McKinsey & Company

Starting up: Unlocking entrepreneurship in Pakistan

How Pakistan can support the startup ecosystem to encourage the emergence of local technology companies

Preface

With 140 million people under the age of thirty, a 4x growth in data-enabled mobile connections[1] in the past three years, and the economy projected to grow at ~6% per year through 2026, Pakistan should have a flowering start-up scene. There should be myriad entrepreneurs, significant venture capital investment, and promising start-ups with a clear path to becoming unicorns, i.e., with over $1 billion valuations.

The reality, however, is that Pakistan is still in the initial stages of the next s-curve of entrepreneurship. One measure is venture capital investing: regional leader the United Arab Emirates has $20 in venture capital investing per capita. Pakistan has $0.10. Even Bangladesh – which has a lower average income[2] than Pakistan, has more venture capital per capita that Pakistan has.

This article assesses the state of entrepreneurship in Pakistan, and outlines the structural changes needed to help accelerate its growth.

1 3G/4G mobile connections
2 As measured by GD/capita PPP

Contents

Executive summary

Pakistan, home to about 200 million people, is one of the fastest growing economies in Asia[3]. As the country continues to develop, an additional 2.1 million middle-income households are expected to be established by 2025[4]. Connectivity is also increasing with the number of 3G/4G subscribers rising four-fold in the last three years[5] and demand for digital services clearly expanding – the country's e-commerce market beat analysts' predictions to cross the US$1 billion mark in 2018[6].

Consequently, startup activity has surged as businesses emerge to satisfy unmet demand across the country. The government has taken the lead by building national and provincial incubators, introducing a three-year tax relief[7] and creating regulations to allow local venture capital (VC) firms and investors to set up shop in the country. The private sector is following suit, with the emergence of incubators and accelerators supported by foreign organizations such as Google's Nest I/O in addition to new, local VCs.

However, Pakistan's startup growth lags its peer countries, with fewer startups and less funding than comparable countries such as Nigeria.

Pakistan has elements that suggest that it is ready for liftoff, but significant changes are required from both the government and the private sector across three currently-weak pillars in the domestic startup ecosystem.

— Government to design enabling policies and facilitating infrastructure:
  - Simplify procedures for doing business to encourage formalization e.g., building a "one stop shop" for business registration and filing taxes
  - Invest in enabling infrastructure e.g., payments gateway or modernization of government organizations such as Pakistan Post

— Investors to provide funding in line with six best practices:
  - Develop robust investment theses leveraging local context
  - Capture and proactively engineer network effects
  - Invest at scale
  - Manage performance with a patient and programmatic growth mindset
  - Secure investment independence in governance to win the right talent
  - Monitor KPIs in line with the value creation model

— All ecosystem players help cultivate local talent:
  - Leverage the existing university network to grow entrepreneurship
  - Introduce digital skills through the network of vocational institutes across Pakistan
  - Connect the white-collar diaspora to innovation in Pakistan

The government and the private sector must work together for the country to reach its full potential. While the government can create a facilitating environment for startups to flourish, the private sector should be looking to create value through funding the next big disruption. Collectively they can cultivate the right talent to unleash a digital revolution in a country that is equipped to take off.

[3] Centre for International Development at Harvard University, HSBC The World in 2030
[4] City Scope database covers the 33 largest cities in Pakistan
[5] Pakistan Telecommunication Association
[6] Express Tribune article: "Pakistan's e-commerce market size set to cross US1b this year" [March 19. 2018]
[7] Pakistan Software Export Board

1. Macro trends suggest high potential for Pakistan's startup ecosystem

Economic indicators suggest growth

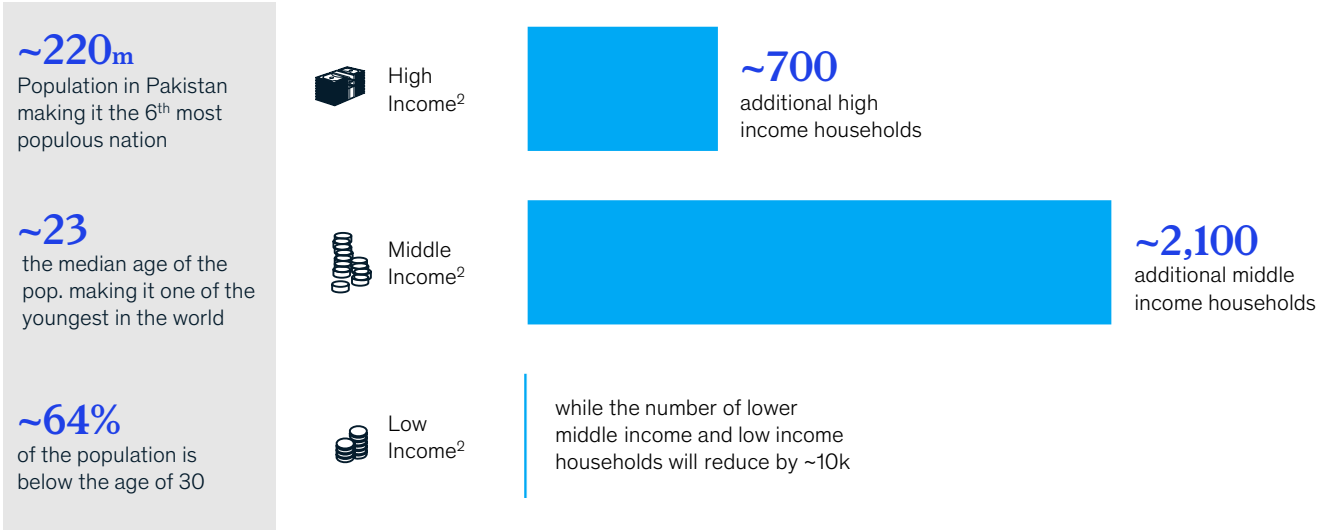
Pakistan is an emerging economy projected to be among the fastest growing the coming years with a projected annual growth rate of ~6% through to 2026[8]. Moreover, in 2016 MSCI reclassified the country's status from frontier market to emerging market, easing international funding access. Despite the economy going through a difficult period, with a significant balance of payments issue and a declining currency, the intrinsic drivers suggest tailwinds for growth.

As the sixth most populous country in the world, Pakistan is home to around 200 million people. Pakistan also has the fifth largest youth population in the world in absolute terms, with roughly half the population under the age of 25[9]. Household consumption accounts for ~80% of Pakistan's GDP[10] and consumer spending is projected to grow at ~15% in the coming years driven by the expanding middle class (Exhibit 1).

Exhibit 1

Pakistan – young country with a growing middle class

Change in the number of households by income group[1] from 2015 to 2025, 000s



1 The data represents the 33 largest cities of Pakistan
2 High income; >US$70k per annum, Middle Income: US$7.5-70k per annum, Low Income: <US$7.5k per annum

SOURCE: City Scope Database 3.0; World Bank

Between 2015 and 2025, McKinsey's City Scope database projects Pakistan[11] will have an additional ~700,000 high-income and 2.1 million middle-income households. Other sources also support this trend. For example, according to a recent government-led survey[12], the percentage of people living below the poverty line has halved in the last ten years.

8 Center for International Development at Harvard University, HSBC The World in 2030
9 World Factbook
10 World Bank [https://data.worldbank.org/indicator/NE.CON.PRVT.ZS]
11 City Scope database covers the 33 largest cities in Pakistan
12 Economic Survey of Pakistan 2018

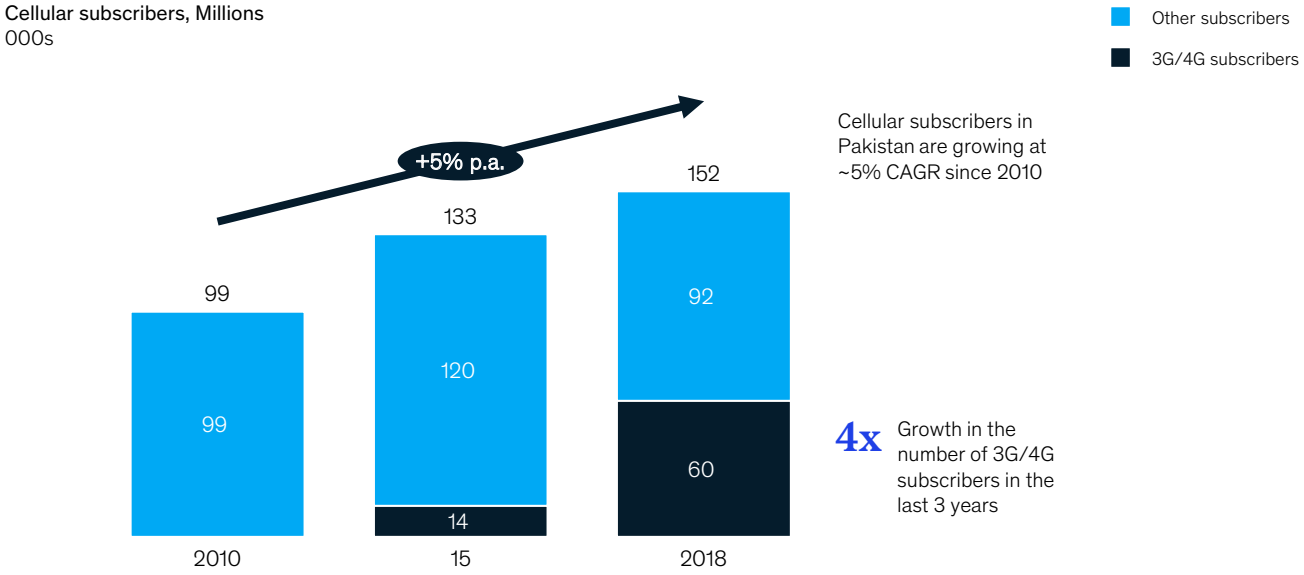
Markers of digital consumption are increasing

Beyond economic indicators, digital consumption is on the rise driven by an improvement in connectivity. Local telecoms boast ~152 million subscribers with ~40% of these having access to 3G/4G[13]. The number of 3G/4G subscribers has grown four-fold in the last three years alone, reaching ~60 million subscribers as of October this year (Exhibit 2).

Exhibit 2

Growth in cellular and 3G/4G subscriptions

Cellular subscriptions are growing at 5% CAGR in Pakistan while 3G/4G users have grown 4x in the last three years



In a country where ~65% of the population lives in rural areas, cellular subscriptions and internet connectivity are essential to connecting businesses to an otherwise-untouched populace. This connectivity is expanding, with ~35 million Pakistanis now active social media subscribers[14]. Another illustration of Pakistan's increasing digital consumption is Careem – a regional ride-hailing application that operates in 14 countries in MENA. Since its launch in 2015, Pakistan has become its second highest source of rides and third largest source of revenue[15]. Moreover, e-commerce is also showing record growth and is poised to cross the US$1 billion mark in 2018, ahead of analyst predictions[16].

[13] Pakistan Telecommunication Association
[14] Alphapro Report: "Pakistan Social Media Stats 2018"
[15] Express Tribune article: "A ride from Karachi to an over billion-dollar valuation" [September 3, 2018]
[16] Express Tribune article: "Pakistan's e-commerce market size set to cross US1b this year" [March 19. 2018]

“We are now looking at Pakistan because it has all the intrinsic drivers to make it the next big South Asian market for startups: it has a large population, a burgeoning middle class, increasing internet penetration, and existing incumbents in key industries that are rife for disruption. Yes, the country has challenges but the infrastructure here is comparable to countries such as Bangladesh or Nigeria, which have already seen notable startup successes.”

Ozair Ali
Co-founder/COO, Alter Global

2. The startup ecosystem however remains nascent

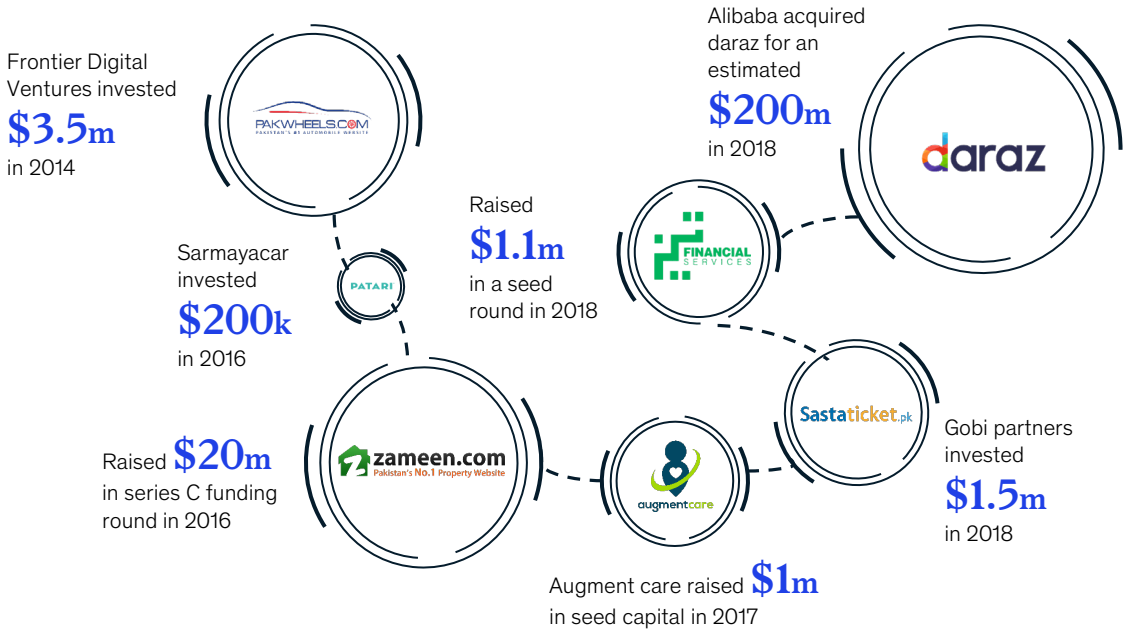
The ecosystem is becoming more indigenized

Entrepreneurship in Pakistan is already on the rise, reflecting a broader global trend and increased digital consumption within the country.

Since 2010, ~720 startups have been established[17] (67% still active) with ~100 successfully raising funding[18]. Some of the biggest funding deals in Pakistan have taken place in recent years, highlighting the vast opportunity for local startups and increased investor focus on a country that is still yet to produce its first high-valuation startup (Exhibit 3).

Exhibit 3

Examples of startups from Pakistan that have raised funding recently



Despite the smaller scale, we can see the emergence of three key components of the startup ecosystem: government engagement; support for talent; and linkages to global incubators and VCs.

For the startup ecosystem to fully realize its true potential, the government must play its due part in the process. Up to now the government has been successful in carrying out initiatives and rolling out policies that fully support the startup space in Pakistan, e.g., approving licenses for Pakistan's first PE and VC funds in 2017[19] and, in some cases, setting up government-led incubators such as Plan 9 which features under the Punjab IT Board. There have also been attempts at making regulations simpler for startups. For example, the Federal Board of Revenue launched a three-year tax exemption scheme in 2017 for tech-related startups registered with the Pakistan Software Export Board[20].

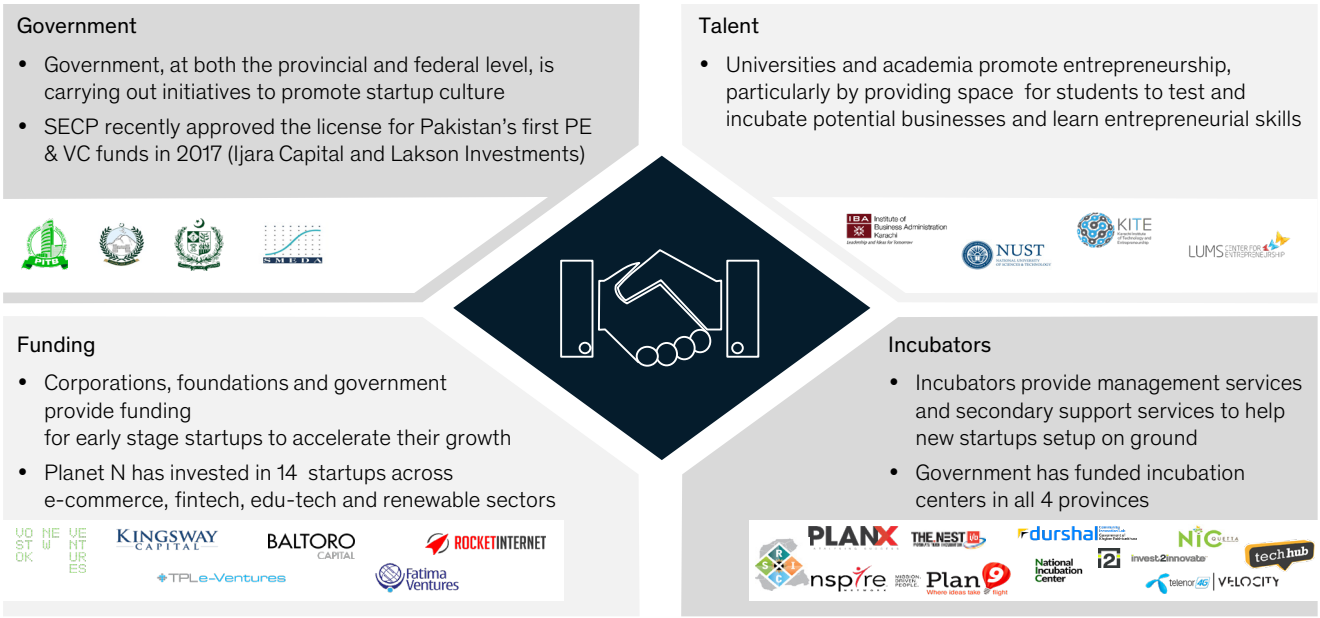
[17] Defined as set up in Pakistan with a Pakistani founder
[18] I2I Report on Pakistan
[19] TechJuice: "Lakson Investments granted first Venture Capital firm licence in Pakistan" [June 7, 2017]
[20] Pakistan Software Export Board

In addition, universities and academia have begun promoting entrepreneurial comportment among students in recent years. Although still budding, a few private sector universities such as LUMS, NUST, IBA and FAST lead the way, having introduced their students to entrepreneurship courses and incubators.

In recent years, there has been a significant increase in presence and investment from both international and local investors in Pakistan. Funding opportunities have been made available to startups with the right idea and the right team (Exhibit 4).

Exhibit 4

The Pakistan startup ecosystem is slowly maturing



SOURCE: i2i Ecosystem report 2016, Press search

However, Pakistan significantly lags peer countries

Growth in Pakistan, although promising, still lags peer countries. GEDI[21] ranks Pakistan at 122 out of 137 countries[22] – the second-lowest score in Asia-Pacific and well behind all countries in the Middle East and North Africa. For comparison, the UAE ranks 19th, with India at 69, Nigeria at 100, and Bangladesh at 133.

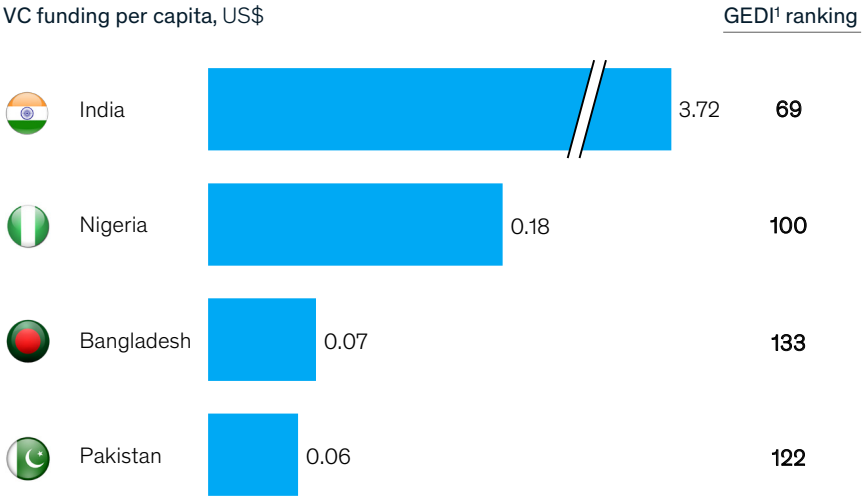
FFunding continues to be a major challenge – only nine Pakistani startups received VC funding in 2017 compared to 34 in Nigeria, 38 in the UAE and ~790 in India during the same period. To normalize these results, we looked at the VC funding per capita, shown in Exhibit 5. On average in the last three years, Pakistan has received ~6 cents per capita compared to ~18 cents in Nigeria which has only a marginally better GEDI ranking and at par with Bangladesh at ~7 cents per capita despite it having a lower GEDI ranking (Exhibit 5).

[21] Global Entrepreneurship Development Institute
[22] Global Entrepreneurship Index 2017

Exhibit 5

VC funding per capita in Pakistan vs. peers

Pakistan received ~6 cents per capita of VC funding between 2016-18



3x

more VC investment per capita in Nigeria vs. Pakistan per year between 2016-18

UAE has a significantly larger VC per capita of ~US$ 40

1 Global Entrepreneurship and Development Institute

SOURCE: Pitchbook, World Bank

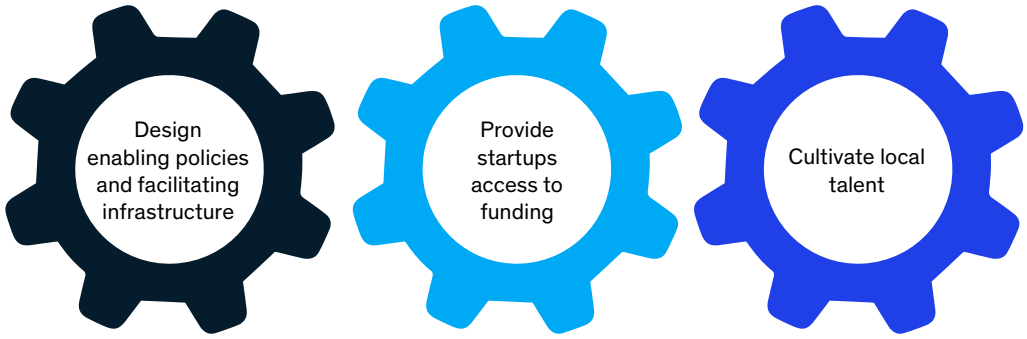

Internet Marketing Survey
web pages
Corporate sites
Internet users
pick up on address
Observation
Create website
use of internet
traditional survey
Internet consumer behaviour
WHO
WHAT
WHEN
WHERE
WHY
Home Broadband Penetration
35
30
25
20
10
5
0
June 08
Oct 08
Feb 10
May 12
Sep 14
TOOLS
EXTENSIVE INSIGHT EXPERTISE
PROPRIETY DATA
UNPARALLED COVERAGE OF INTERNATIONAL CONSUMER MARKETS
price analysis
Identify trends
Analysis report
Target
Marketing plans
SALES
PRICING
MARKETING
involves liason with all these functions...
RESEARCH + DEVELOPMENT
PUBLIC RELATIONS
EVENTS MANAGEMENT
Better Engagement
+
Better Insights
=
BETTER MARK
PERFORMANC
price analysis
Identity trends
target market analysis
Marketing plans
Domestic Competition
SWOT analysis report
Competitive analysis
Location Analysis report
50
40
30
20
10
0.0
1985
1990
YEAR
€4.07999
food
pensions
housing
14%
7%
27%
41%

3. The startup ecosystem can be unlocked using three levers

While Pakistan has the right intrinsic drivers to house high-valuation startups, the country needs dedicated effort to realize its full potential. In the short-to-medium term, Pakistan should adopt a three-pronged approach to develop the startup ecosystem: improve policies and regulation; provide access to funding; and develop talent to drive innovation. Across each lever, the government and the private sector must work together to support an economy that is ready to take off (Exhibit 6).

Exhibit 6

Three levers for growing the startup ecosystem



Design enabling policies and facilitating infrastructure

A quick glance at Pakistan's ease-of-doing-business ranking explains some of the issues facing startups – ranking at just 145 out of 190 countries in 2017[23]. Out of the 10 sub-constituents of ease of the index most relevant for entrepreneurs, it ranks the lowest in starting a business, paying taxes and enforcing contracts.

There are more than six steps involved in starting a business in Pakistan, covering at least four different government departments (SECP, federal tax body, provincial tax body, and provincial social security institution). The process can take anywhere between one and two months and deters most entrepreneurs from formalizing their business until much later. This in turn hinders their ability to access external funding, limiting early growth.

Moreover, being able to enforce contracts is important for investors and startups alike and the fact that the legal system has a backlog of 1.8 million cases[24] does not inspire confidence.

Although significant, these are problems that other countries have solved, and Pakistan can benefit from adopting tried and tested solutions. Typically, governments play two key roles: improving policies and investing in enabling infrastructure.

i. Improve policies and regulations

The World Bank's ease-of-doing-business ranking is used by governments the world over and there are various examples of countries using it as an indicator to track policy reform efforts. When it comes to creating an enabling environment for startups, the first steps are simplifying business registration and taxes.

[23] World Bank Ease of Doing Business Ranking
[24] Dawn article: "Over 1.8m cases pending in Pakistan's courts" [January 21, 2018]

Establishing “one stop shops” is one way to create transparency, simplify procedures, and help new startups save time and money. 83 economies worldwide have adopted this model and, in each of them, business registration has become at least twice as fast as in economies without such services[25]. This can also positively impact more businesses choosing to become formalized e.g., in Colombia, business registration increased by 5.2%, while in Portugal there were 17% more registrations following the introduction of a “one stop shop” (Exhibit 7).

Exhibit 7

Examples of countries improving doing business ranking

There are a host of case examples available to improve ranking on Starting a Business indicator

NOT EXHAUSTIVE

Improved credit information system

- Invested in IT systems to enable banks to transmit credit data electronically (2004)
- The credit bureau started to collect and distribute information from utility companies (2011)
- Distributed 2 years of historical information (2011)
- Introduced credit scoring service (2015)

Adjusted legal framework for secured transactions

- Granted borrowers the right to inspect their own credit report (2010)
- Required all loans to be reported to the credit bureau and the central bank’s credit registry (2010)
- Introduced provisions allowing a wider range of assets to be used as collateral (2009)
  - Introduced new collateral registry (2009)

Improved “getting credit” ranking from 159 in 2007 to 2 in 2016

Country	Action	Impact
	• 2008 Companies Act created a standard forms and made the use of lawyers optional	• Reduced the cost to start a business by 4% • Reduced the time by 7 days
	• 2011 Law eliminated the need to have articles of association notarized	• Reduced the cost to register a business by 21% • Reduced the time by 4 days
	• In 2013, allowed entrepreneurs to register certain types of legal entities online free of charge	• Reduced the time it takes to have company statutes registered by notaries from 2 days to 1
	• Made electronic registration compulsory (2008) • Allowed online publication of incorporation notices (2008)	• Reduced business start-up time by 6 days
	• “One stop shop” reduced procedures from 19 to 9 • Allowed electronic submission of documents	• Reduced cost from 28% of income per capita to 8% • Reduced the time from 60 days to 14
	• 2011/12 new public notaries were appointed in the city of Kinshasa, which previously had only one	• Cut the time required to get incorporation documents notarized in half

SOURCE: World Bank Group

ii. Invest in enabling infrastructure

Governments must invest in enabling infrastructure for startups. This could range from enabling digital payments to physically building a technology hub.

Rwanda invested in improving its credit bureau by collecting data from utility companies in 2011 and it improved its “getting credit” ranking from 159th in 2007 to 2nd by 2016[26].

Likewise, Nigeria is currently investing in a centralized data hub to support its credit bureau. Such measures allow small-to-medium-sized companies (SMEs) including startups better

[25] World Bank Doing Business Report 2012; Starting a Business
[26] World Bank Group

access to the credit they need to fuel growth[27]. Since this effort was launched in Nigeria, the ratio of non-performing loans dropped while the number of borrowers in the system has grown significantly (Exhibit 8).

Exhibit 8

Nigeria is investing in credit-related infrastructure

Nigeria is investing in credit-related infrastructure to improve access to credit and financial inclusion

CASE EXAMPLE

Situation	Approach
37m Micro, Small and Medium Enterprises (MSMEs) in Nigeria **1/3** of MSMEs have obtained a loan from a financial institution	• Developed a **National Collateral Registry** to enable the **use of moveable and reputational collateral** • The Registry is a **web-portal** that lenders can access and so far ~140 financial institutions have become members • As a result, more **MSMEs will gain access to credit** • Nigerian **Government launched the Credit Reporting Act, 2017** to provide a framework for credit reporting with the aim to: — facilitate and **promote access to credit** and enhance risk mgmt. in transactions; — promote access to **accurate, fair and reliable credit information** and to protect the privacy of such information; — encouraging **responsible borrowing,** and — facilitate **credit information sharing** • Central Bank of Nigeria **launched a country-wide awareness campaign with IFC** to: — Educate MSMEs about how to leverage the new Registry to obtain credit — Promote responsible lending and borrowing • Campaign generated ~100m views through interactive forums, advertisements, road-shows, capacity building trainings and social media outreach

SOURCE: World Bank website, The Credit Crunch Report by IFC, press search

India, on the other hand, adopted a slightly different approach. It launched a multi-year transformation to improve its postal services which had ~155,000 branches across the country, with ~90% in rural areas. Modernization of India Post led to a 13-fold increase in e-commerce transactions through the post within the first two years[28].

Provide startups access to funding

About 100 million adults in Pakistan don't have access to formal financial services, representing 5% of the unbanked population of the world[29]. This limits half the population of Pakistan from receiving and investing through formal and regulated channels.

Of the 3.2 million SMEs in Pakistan, only 188,000 SME loans[30] are outstanding on banks' books, highlighting a huge private sector financing gap not being met by the formal financial sector.

In our interviews with local startups, there is consensus that local funding organizations are more geared towards funding well-established, traditional businesses over startups, which are typically higher risk.

[27] World Bank and ProShare article: "All you need to know about credit bureaus in Nigeria"
[28] Digital India [http://digitalindia.gov.in/ebook/dop/page2.php]
[29] World Bank Findex Survey
[30] State Bank of Pakistan

Investors in Pakistan will play a key part in changing this and they can leverage six best practices to turbo-charge growth in the coming years.

> **"I have been involved with startups in Pakistan for the last 15 years in some capacity. The ecosystem in Pakistan is beginning to look exciting. We've been participating in the Asia ICT awards since 2003 and for the past 5-6 years Pakistani startups started featuring in the top three. We are also seeing regional investors from the Middle East and Southeast Asia taking a real interest in Pakistani startups now. Three of our startups have raised investment from the Oman Technology Fund just recently. I think the industry needs those first few breakthroughs; the shining stars who become global products, for us to really take off."**
>
> **Jehan Ara**
> President of P@SHA and The NestI/O

i. Establish fundamental guiding principles for investment

The key to cultivating a thriving pro-startup culture within Pakistan is to ensure the presence of sound guiding principles feeding into investment decisions. A strong thesis based on a well-constructed understanding of Pakistan's market would guide both investors and entrepreneurs to make the best decisions they can to achieve their goals. A comprehensive understanding of what can work and what doesn't work within this regional context would also serve to attract the right talent and investment.

Four principles can be channeled into creating fundamental investment guidelines: insight-driven, vertical-driven, asset/capability-driven and geographic driven (Exhibit 9).

Exhibit 9

Types of investment theses

Types of investment theses		Examples	
Insight-driven	VC believes they have an **insight on how the start-up space will evolve and where future value will be** created	USV	Union Square Ventures looks for network effects: "*Large networks of engaged users, differentiated through user experience, and defensible through network effects.*"
Vertical-driven	VC believes in the **growth of a specific vertical and therefore hires top investment minds in that vertical** specifically		Deep Space Ventures focuses on eSports: "*how big [eSports] market is… how early we are in the evolution of the market, how fast it is growing, and how intensely passionate the individuals who comprise this market are about playing, improving, and following the space.*"
Asset/ capability-driven	VC invests where it **can add disproportionate value from its own assets** or portfolio, or the start-up can add disproportionate value to the investor's portfolio. Typical of CVCs.	intel Capital	Intel Capital invests in start-ups driving core value: *"…focus on investing more money in fewer startups that are strategically aligned with the company's lines of business, moving away from chasing opportunities based solely on their financial returns.."*
Geo-graphic-driven	VC invests in a **geography it believes is under-invested in and holds much promise.** Typical of emerging market VCs	SAIF Partners	SAIF Partners focuses on India: "*The $350 million fund… was now focused only on the home country and its buzzing start-up ecosystem.*"

SOURCE: Deal Street Asia, Intel Capital, Deep Space Ventures, Union Square Ventures

ii. Capture and develop networks

The startup investment landscape reveals the power law distribution in practice: returns are concentrated in a select cadre of startups. Accordingly, top VCs build and share broad deal flow in Silicon Valley to increase their reach and minimize downside. Larger scale, top performing VC firms have significantly higher deal syndication than single-investor corporate venture capital (CVC) firms. Indeed, co-investing with other funds allows for a healthy pipeline of deals and minimizes the downside risk associated with the seed level, given that investments are diversified across a larger number of potentials hits (and misses). Investors across Pakistan and others interested in it need to adopt a similar approach, overcoming structural gaps in the current landscape by putting additional effort into maintaining a broad and diverse set of deal partners.

In addition, for investors, the benefits of networks extend beyond deal flow syndication. As generations of startups graduate from seed to revenue-generating growth ventures, they become active and passive assets within their networks. In leading global accelerator Y Combinator, for example, program graduates become mentors to later cohorts of aspiring founders.

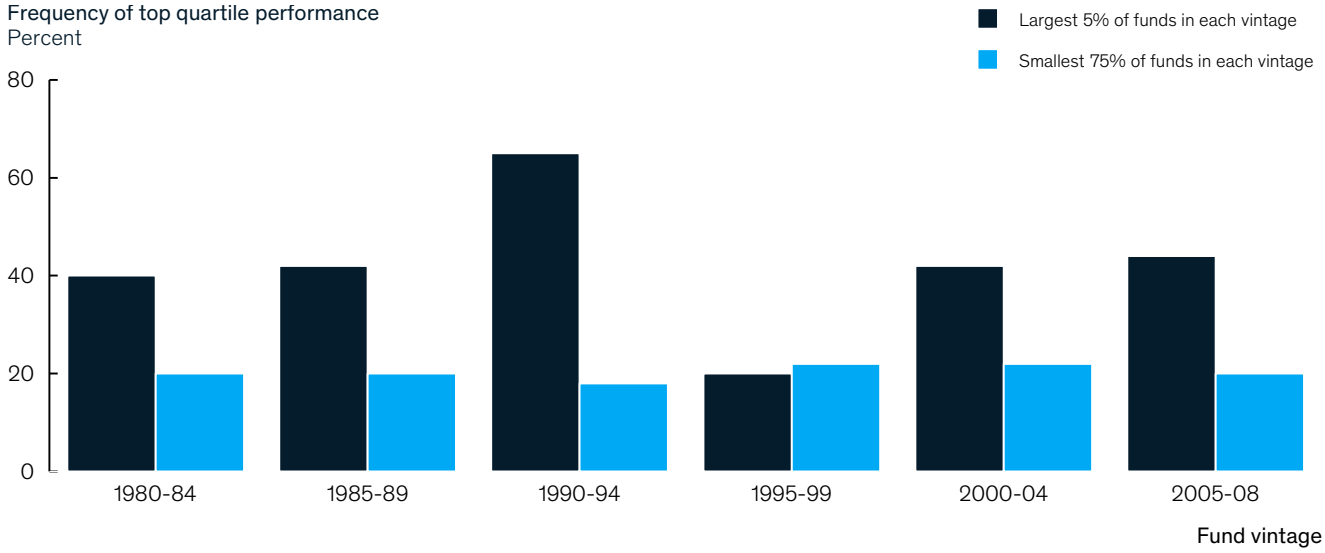
iii. Invest at scale

The concentration of capital managed by the 10 biggest US VC firms has doubled over the past decade. Large funds take advantage of economies of scale to acquire and retain better talent. Moreover, they are better able to form quality networks with strong links between GPs and entrepreneurs to boost quality deal-flow and exploit synergies within the portfolio or parent company.

This has consequently led to the largest funds generating top quartile performance relative to smaller funds. The top 5% are more than twice as likely to be top performers relative to the smallest 75% of funds (Exhibit 10).

Exhibit 10

Frequency of top quartile performance by fund size



SOURCE: ThompsonOne, Fortune, US NBER, Preqin

In Pakistan, local investors are relatively new entrants and have limited portfolios. To generate significant returns in the long run, they must invest at scale.

iv. Invest with a patient and programmatic growth mindset

Adjusting the typical investment horizon will require a shift in mindset in the country, especially for public investors and CVCs. Chinese investments have demonstrated that a patient, disciplined and programmatic investment strategy can create significant value in the medium-to-long term. Between 2011 and 2017, Chinese-backed deals increased with a CAGR of 24%. This required significant and highly-focused capital ($8 billion) invested by just four companies.

Growth without discipline can lead to bloated portfolios that lack focus and the ability to adapt rapidly to regional shifts such as technological advances and contextual changes. However, performance should be managed by setting and monitoring investment progress against specific KPIs that address strategic, operational and cultural issues without short-term earnings expectations set by traditional VC investors.

CVCs, especially, need to separate core business KPIs and earnings expectations from VC investments. Typically, corporates face annual and quarterly targets, whereas VC return horizons are much longer – often as long term as 8-12 years. In addition, the metrics used for startups (adoption, traction, etc.) contrast sharply from the usual financial metrics adopted by corporate investors. A substantial mindset shift is required for Pakistani corporates in managing the performance of their CVC and VC to maximize much longer investment horizons.

v. Secure investment independence in governance to win right talent

Getting governance right is critical and requires balancing two equally important objectives. Firstly, governance must ensure the independence of investors while aligning them with the cause. It must also maintain an investing body by allocating capital independently of the investors who contribute funds. The same applies to CVCs, where the overall objective may be linked to the parent firm's strategic aims. The day-to-day management, KPIs and earning expectations should differ significantly from traditional businesses.

VC talent is rare, and attracting it requires a different approach to talent acquisition, retention, and performance management/compensation methods. These may not automatically align with corporates' existing setups, so getting the governance right to attract the right talent requires a concerted effort. Pakistani investors must bear this in mind as they optimize to improve governance.

vi. Monitor value creation KPIs

From the onset of investments, VCs need to consider which KPIs to track, typically choosing financially-driven KPIs such as IRR or cash in simple terms. However, some theses-driven VCs should have a strategic KPI to facilitate investing in a particular type of startups, be it exposure to a certain sector or stage of funding (Exhibit 11).

Exhibit 11

KPIs for VCs and CVCs

Typical VC, CVC KPIs

	Financially-driven CVC & VC	Core-driven CVC
Financial	• Internal rate of return (IRR) • Cash on cash returns • Net asset value	• Internal rate of return (IRR) • Cash on cash returns • Post-acquisition ROE
Strategic	• Proportion of deals in line with sector/stage investment thesis	• Synergies (complementary products, services, market/segments access, operational improvement) • Network expansion (build and leverage partner network, start-up ecosystem) • Risk mitigation (industry diversification and strategic hedging vs. disruption)
Organizational	• N/A	• Knowledge (i.e., integrate technology and market knowledge into core) • Employee engagement (e.g., involvement in cross-unit activities) • Corporate innovation (e.g., new initiatives, product/features, R&D, etc.)

A CVC, on the other hand, may have additional KPIs linking its operations to its parent's strategic goals. CVCs may also want to track what potential future synergies can be generated e.g., knowledge creation from the startup being used in other business units.

“Having grown up in Karachi, I believe in the value Pakistan offers. I set up the operations for my startup in Pakistan in 2016 because it allows me to operate at a fraction of the costs compared to the UK and access qualified talent. There are various socio-cultural challenges e.g. parents often encourage their children to choose a role in a multinational company over a startup and it does take much longer to find the right people as basic structures like job portals are not as useful. However, once you do find the right team you can do wonders.”

Sana Shah
Startup founder from Pakistan

Cultivate local talent

Annually, Pakistan produces ~290,000 university graduates from its ~190 Higher Education Commission-recognized universities[31]. At the same time, its vocational training institutes annually qualify an additional ~315,000 people[32].

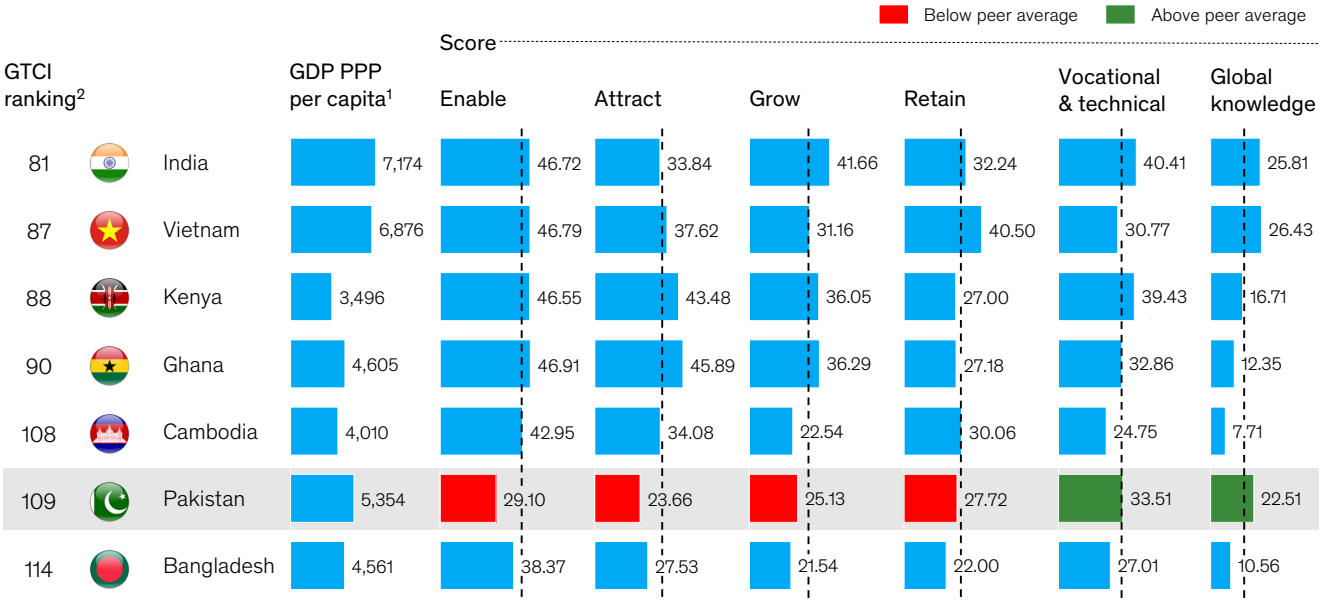
Pakistan ranks 109 out of 119 countries on the talent competitiveness index[33]. Compared to peers (selected based on proximity and/or similar GDP per capita based on purchasing power parity) it lags in four out of six competitiveness indicators; enable, attract, grow and retain (Exhibit 12).

[31] Higher Education Commission Pakistan Statistics [hec.gov.pk/english/universities/Pages/AJK/Graduates-16-years.aspx]
[32] Comparative Analysis of TVET sector in Pakistan, 2017
[33] e Global Talent Competitiveness Index 2018

Exhibit 12

Pakistan ranks 109 out of 120 countries in the talent competitiveness index

Pakistan lags peers in talent competitiveness



1 Reported by IMF ($, 2017)
2 INSEAD Global Talent Competitiveness Index (2018)
SOURCE: INSEAD GTCI 2018

Globally, we have seen three models leveraged to cultivate talent for startups: fostering talent through university networks; teaching basic digital skills through vocational institutes; and connecting expats with innovation in Pakistan.

i. Foster talent through university network

In more developed economies like the US and the UK, universities play an essential role in cultivating startup talent. For example, the University of California Berkeley provides startups with access to world-class research facilities and even invests up to US$100,000 in exchange for 5% equity. Others have incubation programs, like the UK's University of Oxford where successful startups have raised over US$40 million[34] to date. Private sector universities have taken the lead in building such programs but government universities, which produce the most graduates in Pakistan, still lag in this regard. As provincial governments begin to set up incubation centers (e.g., Durshal in Peshawar or NIC in Islamabad) they could link with government universities to support entrepreneurship among students (Exhibit 13).

[34] University of Oxford website

Exhibit 13

Approach to developing talent

Models to develop entrepreneurship amongst youth

Potential options	Description	Global examples
Foster talent through university incubators	• Share **knowledge and resources** with startups that are successfully admitted to university incubator programs • **Connect startups with mentors,** e.g. academics • **Build an entrepreneurial culture** amongst students	• Offers **12 week incubation** programs • Provides access to **mentors and technical resources** • Provides access to **world class research facilities** • Invests **$100k in exchange for 5% equity** • Offers **incubation programs** • Successful start ups **have attracted over ~$40m**
Facilitate talent through programming boot camps	• **Set up boot camps** to provide **technical training** • Partner **with vocational training centers** and **global institutions** such as Google, Microsoft, etc.	• Provides **programming training** • Leverages resources **from Google, Hacks/Hackers,** etc. • Provides **programming and soft skills training** free of cost • Facilitates underrepresented high schoolers
Bring foreign talent home	• **Provide financial incentives** to foreign talent (e.g., work with FBR to provide tax breaks) • **Improve working environment** of public and private institutions	• Provides **financial incentives and easy settlement** to foreign talent through their **Thousand Talent plan** • Provides **academic funding** to attract foreign researchers through their **Ramanujan Fellowship scheme, INSPIRE faculty scheme,** etc.

SOURCE: Press search and company websites

ii. Teach basic digital skills through vocational institutes

According to recent reports, ~315,000 students are enrolled in technical training institutes in Pakistan[35] annually. Although most of the courses are focused on blue collar jobs, there are a few advanced courses like basic computer usage, CAD and web design on offer. These channels can be used to impart startup-relevant skills such as coding, search engine optimization, etc. We have seen a large-scale example of this in the form World Bank-led boot camps or the recent Africa Code Week where ~1.3 million young participants learned digital skills[36]. Getting access to learning materials is easier than ever through free-to-use resources such MIT online library, Codecademy or Udemy. With these tools, local technical institutes can lead the charge to impart digital skills to Pakistan's burgeoning youth.

[35] Comparative Analysis of TVET sector in Pakistan, 2017
[36] Africa Code Week [https://africacodeweek.org/media/acw-media]

iii. Connect expats with innovation in Pakistan

Emerging economies like India and China have often turned to their diasporas abroad for talent. China launched the "Thousand Talent Plan" to attract qualified professors to relocate. According to the latest statistics from the Ministry of Overseas Pakistanis there are ~5 million Pakistanis[37] living in four countries: Saudi Arabia, the UK, the UAE and the US. While the majority of these are low-skilled workers, there is potential to engage with technically skilled overseas Pakistanis. At the very least, there is scope to engage industry experts as mentors for the budding startup ecosystem through more formal channels.

[37] Express Tribune article: "2.43 million Pakistanis working in Europe" [April 24, 2017]

4. Conclusion

Pakistan is a densely populated country with a consumption-led economy and the right intrinsic drivers to attract startups. It has a burgeoning middle class and a young population that is rapidly becoming digital-savvy. The startup ecosystem is still nascent compared to peer countries but is starting to show signs of emergence.

For Pakistan to fulfil its potential a collaboration between its government and the private sector is needed. The former can nurture an environment that facilitates the growth of startups at seed level while the latter should be looking to create value through funding. Together they can foster the kind of talent needed to engage the digital revolution in a country that is ready to take off.

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