strong fundamentals: huge market, tech-savvy youth, and those support structures built in previous years. To sum up the results in performance: Pakistan's startup ecosystem, while still emerging, demonstrated the ability to produce high-growth companies, attract significant capital, and then weather a storm and learn from it. It created not just companies but an entire support and investment industry around it. The outcomes include both measurable economic contributions (jobs, revenue, products/services for consumers) and less tangible but equally important shifts (mindset change, skill development, and integration into the global tech ecosystem). These results provide evidence that Pakistan's investment in its entrepreneurship ecosystem (both by public and private actors) yielded substantial returns in terms of ecosystem maturation.

Having elaborated on these results, we will now synthesize the major findings which interpret the results in a broader sense – and then discuss their implications.

Findings

Drawing upon the results, several key findings emerge about Pakistan's startup ecosystem trajectory (2019–2024). These findings encapsulate the core insights and patterns that answer our research questions and tie the empirical evidence to larger themes:

1. A Boom-Bust Investment Cycle with Lasting Positive Effects: Pakistan experienced a classic boom-bust cycle in startup funding during this period. The finding is that while the boom (2021–22) was followed by a bust (2023), it has permanently elevated the ecosystem to a higher plane than where it started. The boom brought in capital, talent, and visibility at an unprecedented scale, effectively "fast-forwarding" the ecosystem's evolution by several years. The subsequent bust, though painful, flushed out weaker models and injected a dose of realism. Stakeholders now widely recognize that the path to sustainable startup growth requires balancing excitement with prudence – a maturity that did not exist in 2018 when raising even $1M seemed outlandish. This cyclical experience may actually leave Pakistan better prepared for future growth spurts, having learned critical lessons about managing hype, due diligence, and the importance of macroeconomic stability.

2. Government's Role Shifted from Periphery to Enabler (but not yet an Optimizer): Over 2019–2024, the government of Pakistan shifted from a relatively hands-off approach to a more engaged, enabling role in the startup ecosystem. The establishment of STZA zones, ease-of-doing-business reforms, and public incubation programs indicates a recognition at policy levels that startups are drivers of innovation and job creation. Our finding, however, is that while the government became an enabler, it has not fully become an optimizer of the ecosystem. Enabling actions removed some barriers and provided resources (e.g. NICs, grants), but to optimize means to fine-tune policies in real time to nurture startups (like swiftly adapting regulations, providing scale-up support, etc.), and that remains a work in progress. Nonetheless, this shift is significant – the narrative of "government apathy" is less true now than it was pre-2019. We find that public-private dialogue on startups has improved (forums, task forces) and that moving forward, the stage is set for more nuanced policy support (such as hopefully passing the Startup Act or improving capital market access for startups).

3. Ecosystem Infrastructure and Networks Deepened, Creating a Supportive Culture: The proliferation of incubators, accelerators, and co-working spaces is more than just a numbers increase; it signifies the embedding of entrepreneurship into the fabric of society. Our finding is that Pakistan now possesses a far deeper and geographically spread support network for entrepreneurs than five years ago, which has fostered a budding entrepreneurial culture. Startups and entrepreneurship have become common parlance at universities and even in some families that

traditionally preferred conventional careers. The presence of physical hubs in many cities acts as a constant signal that starting a company is a viable pursuit. Moreover, an informal network of mentors, peer founders, and angel investors has taken root. These intangible cultural shifts are evidenced by, for example, the increase in students opting to do startups right out of university, or corporate professionals quitting jobs to found or join startups – behaviors that were rarer before. We find that this culture and community building might be one of the most enduring gains of this era, as culture doesn't evaporate with funding cycles; it tends to persist and propagate.

4. Persistent Gaps: Early-Stage Capital and Female Participation as Critical Pain Points: Despite progress, two major gaps stand out as unresolved: (a) the early-stage financing gap (particularly post-seed, pre-Series A, often termed the "Valley of Death" where startups struggle to get from prototype to product-market fit funding), and (b) the underrepresentation of women in the ecosystem. Our analysis finds that while a few new seed funds and angel initiatives have sprung up, demand still far outstrips supply for pre-Series A capital, especially after the big foreign investors pulled back. Many promising ideas may be failing to blossom due to lack of seed funding in the $50k–$200k range, which is often the hardest to secure in Pakistan (family/friends rounds are limited due to lower wealth pools). Similarly, women entrepreneurs still face societal and financial hurdles; the pipeline of female founders remains thin. The small increase in women-led deals in 2022 (5 deals vs 3 in 2021) is progress but at a glacial pace. These gaps are critical because they represent untapped potential: untapped ideas due to lack of seed capital and untapped talent due to gender disparities. Our finding is that closing these gaps could significantly boost the ecosystem's outputs, effectively adding a new engine of growth.

5. Geographic Centralization Continues, but Emerging Sub-Ecosystems Show Potential: Karachi, Lahore, and Islamabad still dominate Pakistan's startup landscape – that remains a fact. Yet, our findings highlight the emergence of sub-ecosystems in other regions that show potential to contribute more in the future. Peshawar's budding tech scene, for example, has produced startups in gaming and AR/VR (some graduates of NIC Peshawar) that are gaining traction. Similarly, we see Gilgit-Baltistan with a few tourism startups, and Quetta with startups in agriculture and services that cater to local needs. These have not reached scale yet, but the presence of NICs and local champions in those areas is gradually building confidence. The finding is that Pakistan's ecosystem is *broadening* slowly – the seeds planted in smaller cities might bear fruit in the coming years, improving regional inclusivity. The major hubs will likely continue leading in absolute terms, but the share of activity outside the big 3 may increase as internet penetration and entrepreneurial awareness spreads. The policy of expanding NICs is validated by this observation; however, these sub-ecosystems need continued nurturing to overcome local challenges (like fewer investors or mentors locally available).

6. Startup Ecosystem Proved Resilient and Adaptive in Face of Macroeconomic Challenges: One of the reassuring findings is that the Pakistani startup ecosystem has shown a degree of resilience. Despite serious macroeconomic headwinds – political instability, record inflation, and currency depreciation – the ecosystem did not collapse. Startups found ways to adapt: cutting burn rates, focusing on core markets, seeking bridge financing from local sources, etc. Notably, in 2023, even when funding was scarce, startups leveraged international accelerator programs to keep momentum (e.g., at least 4 Pakistani startups got into Y Combinator over 2020-2023, which provides some funding and mentorship). This resilience is bolstered by supportive policy tweaks (like allowing equity investments in startups to be held in foreign holding companies, a relaxation done by the central bank earlier). Our finding is that the ecosystem's inherent fundamentals (a large market need and talent pool) coupled with these adaptive strategies allowed it to endure a

very tough period. This bodes well because it suggests the ecosystem is not a fragile bubble; rather, it has a certain robustness that can weather storms, which is crucial for long-term sustainability.

7. Strong Ecosystem Interdependencies – a More Cohesive "System" Now Exists: Initially, Pakistan had disparate elements – a few investors doing deals, a few incubators training companies, policymakers doing their own thing. By 2024, we find much more interdependency and cohesion. Investors now source deals from incubators; incubators invite investors to demo days and shape curricula based on investor feedback. Successful founders often become angel investors or mentors to new founders, recycling their experience. The government consults private sector for policy (e.g., drafting the Startup Act had input from entrepreneurs). These linkages mean the ecosystem functions more like a system. The advantage is that improvements in one part of the system (say, a new VC fund) quickly benefit other parts (incubatees have a new funding option), and weaknesses in one part (say, legal system hassles) are more rapidly communicated to those who can address them. It's an ecosystem finding that speaks to its maturing structure.

In summary, our findings portray a dynamic ecosystem that made significant leaps forward, identified its shortcomings more clearly, and is learning to self-correct. Pakistan's startup ecosystem in 2024 is fundamentally more advanced than in 2019 in terms of scale, complexity, and learnings – but it is still far from realizing its full potential. These findings will inform the discussion on what this means in a broader context and what should be done next to sustain positive momentum and address the gaps.

Discussion

The above findings paint a picture of an ecosystem that has grown and evolved remarkably in a short span, yet faces crucial challenges that need addressing. In this section, we discuss the implications of our findings in a broader context, compare Pakistan's experience with global trends, and explore the underlying dynamics at play. We also interpret what these mean for the future trajectory of the ecosystem.

Comparative Perspective – Pakistan vs. Other Emerging Ecosystems: Pakistan's startup ecosystem trajectory in 2019–2024 in many ways mirrors that of other emerging markets during the same period, albeit with local nuances. For instance, countries like Nigeria, Egypt, and Bangladesh also saw huge spikes in startup funding around 2020–21 followed by corrections. Nigeria raised $800M in 2022 and then saw declines, Egypt similarly. What sets Pakistan apart is that it started from a lower base (Pakistan lagged behind these peers in earlier years) and its boom was perhaps more sudden relative to its baseline. The bust in Pakistan was also sharper in percentage terms (a >70% drop in 2023), partly due to domestic economic issues compounding the global trend. This raises the discussion point: *how can Pakistan smoothen such cycles?* Countries with more developed ecosystems (e.g., India or Indonesia) also had slowdowns, but they have a stronger domestic investor base that cushions the fall somewhat. Pakistan's heavy reliance on foreign capital made it more vulnerable. The discussion here is that to graduate to the next stage, Pakistan should cultivate more local VC and corporate investment to reduce volatility, much like India did in the early 2010s by encouraging local conglomerates and funds to invest in startups. Encouragingly, we see initial steps: family offices in Pakistan are beginning to explore venture investing, and entities like Engro Corp (a Pakistani conglomerate) launched a VC fund in 2022. These actions need to be expanded.

Moreover, ecosystems like Turkey and Vietnam have shown that consistent government support (in Turkey's case, government VC funds) and integration into regional markets can sustain startup growth. Pakistan could look towards greater regional integration – for example, Pakistani startups

expanding to MENA or Central Asia to enlarge their markets and access capital from those regions. Some are already doing so (e.g., Sastaticket, a travel startup, entering the Middle East market). This might buffer them against solely local downturns.

Socio-Economic Impact – Startups as a Solution to Pakistan's Problems: A significant aspect to discuss is how the startup ecosystem ties into Pakistan's broader socio-economic challenges. Pakistan has a very large youth population and struggles with providing employment and improving productivity. Startups, especially in tech, have provided a channel for educated youth to apply their skills, often creating jobs for others too. For instance, ride-hailing and delivery startups generated income opportunities for tens of thousands of drivers/riders. Fintech startups are tackling financial inclusion (e.g., Easypaisa and JazzCash started earlier, but new fintechs like Tez, CreditBook etc., help small businesses or blue-collar workers manage finances). In agriculture, agri-tech startups (like Tazah or PakVitae) are helping farmers get better prices or clean water solutions. While each is a micro-scale intervention, collectively they point to a trend: startups are addressing market failures and development gaps in Pakistan, be it in finance, health, education or logistics.

This positions the startup ecosystem not just as an economic sector, but as a catalyst for innovation in solving local problems. That said, one must be cautious: many startups focus on urban affluent customers (e.g., instant grocery delivery served the upper-middle class) and may not directly alleviate poverty or inequality. However, the spillover of tech (like smartphones becoming cheaper, digital services reaching remote areas) means even B2C startups targeted at urban users often eventually bring services to wider segments. The discussion here is that stakeholders – especially policymakers and donors – should view supporting startups as part of development strategy. For example, encouraging startups in climate-tech or ed-tech can help Pakistan address climate adaptation and education quality, respectively.

Human Capital and Brain Drain: Pakistan has long faced "brain drain" – talented individuals emigrating for better opportunities. Interestingly, the rise of the startup ecosystem has both resulted from and contributed to a reversal of this for a subset of people. We saw overseas Pakistanis returning to start companies or lead investments (e.g., founders of Indus Valley Capital, Sarmayacar, etc., are returnees), and some who might have left after graduation chose to stay and build a startup given the new opportunities. If the ecosystem continues to develop, it could become a magnet to bring back diaspora talent (which is huge, considering Pakistan's diaspora is one of the world's largest). Already, some global Pakistani tech workers have returned in remote roles during COVID and then joined local startups. On the flip side, the uncertainty in 2022–23 may push talent out again if they lose jobs and see no stability. It's a delicate balance. The discussion is that ensuring a thriving startup scene could be one tool to retain talent and potentially reverse brain drain, which is vital for Pakistan's knowledge economy. This requires maintaining momentum and confidence in the ecosystem's future.

Navigating Economic Crisis – Startups as Part of the Solution: Pakistan's macroeconomic woes (debt, fiscal deficits, etc.) require structural solutions, but a vibrant tech sector can contribute significantly by bringing in foreign investment (FDI) and boosting exports (IT exports have grown to $5B with a target to hit $10B in a few years). Startups, particularly those in IT services or SaaS, contribute to these export revenues. Government has noticed this, which is partly why IT/ITeS exports were given a tax holiday. The discussion here is that Pakistan could emulate models like India's IT industry boom or Philippines' BPO sector as partial inspiration: while startups are riskier bets than established outsourcing companies, they have the potential for high reward and creation of intellectual property. Over time, a few breakout successes can create large companies (the way

India produced Flipkart, Ola, Paytm, etc., which are now major employers and economic actors). Pakistan has yet to see a unicorn (a startup valued > $1B). It nearly had one – Airlift was valued $275M before it folded, Bazaar was nearing unicorn status. Given the market, it's likely a matter of time, not if, Pakistan sees its first unicorn. That will be a milestone with significant symbolic and economic impact (it will attract big funds' attention and validate the market's potential). So, from a macro viewpoint, nurturing startups is a long-term investment that could diversify and uplift Pakistan's economy which is otherwise struggling with traditional sectors.

Inclusion and Social Change: We must also discuss the social dimension. Women's participation, as highlighted, is low, but the presence of even a few high-profile women founders (e.g., Kalsoom Lakhani of Invest2Innovate, Jehan Ara of Nest I/O earlier, Dr. Sara Saeed of Sehat Kahani) is slowly shifting perceptions. These role models matter in a conservative society. The startup ecosystem could become a vehicle for women's empowerment if consciously steered so – by providing safe, flexible work environments and by encouraging women-led enterprise through targeted funds or incubator tracks. International organizations (like UN Women, which did some programs in Pakistan) and local advocacy can play a role here.

Regionally, the fact that a kid in Peshawar can build a game and sell it globally (as one startup from Peshawar did on the App Store) is transformative at a community level. It shows opportunity is not just in moving to Karachi or leaving Pakistan, but can be harnessed locally with the internet and knowledge. We discuss that continuing to expand infrastructure (like high-speed internet, tech hubs) in smaller cities is crucial for decentralizing opportunity. Pakistan's political will for devolution (empowering provinces) aligns with supporting regional innovation centers.

Challenges Ahead – Sustainability and Depth: Despite optimism, challenges abound. One is the sustainability of startups in a high-inflation, low-income market. Many Pakistani startups' business models (especially B2C) rely on scale and thin margins, which is tough when consumers have limited spending power and inflation squeezes wallets. Unlike Western markets where consumer tech can monetize via ads or high disposable incomes, Pakistani startups often have to invent frugal models. The discussion might consider, should Pakistani startups pivot more to B2B or global markets where monetization is easier? We see some doing that: a number of Pakistani SaaS startups are actually targeting clients abroad (because charging Pakistani SMEs is hard). This approach brings foreign revenue and is a smart hedge. But it also means not directly solving local problems. There's a balance to strike – perhaps a path of "build services for abroad, and use profits to subsidize local market solutions."

Another challenge is policy continuity. Pakistan's politics are volatile; policies can reverse with new governments. The startup ecosystem needs a stable policy environment (tax policies, incentives, etc.) to flourish. The discussion here would urge institutionalizing support (for example, embedding startup promotion schemes in bureaucracy rather than as one-off political initiatives).

Lessons Learned and Way Forward: The journey from 2019 to 2024 holds lessons for all stakeholders:

- For Founders: Pursue sustainable growth, know your market deeply, and prepare for downturns. Many founders now realize that chasing growth at all costs can backfire. As one investor put it, "2021 to 2022 were outlier years – one must build assuming normal conditions". Founders also learned the importance of compliance (cases like TAG's regulatory issues taught others to work closely with regulators).
- For Investors: Some foreign investors came with perhaps over-optimistic expectations and left quickly when things soured. Those who remain (local VCs, patient foreign ones)

learned to be more diligent and hands-on in helping startups weather tough times. The need for investor diversity (angel, VC, corporate) is evident. Encouragingly, local investor communities (e.g., Pakistan Venture Capital Association formed in 2022) are coming together to create a voice.

- For Government: The last five years taught the government that the startup sector can rise quickly and also get hurt quickly. It's a fragile plant that needs consistent care. Thus, the government should avoid measures that inadvertently hurt startups (like sudden tax changes or curbs on internet services) and instead double down on enabling policies that have shown success (like supporting NICs, fostering FinTech through SBP sandboxes, etc.). The government also learned that consulting the private sector yields better outcomes (the draft Startup Act process was collaborative). This needs to continue regardless of regime changes.

The Human Element – A Humanistic View: In keeping with a humanistic perspective, it's worth reflecting on how the growth of the startup ecosystem affected individuals and society. Many young Pakistanis today harbor entrepreneurial ambitions; the societal prestige of working for a startup or founding one has increased (though it still might not match the status of a doctor or civil servant in traditional families). Failure in entrepreneurship is slightly more accepted among peers now – failing a startup is seen as a learning rather than just a personal failure, which is a crucial cultural shift for innovation. The stories of grit – like founders who kept companies afloat through the funding winter by taking pay cuts or infusing personal savings – are inspiring a narrative of resilience and creativity. From a human angle, these five years have broadened the imagination of what's possible in Pakistan's business landscape. Young girls in tech now have a few role models to look up to, as discussed. The more inclusive and dynamic this ecosystem becomes, the more it can contribute to human development, not just economic metrics.

In conclusion, the discussion underscores that Pakistan's startup ecosystem, at this juncture, stands at a crossroads. It has proven its potential in spurts; the task now is to build on those gains systematically. By addressing the identified gaps (capital access, inclusion, policy stability) and leveraging its strengths (huge youth talent, large market, and growing infrastructure), Pakistan can move from an emerging ecosystem to a established ecosystem in the coming years. The period of 2019–2024 can be seen as the ecosystem's adolescence – a time of rapid growth, learning, and some turbulence. The challenge and opportunity ahead is to navigate into a stable adulthood, yielding consistent innovation, economic value, and social impact. The recommendations that follow aim to provide a roadmap for such a transition, targeting each stakeholder group that has a role in this journey.

Recommendations

Based on the analysis and findings of this study, we propose a set of targeted recommendations for key stakeholders in Pakistan's startup ecosystem: policymakers (government bodies), educators and academic institutions, investors (VCs, angels, corporate investors), and entrepreneurs themselves. These recommendations are aimed at consolidating the gains of the past five years and addressing the gaps to ensure sustainable and inclusive growth of the ecosystem moving forward.

For Policymakers and Government:

1. **Enact and Implement the Startup Act and Related Policies:** Finalize the Pakistan Startup Act and get it passed into law. This Act should clearly define startups (e.g., by age, revenue, innovation criteria) and extend specific incentives: tax breaks (e.g., 3-5 year tax holiday for certified startups, as was proposed), reduced regulatory requirements, and easier access to government procurement for startups. Once enacted, ensure its provisions

are actually implemented by relevant departments (FBR, SECP, SBP). Additionally, reinstate and extend tax exemptions for IT/ITeS exports beyond 2025 to continue encouraging tech startups.

2. **Facilitate Access to Capital – Local Fund Development:** Create mechanisms to encourage local capital formation for venture investment. This could include matching funds or fund-of-funds programs where the government (or SBP) invests alongside private VCs in funds focused on Pakistani startups, thus reducing risk for first movers. Collaborate with multilateral institutions to expand pools like the Pakistan Innovation Fund. Also, provide fiscal incentives for individuals and corporates to become angel investors (for example, tax credits or write-offs on startup investments up to a certain limit). Streamline regulations for VC fund registration – simplify the Private Funds regulations as recommended in 2019 to make it more cost-effective for new domestic funds to set up. This will help seed the early-stage funding ecosystem with local money.
3. **Maintain Regulatory Support and Consistency:** Ensure that supportive regulations (like SBP's facilitation of holding companies and repatriation, SECP's sandbox for fintech) remain consistent and are improved. Avoid knee-jerk restrictions on foreign currency or startup operations even during economic crises – instead, carve-out exceptions for export-oriented startups to function smoothly (as SBP eventually did by allowing startups to keep money abroad for foreign ops). Work on easing rules for employee stock options and equity compensation, as this helps startups attract talent (current processes are cumbersome under company law). Consistency and clarity in policy will build investor confidence.
4. **Enhance Infrastructure and Special Economic Zones for Tech:** Accelerate the development of Special Technology Zones (STZs) with promised facilities (reliable power, high-speed internet, one-stop government services). Ensure that the incentives (tax holidays, etc.) for STZ-registered firms are honored and promoted. Expand STZs to more cities and actively market them to foreign tech companies as well as local startups – these can become clusters that attract supporting industries (consulting, legal, etc.). Additionally, improve physical and digital infrastructure generally: expand broadband access (especially fiber internet) to second-tier cities and continue projects like Pakistan's satellite and 5G plans, which will underpin digital business growth.
5. **Support Incubators and Accelerators with Quality Control:** Continue funding the National Incubation Centers and the National Expansion Plan to ensure incubation coverage across the country. However, introduce a performance evaluation framework: measure outcomes like startup survival rates, follow-on funding raised by graduates, etc. Use these metrics to refine curricula and management of incubators. Invest in training incubator managers (perhaps via international exchanges or bringing in experts) so that program quality improves. Where possible, involve successful entrepreneurs in mentorship at government-funded incubators via structured mentorship programs or entrepreneur-in-residence schemes. Also, consider launching vertical-specific accelerators in collaboration with industry ministries (e.g., an Agritech Accelerator with Ministry of Agriculture, a HealthTech program with Health Ministry) to drive innovation in priority sectors – this can ensure sectoral diversity in the startup pipeline.
6. **Promote Inclusivity–Women and Regional Programs:** Implement initiatives specifically aimed at increasing the participation of women in entrepreneurship. For example, create a Women Entrepreneurs Fund that provides small grants or seed investments to women-led startups (possibly through collaboration with organizations like UN Women or We-Fi which already focus on this). Encourage NICs to achieve a target (say, 30-40%) of women-led startups in their cohorts, possibly by reserving some slots or

running women-focused cohorts. On the regional side, strengthen incubators in underserved provinces by allocating additional resources and incentives for mentors to engage there (e.g., give a stipend or national recognition awards for mentoring in Balochistan or rural Sindh). Consider provincial innovation challenges or hackathons (like KP's Durshal program) in all provinces on an annual basis with significant prize funding to surface talent from outside the main hubs.

7. **Leverage Startups for E-Government and Public Service Delivery:** As a large customer, the government can help startups by engaging them in public sector solutions. Launch challenges where startups can bid to solve government problems (e.g., digitizing records, tele-education for remote areas, agri advisory for farmers) and offer contracts or pilot opportunities. This provides startups revenue and validation while improving public services. Ensure procurement rules are slightly relaxed for startups (e.g., waiving years-of-experience requirements) to let them compete. This approach not only financially supports startups but also roots them in solving local problems, amplifying their impact.

For Educators and Academic Institutions:

1. **Integrate Entrepreneurship into Curriculum:** Universities and colleges should incorporate entrepreneurship education across disciplines. Introduce foundational courses on entrepreneurship, innovation, and startup management – not just in business schools, but also in engineering, medicine, agriculture, etc., to encourage cross-disciplinary innovation. Case studies of Pakistani startups (e.g., successes and failures) can be included to provide local context and learning. Encourage project-based learning where students create business plans or prototypes as part of their coursework.
2. **Promote University-Based Incubation and Commercialization:** Every major university should strengthen its ORIC (Office of Research, Innovation & Commercialization) or equivalent to actively encourage students and faculty to spin off research into startups. Provide seed grants or incubation support for campus start-ups (many ORICs have modest funding from HEC; additional fundraising can supplement this). Set up mentorship panels including alumni entrepreneurs to guide student ventures. The goal is to make campuses hotbeds of startup ideas, leveraging the talent and research going on. For example, agriculture universities could incubate agri-tech solutions, and medical universities could encourage health-tech innovation.
3. **Foster Linkages between Academia and Industry/Investors:** Institutions should facilitate more networking events like startup demo days, innovation summits on campus where students present to investors and industry leaders. They can invite venture capitalists to give guest lectures or judge competitions – building relationships that might lead to funding or advisory for student startups. Sabbatical or internship programs can be established where students/faculty spend time at startups to gain experience, and conversely, startup founders can spend a semester as "entrepreneurs in residence" at universities to mentor students. These interactions close the gap between academic theory and practical startup building.
4. **Promote Technical and Soft Skills for Entrepreneurship:** Beyond business knowledge, ensure students develop the technical skills (coding, data analysis, design thinking) and soft skills (communication, leadership, resilience) that are crucial for entrepreneurship. This could involve offering workshops on emerging tech (AI, blockchain, IoT) so that (This could involve offering workshops on emerging technologies, coding bootcamps, and startup bootcamps). Emphasize soft skills too: universities should host seminars on leadership, pitching, and resilience in entrepreneurship. Encouraging student participation

in competitions like hackathons or innovation challenges will give them practical experience under pressure, improving their problem-solving and teamwork abilities essential for startup life.

5. **Encourage Research Commercialization and IP Creation:** Universities in Pakistan should actively encourage faculty and students to patent their innovations and explore commercialization pathways (spinoff companies or licensing). Technology Transfer Offices (TTOs) can help identify research with market potential and connect inventors with entrepreneurs or investors to take it forward. For example, if an engineering department develops a new energy-efficient device, the university can facilitate patent filing and seek startup founders or industry partners to bring it to market. Not only does this contribute to the startup ecosystem with deep-tech ventures, but it also aligns academic research with industry needs. Awards or recognition for successful commercialization (e.g. an "Innovator of the Year" award for faculty/students who launch startups) could incentivize participation.

For Investors (VCs, Angel Investors, and Corporates):

1. **Increase Early-Stage Funding and Mentorship:** Local venture capital funds and angel networks should allocate a portion of their capital specifically to pre-seed and seed-stage startups. Given the early-stage funding gap identified, investors could adopt a model of writing more small checks (e.g., $50k–$100k) to a broader range of startups, essentially seeding a pipeline for later rounds. Along with capital, provide hands-on mentorship to these startups – for instance, establish an Angel Mentor Program where each investee startup is paired with an angel or industry veteran for monthly guidance. Seasoned Pakistani entrepreneurs and executives can also join formal angel networks (such as Karachi Angels or the planned national angel association) to pool resources and expertise, thereby diversifying risk and increasing impact. Investors who mentor not only improve the startup's success odds but also build trust and insight for follow-on investment decisions.
2. **Focus on Sustainable Business Models (Patient Capital):** Investors should recalibrate their expectations and strategies to Pakistan's market realities. Rather than pushing startups for blitzscaling (growth-at-all-costs), emphasize sustainable unit economics and clear paths to profitability. This may mean extending longer runways or being patient on returns. It's in investors' interest to avoid the boom-bust swings – a message from 2021–2023 is that sustainable growth yields better long-term value. Practically, this could involve milestone-based funding trenches, where startups meet certain traction or revenue goals before drawing the next tranche, aligning growth with real market uptake. By doing so, investors help inculcate financial discipline in startups and protect their own investments from unsustainable burn. As one VC noted, 2021's exuberance should be treated as an outlier; moving forward, a steady 2x–3x annual growth might be healthier than 10x spurts that collapse.
3. **Promote Diversity in Investment – Target Women and Regional Founders:** Investors can play a pivotal role in closing inclusion gaps by actively seeking out and supporting women-led startups and those from outside the big cities. This might mean having dedicated funds or quotas for such investments. For example, a VC fund could commit that, say, 20% of its portfolio companies will have a female founder or co-founder. Angel networks can host female-founder pitch events to give women entrepreneurs a comfortable forum for presenting ideas (some local groups have started doing this on ad-hoc basis). Additionally, venture funds might consider opening satellite offices or running office-hours

in cities like Peshawar, Quetta, or Faisalabad periodically, to source deals and mentor founders there, rather than expecting all entrepreneurs to come to Karachi/Lahore. These steps will broaden the deal flow and tap talent that is currently overlooked, while also signaling to underrepresented groups that the investment community is approachable and interested.

4. **Collaborate to Form Later-Stage Syndicates:** Given the shortage of growth-stage capital, existing investors (especially local VCs) should collaborate to form syndicates or alliances for larger follow-on rounds. By pooling capital for Series B or C rounds, they can collectively support the scaling of Pakistan's most promising startups instead of leaving them entirely to foreign investors. This might involve co-investment agreements or a joint growth fund backed by multiple firms. Also, engage international investors through partnerships: for instance, inviting global VCs to Pakistan-focused demo days or LP (Limited Partner) events can re-kindle foreign interest, but now with local VCs leading or co-leading rounds to ensure commitment. The data showed lack of "growth capital" as a weakness; addressing it will require innovative financing arrangements and perhaps more flexible fund structures (e.g., opportunities for local pension funds or banks to invest in VC under SBP/SECP guidance).
5. **Corporate Involvement and Exits:** Corporates in Pakistan – banks, telecoms, FMCGs, etc. – should be encouraged (and themselves realize the value) to engage with startups either through corporate venture capital arms or partnerships/acquisitions. For investors broadly, facilitating exit opportunities is key to recycling capital. Thus, working with corporates to drive M&A can provide those exits. Corporate investors can start by setting up venture scouting teams to identify startups relevant to their industry (for example, a telecom investing in FinTech or e-commerce startups that drive data usage, or a bank acquiring a successful FinTech to boost innovation). Already, a few banks have launched programs (e.g., UBL's accelerator), but scaling this up is important. Regulators could give gentle nudges, like recognizing corporate VC investments as a form of R&D expenditure for tax purposes, to encourage this trend. The result would be a more robust exit environment: even if IPOs are far off, acquisitions can give founders and early investor's returns, which in turn will attract more capital into the ecosystem.
6. **Data Sharing and Ecosystem Building:** Investors should contribute to the transparency and knowledge base of the ecosystem. Platforms like Data Darbar have been invaluable; VCs and angels can support such initiatives by sharing (in aggregate form) their portfolio performance, sector insights, etc. A collaborative annual report or open database of Pakistani startup funding (perhaps maintained by a consortium of VCs or the Pakistan VC Association) would help new investors make informed decisions and identify gaps in the market. Essentially, treat ecosystem development as a collective goal – investors competing in deals can still collaborate on improving the overall landscape (a healthier ecosystem means better deal flow for all). This includes co-hosting events, workshops for new angels, and advocating jointly for policies (like the aforementioned stock option reforms). The ethos should be "grow the pie" – which ultimately benefits each investor's slice.

For Entrepreneurs and Startup Founders:

1. **Focus on Resilience and Sustainable Growth:** In the wake of volatile funding cycles, entrepreneurs should plan their businesses with an assumption that external capital may be limited or slow. A key recommendation is to strive for early revenue generation and clear unit economics. Founders should ask: can we reach break-even on a unit basis or cover core costs with some baseline revenue? Even if ultimate goals involve scale and market

share, having a path to profitability will make the startup more attractive to cautious investors and durable in downturns. Keep operating costs lean – the frugality that many Pakistani startups naturally had (given limited funding pre-2021) remains a virtue. Also, build in buffers: for instance, if raising funds, raise slightly more than immediately needed and in good times extend runway rather than splurging, because the environment can change quickly. The stories of 2022 taught that those who managed cash conservatively survived. As a founder, resilience – the ability to pivot and persevere – is crucial. If one product line isn't working, be ready to iterate or pursue a different customer segment, rather than burning money in a stubborn direction.

2. **Leverage the Ecosystem Resources:** Today's entrepreneurs have far more support available than those five years ago – it's wise to take full advantage. This means joining incubators or accelerators (for first-time founders, a program can provide structure, mentorship, and network – NICs and private accelerators are actively looking for quality startups), attending industry meetups and pitch competitions to practice and gain exposure, and utilizing co-working spaces and hacker communities to find talent or co-founders. Many founders in Pakistan are technical but lack business acumen or vice versa; finding complementary team members through networking can fill these gaps. Use free or subsidized services often provided to startups (cloud credits, payment gateway deals via programs, etc.) to reduce costs in early phases. Essentially, recognize that you are not building a company in isolation – plug into the community of fellow entrepreneurs to share knowledge. Peer learning groups or founder circles (some facilitated by incubators or even informal WhatsApp/Slack groups) can be a source of moral support and troubleshooting advice.
3. **Improve Investment Readiness and Corporate Governance:** Founders should educate themselves on basics of fundraising and corporate governance. Many Pakistani startups incorporate abroad (Delaware or Singapore) – ensure compliance and proper financial reporting even if it's tedious, because it builds credibility. Work on pitching skills: be clear about the problem, solution, market size, and traction when approaching investors. Use data to back claims; given some skepticism from 2021's hype, evidence-based pitches carry more weight. It's also recommended to maintain transparency with existing investors – share monthly or quarterly updates about progress and challenges. This habit not only keeps stakeholders engaged and supportive, but it also prepares you for the kind of reporting required for larger investments. Additionally, take legal/IP matters seriously: register trademarks, consider patenting unique tech (with the help of ORICs or legal clinics, as recommended to educators), and formalize contracts with co-founders and early employees (to avoid disputes later). Professionalizing early will save headaches as you scale.
4. **Aim for Inclusion and Diversity in Teams:** As founders build teams, they should be mindful of fostering inclusive practices from the start. This is not just social altruism; diverse teams can perform better by bringing multiple perspectives. Proactively recruit and support women in your startup team – for example, ensure your workplace is accommodating (flexible hours or remote options can help increase female participation, as many women in Pakistan juggle family responsibilities). Founders who prioritize diversity can tap into programs and grants targeted at inclusive businesses, a potential additional support. Moreover, consider hiring from different regions – remote work allows a Karachi startup to hire a developer in Gilgit or a marketing specialist in Peshawar. Not only does this spread opportunity, but it can give startups access to talent that might be overlooked by others. In short, by embodying inclusivity, startups can both fill talent needs and contribute to narrowing the ecosystem's gaps.

5. **Global Mindset – Think beyond Borders:** We recommend entrepreneurs adopt a global mindset from early on. Pakistan is a big market, but it can also be a springboard to other markets. Startups should be open to expanding regionally or serving international clients if the opportunity arises. This could mean tailoring products to similar markets (for instance, Pakistani fintech or e-commerce models might work in Bangladesh, Sri Lanka, Central Asia, Middle East with localization) or simply using Pakistan as a base for a global service (several Pakistani SaaS startups do this). By diversifying markets, startups reduce risk – if local conditions deteriorate, having foreign customers or users can sustain the business (and bring valuable foreign exchange). Joining international accelerators or competitions can expose founders to global best practices and networks. Many Pakistani startups benefited from this, as noted (e.g., those who joined Y Combinator or Google's accelerator). So, founders should not limit their vision; instead, benchmark against international peers and aim to meet those standards. At the same time, leverage Pakistan's cost advantages – a Pakistani startup often can operate more cheaply, which can be a competitive edge when scaling internationally.
6. **Give Back and Mentor (Once Experienced):** A healthy ecosystem is one where today's successful entrepreneurs mentor the next generation. As founders find success – even incremental – they should contribute back, be it through mentoring newer startups, speaking at universities, or eventually angel investing. This "pay it forward" culture is how Silicon Valley and other hubs continuously reinvent themselves. In Pakistan, we see some of this happening (the so-called Careem mafia effect), but it needs to become the norm. By mentoring others, entrepreneurs not only help the ecosystem, they also refine their own leadership and gain reputation which can open doors (for partnerships, media, etc.). Thus, we encourage founders: become active members of entrepreneur networks (like Paklaunch, local chambers, tech associations) and share your lessons learned. This humanistic interdependence – founders helping founders – will strengthen the community bonds that sustain the ecosystem through good and bad times.

Each stakeholder acting on these recommendations can synergistically enhance Pakistan's startup ecosystem. Policymakers can create an enabling environment, educators can supply skilled and innovative talent, investors can fuel and guide startups with smart capital, and entrepreneurs can build responsible, agile businesses that drive progress. The past five years have shown what's possible; the next five, if guided by thoughtful action, could witness Pakistan's startup ecosystem entering a new phase of stable and inclusive growth, producing companies that not only achieve financial success but also drive positive societal change.

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