P@SHA

Pakistan Software Houses Association

PAKISTAN SOFTWARE/BPO INDUSTRY

EXECUTIVE SUMMARY

2008 STATE OF THE INDUSTRY REPORT

PAKISTAN SOFTWARE HOUSES ASSOCIATION (P@SHA)

The Pakistan Software Houses Association (P@SHA) was founded in 1992 by nine software houses. Today its membership includes more than 370 of the country's largest software and BPO companies. P@SHA's main objective is to promote and develop the software and services industry in Pakistan and to protect the rights of its members. It has been an active advocacy platform to represent the needs of the country's software industry to the government and the projection of the potential of its member companies at international forums, especially in the region such as South Asia, Middle East, and Asia Pacific. With the enormous growth in the software and services industry in Pakistan, P@SHA and its member companies are playing an important role in making their presence felt, both nationally and internationally.

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MIXIT

Mixit is a leading provider of advanced and straight-through-processing trading technology and FIX connectivity to the international financial services industry. Mixit's integrated suite of products allows firms to trade and communicate with each other and with equities and options destinations across USA, including NYSE, NASD, and CBOE. Mixit's Order Routing Network in USA provides connectivity between financial institutions, equity and options exchanges, ECNs, Algorithmic destinations, major routing networks, and clearing firms. Mixit's expertise in advanced trading, neutrality and commitment to the highest levels of service provides the foundations for its customers to prosper. Mixit has offices in New York, Dubai, and Karachi.

Systems Limited

Systems Limited was established as the first software house and computer services bureau in Pakistan, in 1977. During the last 30 years, Systems Limited has remained on the centre stage of information technology, providing effective computing strategies and solutions to business and government and playing a major role in some of the largest IT projects in the country. Internationally the company operates as Visionet Systems Inc., and has established itself as a key player in critical areas of focus in the United States, providing services and products to a growing list of corporate clients that features several names from the "Fortune 500". Systems Limited's forte is customized software development, re-engineering of business processes and legacy applications, 24/7 business process outsourcing services and character animation.

alchemy
Actuaries. Analysts.

Alchemy is an award winning risk management and actuarial practice working with financial institutions in Pakistan, Far East and Middle East. From Basel II to Enterprise risk, from life insurance to health care, Alchemy creates value by working with nontraditional, cutting edge solutions at the intersection of computational finance, computer science, and actuarial modeling. With more than 100% year on year growth over five years , international expansion, and its laser sharp focus, Alchemy not only offers excellent value for its clients but has become the employer of choice for risk talent in Pakistan.

CIPE

The Center for International Private Enterprise is a non-profit affiliate of the U.S. Chamber of Commerce and one of the four core institutes of the National Endowment for Democracy. CIPE has supported more than 1,000 local initiatives in over 100 developing countries, involving the private sector in policy advocacy and institutional reform, improving governance, and building understanding of market-based democratic systems. CIPE provides management assistance, practical experience, and financial support to local organizations to strengthen their capacity to implement democratic and economic reforms. CIPE programs are also supported through the United States Agency for International Development.

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PAKISTAN IT & ITES INDUSTRY- AN EXECUTIVE SUMMARY

- A TRANSFORMED INDUSTRY

The Pakistani IT & ITES industry today has an impressive story to tell. Much like the successful startup that one would have not heard of a few years ago but all of a sudden it is the talk of the town. And then you would wonder: why didn't I see that coming?

$2 Billion

ESTIMATED SIZE OF THE IT INDUSTRY TODAY

From its nascent beginnings in the late 1980s, the industry has successfully arrived to a point where its value proposition has been validated over and over again. The largest members are grossing 15-25 million dollars in revenues, and receiving 100 million dollar valuations. Most tech companies are growing in excess of 30% a year annually. The industry as a whole is doing over 2 billion dollars a year in revenue, up from less than a billion dollars a few years ago.

39% Growth

IN SOFTWARE & SERVICES SECTOR FOR 2007 - 08

About half of this growth is coming from foreign, software and high end services projects. IBM, Cisco and Microsoft are expanding Pakistan operations aggressively while several startups are now backed by VCs such as ePlanet Ventures, Motorola, Adobe and Innovacom[1].

FROM

41% GROWTH

IN EMPLOYMENT OF PROFESSIONALS

Current growth rates indicate that the industry will exceed the 11 Billion USD mark within the next 5 years. What other sectors and countries have achieved in 15-20 years, Pakistan's technology scene is poised to achieve in less than a decade.

Putting it all together, the Pakistani Technology industry is very different from what it was in the early 1990's. From 4 founding companies in 1994, PASHA's current membership exceeds 370. From 4,200 employees in 2004, current employment is at 12,000 and rising.

Fast becoming a hub of high performance business, the questions now asked are if growth this year will be 28% or 50%, if there will be enough skilled HR to staff demand, if there will be enough office space available next year.

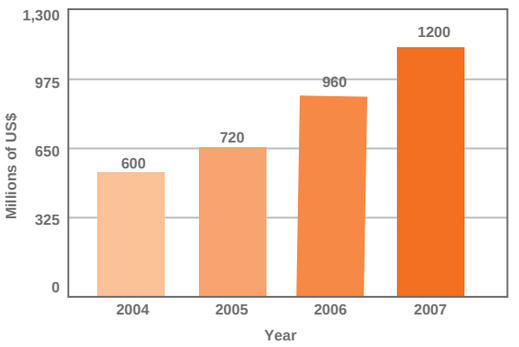
[1] Innovacom was also an early investor in Business Objects which was acquired by SAP for US$ 6.8 billion.

THE INDUSTRY AT A GLANCE

Software / BPO Companies in Pakistan

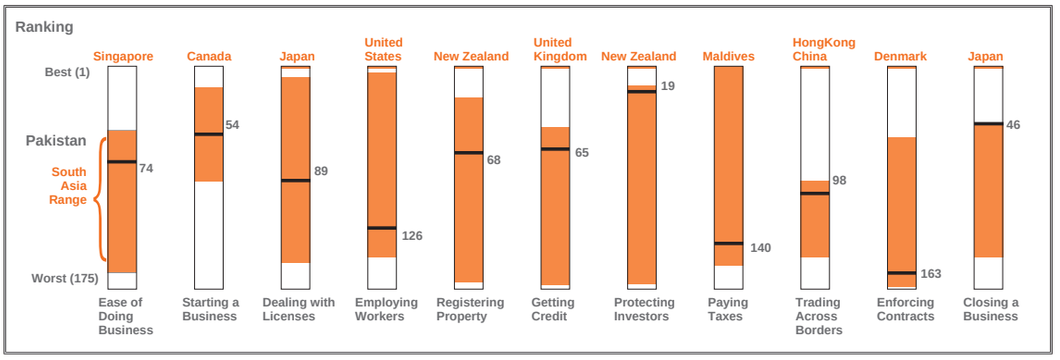
Est. Total No. of Companies	**500+**
No. of P@SHA Members	370+
Companies Surveyed	85
Foreign Subsidiaries	32%
Firm with Front Offices Abroad	54%
ISO Certified Companies	46%
CMM/CMMI Certified Companies	14%
CMM - Level 5 Companies	2
Domestic:Export Breakdown	52:48

Software/BPO Revenues

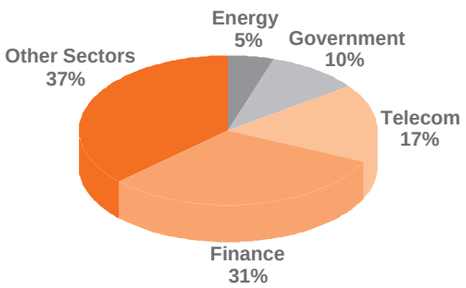


Country Profile

PAKISTAN Ranks 2nd overall in South Asia, in the upper half of countries globally



Pakistan IT Sector Customers

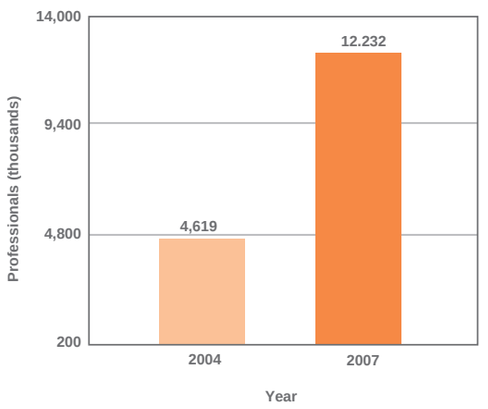


Growth in Company Size & Maturity

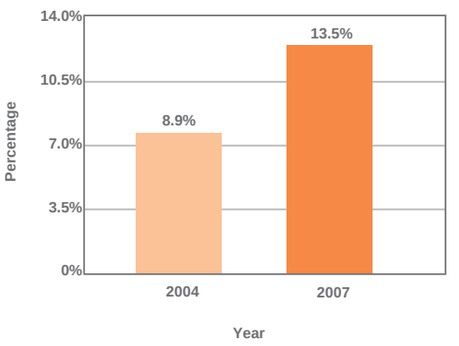
Revenue Category	2004	2007
Less than $ 50K	24	6
$51 – 100K	16	7
$101 – 500K	19	26
$501K – 1 Million	8	15
$1M – 5 Million	13	17
$5M – 10 Million	3	6
$ 10 Million and above	0	13

THE INDUSTRY AT A GLANCE

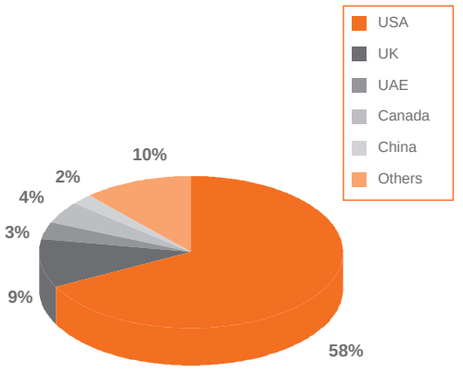
Employment Growth (Full Time)



Women in the Workforce



Largest Export Markets



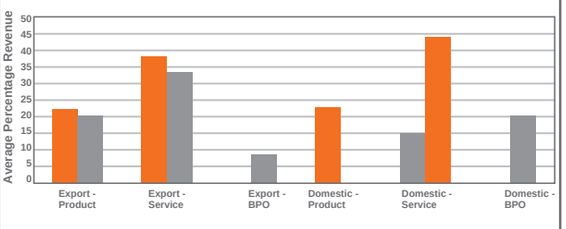
Employee Growth Summary

	2004	2007
Average per Company	81	214
Average Length of Employment	2.6 yrs	2.9 yrs
Foreign Qualified Employees		20%
Number of QA Professionals	333	771
Employment Growth (2006-7)		27%
Employment Growth (2007-8)		**41%**

Startup Watchlist

iScrybe.com
Paktranslations.com
Pixsense
MobileComplete
Amaana
Sofizar
Orgoo
Krasys
Alchemy
Naseeb Networks
Innov8

Destination-Offering Mix



Destination - Offering Mix

PAKISTAN: KEY METRICS & INDICATORS

In 2007, Gartner released a report titled, “Analysis of Pakistan as an Offshore Service Location” which placed the country in the First Category destinations and also acknowledged Pakistan’s labour costs to be 30% lower than India’s, with Telecom costs the lowest of any outsourcing destination.

The same year a World Bank report on ease of doing business ranked Pakistan at number 2 in South Asia and at number 74 globally in a group of 159 countries.

Besides telecom and lower costs for highly skilled HR, there are some key competitive advantages that Pakistan enjoys which has put it on the fast track as an upcoming global destination for technology product and services.

To its global clientele, the industry offers a vast and growing skilled English speaking population, an impressive HR development program, a conducive policy environment, 100 percent ownership of equity and repatriation of the foreign investors’ profits as well as tax exemption on these investments and exported software until 2016. The cost of setting up and doing a business is relatively low, lower than China and India.

The country is also investing heavily in creating human resource to meet the needs of the future and has one of the world’s most ambitious programs to invest in higher education. (30,000 private sector university graduates, 150,000 total university graduates a year).

From a macroeconomic perspective, the country has shown solid fundamentals in the last five years with strong GDP growth averaging more than 6% per annum. The Karachi Stock Exchange with more than 600 listed securities and an active trading history, boasts the lowest listing costs in the region.

Attracted by the country’s strong economic sectors and demographic fundamentals, a number of multinationals, venture capitalists and angel investors have been attracted to the country. A multinational angels network with roots in Boston and Karachi has been launched and a number of venture funded cross border transactions realized.

Direct foreign investment is booming. Companies like Etisalat – the state-owned Telecom provider of the UAE and one of the leading brands in the Middle East, acquired a majority stake in the country’s largest telecom provider, PTCL for $2.6 billion in 2007. Other companies entering or expanding in Pakistan include Orascom of Egypt, OmanTel, Telenor of Norway, Cisco, Dell and China Telecom, Bank Nomura, Barclays, Standard Chartered Bank, IBM, Oracle, SAP, HP, Microsoft, NCR and Terrada.

THE INDUSTRY TODAY

In 2006, the 85 companies surveyed for this study recorded a global revenue impact of $716 million. That figure grew to about $909 million in 2007 – a growth rate of over 15%. **This puts the estimated overall global revenue impact of the entire industry at well over $1 billion mark.**

In 2006-2007, these 85 companies also recorded domestic revenues of $269 million. **This was a 39% increase from $193 million in 2006, showing an even stronger demand for IT products and services locally.**

This increase points to an important, fast growing trend. As domestic customers demand for higher quality software and services increases, several companies that previously focused on foreign-only clientele now look to addressing these needs and treat this opportunity as a significant revenue source.

In terms of products and service offerings, as many as 68% of companies describe themselves as IT-services companies, about 40% as IT consulting companies, and around 27% as business process outsourcing companies.

EMERGING TRENDS IN THE INDUSTRY

As the industry evolves, market forces and customer demands have shown similar patterns emerge amongst players. Expect these trends to enforce over the next year as the shift to the domestic market gathers pace as customers in Pakistan demand a greater number of services ranging from Software, BPO, ERPs and Data centers.

TREND # 1: RESPONDING TO DOMESTIC DEMANDS

Driven by domestic demand for IT product and services, the mix of domestic and export revenues have grown from 40:60% in 2004-5 to 52:48% in 2007.

TREND # 2: BEST OF BREED SYSTEMS INTEGRATORS

A number of companies have jumped into the Systems Integration business using well-established platforms to deliver client value. These companies are well funded, have drawn back Pakistanis from abroad, and built up strong infrastructures and expertise in key enterprise areas such as ERP, BI, Storage, Networks and Hardware, and are comparable to the IBMs and Accentures of the world. They compete regularly against multinational SI firms for some of the largest domestic contracts each year. With domestic customers demanding standard enterprise solutions instead of the “lets build our own ERP” approach, these companies are revving up for even greater demand of their services.

TREND # 3: THE EMERGENCE OF A STARTUP ECO-SYSTEM

The importance of domain epertise, intellectual property and idea content in new start-ups has increased. A number of innovative, product based and web 2.0 start-ups is on the rise. Supported by senior entrepreneurs, mentors, angel investors and Barcamp style events such as P@SHA’s Startup Insiders, more graduates are looking for funding and launching start-ups as opposed to joining the workforce as employees. The MIT sponsored MITCEF business acceleration plan, TIE, and TAN (Technology Angels Network) have also helped in taking startups to the next level.

TREND # 4: INNOVATIVE BUSINESS MODELS FOR EXPORT SUCCESS

The industry’s love affair with India-obsessed low cost all purpose custom software house business model is over. Led by TRG, Techlogix, Sofizar, Pixsense and NetSol, the industry has begun using innovative business models to build ‘unfair’ advantage, high end skills and products for foreign clientele.

2

BREAKING THROUGH

- AN INTRODUCTION TO PAKISTAN'S SOFTWARE/BPO INDUSTRY

"It has taken India at least a couple of decades and a lot of good luck before they could reach a point were they stand today. We have only sown the seed of an industry that I am hopeful would become strong one day. What we have been able to do over the last decade is to put in place the basic organizational and infrastructural paraphernalia on which we can build a strong industry. I am positive that the next few years would see us doing much better as individual firms and as an industry"

CEO of one of the leading software/BPO firms in Pakistan
(Source: PSEB Best Practices Study: Osama, 2005)

Three years ago, one of the industry's leading CEOs made an almost prophetic prediction. Over the last several years, Pakistan's software / BPO industry has grown considerably from its humble beginnings in the mid-to-late 1990s when it began its transformation from a small collection of IT firms into an industry. The last few years have been unambiguously fruitful for the many of the country's leading firms and the industry as a whole. Not only has the industry matured over the last few years, several of the country's largest companies seem to be in the process of transforming themselves from entrepreneurial ventures succeeding on the basis of one or two lucky breaks capitalized upon by the personal heroics of the company's founders to diversified, well-managed, professionalized institutions that can achieve high and stable revenue growth year after year and deliver a consistent product or service to their domestic or international clients.

Alongside these industry leaders that appear to be breaking from the rest of the pack as they establish their competitive standing in both domestic and international markets, a large number of mid-sized companies with a unique idea or a product-service for a niche market have also appeared emerged. These companies add considerable depth and diversity to the industry. Finally, recent years have also seen a growth in the number of product- and ideas-based startups and entrepreneurial ventures - firms that have thus far remained below the radar screen but - that form an integral part of the overall mix that gives the industry its both its vitality and stability.

In addition, as the companies have grown in size, number, and diversity, several other elements of the overall innovation ecosystem have also begun to take shape. These include industry associations, non-profits and leadership groups of various kinds, entrepreneurial development programs, incubation support programs, and CEO roundtables etc. The industry today is being reported upon by a series of traditional and non-traditional media outlets, including a number of blogs dedicated to industry news and gossip, and boasts its own virtual coffee place.

The informal yet dense set of relationships and networks that have played an instrumental role in creating and sustaining other geographical clusters around the world (e.g. Silicon Valley, and increasingly Bangalore) have now begun to take root in the Pakistani software / BPO industry as well. There has also been a gradual increase in the level and maturity of the support infrastructure (e.g. media and PR firms, law-firms, accounting firms, HR advisories, investment banks etc.) necessary for the creation of a successful industry - infrastructure that was thus far either inadequate or largely absent.

In short, the last few years have seen Pakistan's software / BPO industry coming into its own. It is an industry that, given a fortunate set of geopolitical circumstances and certain prudent and focused policy choices, is capable of achieving some major breakthroughs in the years to come. In the words of the CEO of one of the industry's leading firms:

"The question now is not whether Pakistan can create successful software / IT companies that could distinguish themselves against their competitors in international and domestic markets. We already have created several of these companies that, in due course, will grow in revenues, size, and their service offerings, but whether or not we are capable of creating truly global companies. The latter depends on our ability to solve some of the issues that have thus far escaped resolution"

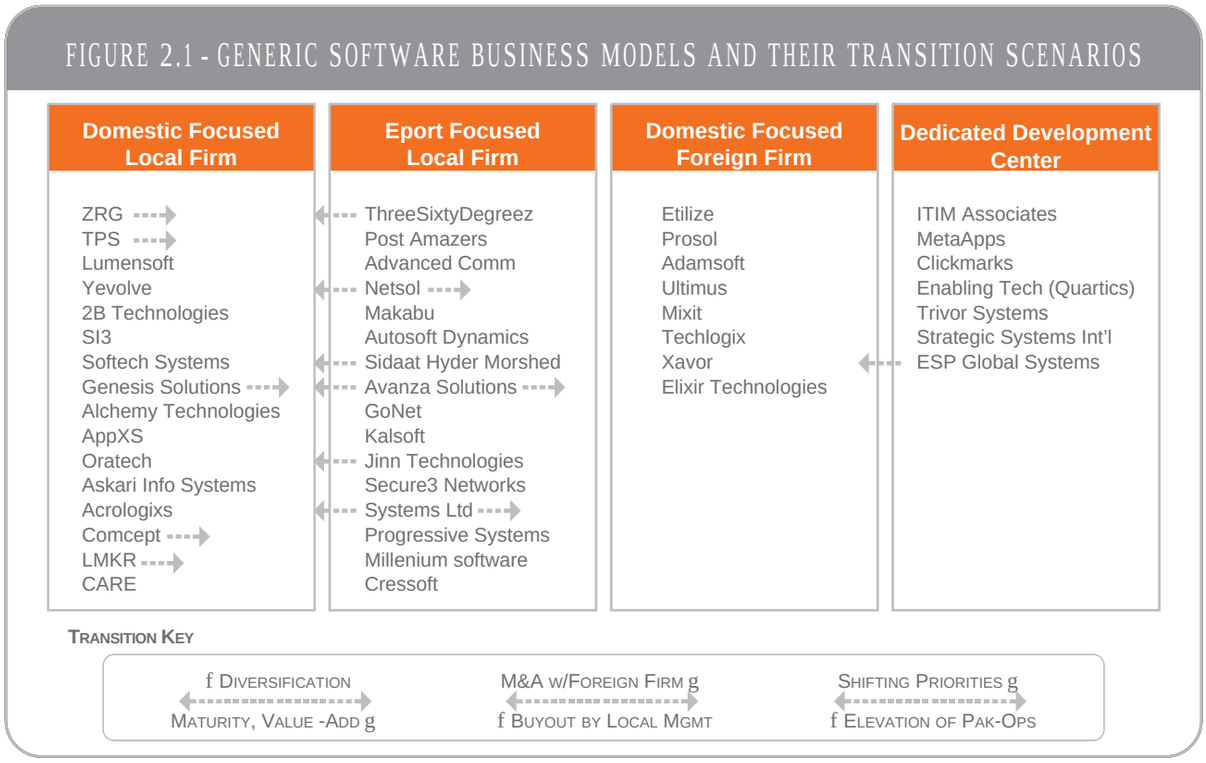
Creating a number of truly global companies is a feat that only very few countries in the world have been able to achieve in the software / BPO arena and would be a worthy goal to aspire for. With over a decade of hard work behind it, the industry is, in many ways, organizationally capable to deliver on that aspiration.

2.1 Pakistan's Software/BPO Industry: Then and Now

The same could not have been said about the industry three years ago. In 2004-5, the Pakistan Software Export Board (PSEB) funded a study to look at the strategic challenges and best practices within the Pakistani software industry. This was the first study of its kind that systematically analyzed the organizational characteristics of the relatively more successful firms with the rest of the industry and attempted to highlight strategic and organizational challenges faced by the Pakistani software firm.

Then, the software / BPO industry was still quite fragmented and the future direction of the industry somewhat uncertain. Examples of successful repeatable revenue and employment growth over a sustained period of time were few and far between. Indeed, the industry seemed to suffer from what was then described as the "200-people barrier" whereby a vast majority of the companies growing to that size either seemed to lose focus and momentum or simply disintegrate in the face of organizational dysfunction. One of the key findings of the study was that strategic challenges (and hence best practices) could not be generalized to entire industry. It identified a set of four generic business models that incorporated a vast majority of companies in the industry and highlighted the fact that the strategic challenges that inhibit growth or make/break a company are, in most instances, a function of which generic business model it fits in.

FIGURE 2.1 - GENERIC SOFTWARE BUSINESS MODELS AND THEIR TRANSITION SCENARIOS



One of the key insights of this way of looking at the software industry, the report noted, was that:

> *"Understanding the model limitations is critical to the long-term growth of firms and the industry as a whole. Depending upon the circumstances and the goals and aspirations of the founders, many firms - trapped in the structural limitations of a particular business model - may try to outgrow it by doing more of the same. This, they ultimately find out is the fruitless approach. This taxonomy is an attempt to drive home the fact that, when in a situation like that, one must think "out-of-the-box" and change the structure rather than fight it."*

This called for a specific kind of “business model innovation” to get around the constraints being imposed on the growth and development of the companies in question. Over the intervening three years, the industry has responded precisely as challenged.

First, realizing limitations of their particular business models, companies have evolved in a manner that best aligns their external environment, competitive landscapes, strategic postures, and organizational assets. A shift towards domestic market or move to open a front-office or an alternate development location abroad is an example of such a response.

Second, a number of companies have also begun to reinvent (or innovate their way out of the limitations of) their business models (i.e. business model innovation). Before this report delves deeper into where Pakistan’s software/BPO industry stands today and how it has evolved over the last three years, it would be worthwhile to briefly review the opportunity that the industry is attempting to target.

TEXT BOX 2.1
SALIENT CHARACTERISTICS OF GENERIC SOFTWARE BUSINESS MODELS IN PAKISTAN (2004-5)

The Export - Focused Local Firm is one founded by a predominantly Pakistan-based entrepreneurial team (that may or may not have been aided/encouraged by a group of expatriates), but with an explicit purpose of exporting software products or services. Majority of the firms established in pre-DotCom Bubble burst era with an expressed purpose of exporting services to North America and Western European countries fall in this category. Although there are some that have taken the products route, their numbers are relatively smaller than those focusing on export of services. The most defining feature of this class of companies, namely, the local-presence of their founders and the export-orientation of their products/ services, brings a number of unique and important challenges to this type of a firm. We discuss three of these in great detail and allude to several others. The ones we discuss in depth include: customer acquisition in a foreign market, setting up a foreign marketing presence, and understanding the domain and context of a foreign customer. Some salient examples of this type of business model in action are: ThreesixtyDegreez, Post Amazers, Advanced Communications, Makabu, Netsol, and Autosoft Dynamics etc.

The Domestic - Focused Local Firm, with an exception of a few companies, is really one because of circumstances rather than choice. More often than not, and logically so, the domestic-focused local firm plans to export its products or services abroad and is merely using the domestic market as a vehicle to gain a track record with real life customers. Whether a firm is in this category by choice (“I’ll do domestic first, export later”) or by circumstances (“Since the export market doesn’t seem very good right now, I’ll survive by selling at home”) the strategic challenges are quite similar. We discuss three of these in some detail. These include: operating in an under-developed local market, getting access to capital, and having a business plan and a strategic/domain focus. Other challenges alluded to include: migrating from the domestic to the export market, developing relationships, delivering quality products/services, and even marketing abroad. Some salient examples of this type of business model in action are: 2B Technologies, ZRG, TPS, Lumensoft, Yevolve, SI3, Softech Systems, AppXS, and Genesis Solutions etc.

The Export - Focused Foreign Firm is one founded abroad (or jointly, in Pakistan), by a predominantly foreign (usually, an expatriate) entrepreneurial team, with an explicit purpose of using the Pakistan-based offshore development facility to deliver a product or service demanded by the foreign market. This type of business model has been adopted by services and product-focused companies alike. While this class of companies enjoys several advantages over those in earlier discussed categories, namely, quality of due-diligence on the basic idea, foreign contacts/networks of founders, and better access to capital etc., there are significant challenges as well. We discuss four of these challenges in some detail and identify a number of managerial best practices followed by some of the interviewees. These challenges include: dealing with the “image” problem, countering the geographically shifting “labor arbitrage” argument, scaling up the Pakistan-based operation, and getting to know the land and managing expectations etc. Some salient examples of this type of business model in action are: Elixir, Etilize, Ultimus, Mixit, TechLogix, Prosol, and Xavor etc.

The Dedicated Offshore Development Center, as the name suggests, is a fairly limited offshore operation of a foreign company. It is different from the Export-Focused Foreign (Expatriate) Firm in the sense that it is often an “add-on” to an already existing company whose strategic and managerial processes and controls are quite well-established. Due to its unique nature (i.e. limited scope) it faces a number of challenges that are distinct from the earlier-discussed category. We discuss three key challenges faced by organizations in this business model and identify innovative best practices to counter these. These include: managing the parent-subsidiary relationship, setting up an offshore facility in Pakistan, and building a quality software development operation. Some salient examples of this type of business model in action are: MetaApps, ITIM Associates, Clickmarks, Trivor Systems, and Strategic Systems International etc.

2.2 The Opportunity: Pakistan and the Global IT Industry

BearingPoint's 2006 study on a BPO Strategy for Pakistan puts the global IT/ITES/BPO industry at about US $ 1.045 trillion. Approximately US $ 280 billion of this is potentially outsourceable to offshore locations, including US $ 160 billion in IT services and Software and US $ 120 billion in BPO (40-50% of which is call-centers). Of this potentially outsourceable figure, only 3.8% (or $40 billion) was actually being outsourced in 2006. India is reportedly the leading player of the IT/ITES/BPO outsourcing market that captures between 40-50% of the total global outsourcing spend. There is, therefore, a tremendous opportunity not only for the individual countries to increase their shares of the overall outsourcing pie but also for the industry as a whole to grow the potentially outsourceable IT spend.

Major industry advisory and consulting and analysis firms such as Forrester, Accenture, and BearingPoint project high growth rates over the next 5 years, more so in BPO than in IT products and services. Other analysts, such as the Morrison - Forrester's Global Sourcing Group, predict increase in "right sourcing" and multi-sourcing arrangements whereby companies would take a deeper look at their outsourcing spend and attempt to find the best outsourcing-offshoring vendor to deliver that. This will reduce the incidence of "mega deals" and open up avenues for competition for smaller - though well-managed - companies.

While India has been the undisputed market leader dominating the outsourcing - offshoring market, its dominance is slowly being eroded by a few late comers like China, Russia, Ukraine, and other countries of the Eastern Europe. This will continue to happen in the foreseeable future and while India's dominance is far from being threatened, the

FIGURE 2.2 GLOBAL OPPORTUNITY IN SOFTWARE & ITES/BPO OUTSOURCING
(Source: Bearing Point, 2006)

	IT Professional Services (values in US Billion Dollars)	Total Spending Value		Outsourcable Value		Actually Offshored Value	
1	**IT Services and Software**	597.1	57.1%	160.4	26.9%	27.9%	4.7%
A	Software Products	197.3	18.9%	53	26.9%	9.2%	4.7%
B	IT Services	399.8	38.3%	107.4	26.9%	18.7%	4.7%
2	**BPO**	477.8	42.9%	120.4	26.9%	11.7%	2.6%
A	Human Resources	10.8	1.0%	5.4	50.0%	0.52%	4.9%
B	Procurement	1.7	0.2%	0.3	17.6%	0.03%	1.7%
C	Finance and Accounting	15.1	1.4%	12.1	80.1%	1.176	7.8%
D	Customer Care	44.9	4.3%	35.9	80.0%	3.489	7.8%
E	Logistics	182.4	17.5%	27.4	15.0%	2.663	1.5%
F	Engineering R&D	12.5	1.2%	7.5	60.0%	0.729	5.8%
G	Sales and Marketing	147.2	14.1%	29.4	20.0%	2.857	1.9%
H	Facility Operation and Management	29.6	2.8%	0.6	2.0%	0.058	0.2%
I	Trainings	3.6	0.3%	1.8	50.0%	0.175	4.9%
	Total	**1,044.9**	**100.0%**	**280.8**	**26.9%**	**39.6**	**3.8%**

FIGURE 2.3 THE LOST DECADE - A COMPARISON OF INDIA AND PAKISTAN'S POLITICAL ECONOMY*

India's Political-Economic Evolution over Time

Post - Independence	Rao Govt Reforms	United Front Govt	BJP Govt
1947 - 1991	1991 - 1995	1996 - 1998	1998 - 1999
Import Substitution	**Capital Market Reforms**	**Reforms Initiated**	**Continuing Reform**
■ Public control of key sectors ■ Planning commission created ■ Administered prices for commodities ■ Capacity controls ■ Reservation for small-scale sector ■ Nationalization of financial sector ■ Foreign exchange control ■ High taxation (marginal rate = 90%)	■ New takeover code ■ 100% stakes allowed for foreign investors ■ Deregulation of financial institutions ■ Corporate and personal tax rates lowered ■ India signatory to WTO ■ Review of Company and bankruptcy acts	■ IMF program established ■ Reduction of budget deficit ■ Tariffs lowered and simplified ■ Currency fully convertible for current account ■ Automatic approval for foreign stakes upto 51% ■ Capacity controls abolished ■ Privatization program initiated	■ FDI encouraged ■ NRI incentives ■ Privatization mandate accelerated ■ Share buybacks allowed ■ Insurance reform proposed ■ Patent law enacted ■ New telecom policy
Avg. GDP Growth			
4.0%	5.5%	5.0%	6.5%

Pakistan's Political - Economic Evolution over Time

Post - Independence	Experiments with Democracy	Musharraf Government	Post 9/11 "New Pakistan"
1947 - 1988	1988 - 1999	1999 - 2001	2001
Hodgepodge of Policy Regimes	**Reforms Initiated**	**Comprehensive Economic Reforms**	**Blessing in Disguise**
■ Political instability since Independence ■ National Planning infrastructure created ■ Nationalizaion of Industry and Banks ■ Substantial GDP growth in 1960s, 80s	■ Political instability ■ De-nationalization and privatization ■ FDI in Oil/Gas and Power Sectors ■ Capital market reforms ■ Investor friendly policies ■ Stock market boom/bust ■ Currency convertibility and contols(1999) ■ Privatization program initiated	■ Macro-stabilization ■ IT/SMEs among key thrusts of Govt. policy ■ Taxation, Regulatory, Governance Reforms ■ Favorable Investment policies ■ 5000% increase in S&T budgetary allocation ■ Massive investment in Telecommunications and IT Infrastructure	■ Return of Expatriates and Capital ■ 20-fold increase in Forex Reserves ■ Exports cross $11 billion mark ■ KSE as one of the fastest growing stock markets in the world ■ Venture Capital regulations ■ New Telecom de-regulation policy ■ Successfully completed IMF's PRGF Program
Avg. GDP Growth			
4.0%	5.5%	5.0%	6.5%

*This figure draws upon the work of several Individuals Including Mr. Najam U. H. Kidwai (India's Economic Evolution), Dr. Richard Heeks (India's IT Industry) and Dr. Athar Osama (Pakistan's IT Industry and India-Pakistan Comparison).

combined market-share of other countries is likely to grow. Pakistan's software/BPO industry, although initially influenced by India's example has begun to take an independent course for itself.

The broader political economy of the country has lagged India by about a decade - a difference amply reflected in the maturity of the two countries' IT/BPO industries. Regardless of how India chooses to compete, however, the global IT/ITES/BPO opportunity is there for the taking.

2.3 Pakistan's Software/BPO Industry: The Value Proposition

While the determinants of IT/ITES/BPO outsourcing are diverse and complex, one of the most important factors, perhaps the prime driver of the outsourcing movement, is the cost differential between developed countries in the West and the major outsourcing destinations. According a 2005 KPMG study of outsourcing benefits, a number of users of outsourcing services described cost savings as the most important benefit they sought (scored 8.08/10) followed by customer service improvements, improvements in quality of product-service, access to skills, business responsiveness, and long-term transformationErnst & Young, 2006, Future Sourcing: Evaluating Risks and Benefits in Outsourcing. The same survey put the proportion of companies for whom outsourcing has actually delivered cost savings either very successfully or somewhat successfully at around 85%. While cost savings and capability extension are central to outsourcing, other factors such quality and cost of infrastructure, enforcement of property rights, political stability, and law-and-order play an important role. Together, these produce a hierarchy of potential outsourcing destinations around the world.

One of the most important ingredients of the cost equation is the difference between cost of labor in developed and developing countries leading to opportunities for labor arbitrage. The availability of cheap abundant labor thus becomes the most important factor determining the attractiveness of a potential outsourcing destination. Pakistan tends to score

FIGURE 2.4 RELATIVE ATTRACTIVENESS OF MAJOR OUTSOURCING DESTINATIONS
(Bearing Point, 2006)

UPCOMING AND POTENTIAL DESTINATION FOR OFFSHORING IT SERVICES (UNTIL MARCH 2003)

Parameter	Pakistan	India	China	Malaysia	Brazil	Argentina	Russia	Czeck Republic	Singapore
Active Export Focused IT Professionals	3,500	195,000	28,000	NA	NA	3,000	5,500	NA	NA
IT Employee Cost (US$, per year)	4000 - 6000	5000 - 12,000	9,600	7,200	9,500	10,550	7,000	7,500	27,000
Number of CMM Level 5 Certified Companies	0	60	2	NA	0	0	3	0	NA
IT Labour Force	Low Cost, Moderate Quality	Low Cost, High Quality	Low Cost, Low Quality	Low Cost, Moderate Quality	Moderate Cost, Low Quality	Low Cost, Moderate Quality	Low Cost, High Quality	Low Cost, High Quality	Low Cost, High Quality
Infrastucture	Poor	Average	Average	Good	Poor	Average	Poor	Good	Good
Main Positives	Focus or Software Quality and Processess	High Government Support, Large no. of IT Professionals	Large no. of IT Professionals	High Government Support, Investments of $10 billion in High -tech Parks	IT Centres of Large MNCs, Government Support	Large Educated Population	High Quality Engineers	Solid Infrastructure	Business Friendly Governance offers High Tax Incentives for IT Exports
Main Negatives	Geopolitical Risk	Rising Cost	Lack of Project Management	Political Instability	Language	High Salaries Political Instability	Unstable Economy	Talent Retention Issue	Limited Availability of Skilled Labour

FIGURE 2.5 BEARING POINT'S ANALYSIS OF COSTS OF IT OPERATIONS IN SELECT COUNTRIES (2006)

BASE COST ANALYSIS

Sr #	Country	200-IT-Full Time Employees	30,000 sq ft office	Operation Cost	Cost Difference with US	% of US Cost
1	**Pakistan**	**422,2270**	**600000**	**1,022,270**	**-12,322,609**	**8**
2	South Africa	764,128	312,152	1,076,280	-12,268,599	8
3	Philippines	989,882	431,996	1,421,878	-11,923,001	11
4	Thailand	1,198,949	267,559	1,466,508	-11,878,371	11
5	Jordan	1,394,582	390,190	1,784,772	-11,560,107	13
6	Bulgaria	1,097,198	1,003,344	2,100,542	-11,244,337	16
7	Malaysia	1,928,572	395,764	2,324,336	-11,020,543	17
8	Baltic State	2,131,308	291,479	2,422,787	-10,922,092	18
9	Egypt	2,114,683	587,783	2,702,466	-10,642,413	20
10	China	2,264,880	706,522	2,971,402	-10,373,477	22
11	Chile	2,602,252	657,748	3,260,000	-10,084,879	24
12	Czeck Republic	2,546,355	794,314	3,340,669	-10,004,210	25
13	Costa Rica	2,756,957	602,909	3,359,866	-9,985,013	25
14	Hungary	3,066,852	721,851	3,788,703	-9,556,176	28
15	India	1,696,272	2,394,091	4,090,363	-9,254,516	30
16	Brazil	3,201,856	1,075,808	4,277,664	-9,067,215	32
17	New Zealand	3,938,006	376,254	4,314,260	-9,030,619	32
18	Turkey	3,556,254	760,870	4,317,124	-9,027,755	32
19	Venezuela	3,771,445	1,070,234	4,841,679	-8,503,200	36
20	Russia	3268,264	1,836,678	5,104,942	-8,239,937	38
21	Portugal	4,451,570	811,037	5,262,607	-8,082,272	39
22	Mexico	4,598,858	1,092,531	5,691,389	-7,653,490	43
23	Poland*	4,583,040	1,170,569	5,753,609	-7,591,270	43
24	Taiwan	4,656,578	1,474,359	6130,937	-7,213,942	46
25	Australia	5,202,630	1,039,576	6,242,206	-7,102,673	47
26	Israel	5,729,156	1,151,059	6,880,215	-6,464,664	52
27	Argentina	5,567,191	1,468,785	7,035,976	-6,308,903	53
28	UK-N-Ireland	6,748,762	918,000	7,666,762	-5,678,117	57
29	Iceland	6,674,520	995,680	7,670,200	-5,674,679	57
30	Korea	6,104,448	1,744,705	7,849,153	-5,495,726	59
31	Spain	6,546,203	1,510,590	8,056,794	-5,288,085	60
32	UK- Scotland	6,805,556	1,482,720	8,288,276	-5,056,603	62
33	UK - England	6,805,556	1,502,230	8,307,786	-5,037,093	62
34	Ireland	6,916,253	1,524,526	8,440,779	-4,904,100	63
35	Canada	7,449,848	1,066,500	8,516,348	-4,828,531	64
36	US	11,870,979	1,473,900	13,344,879	0	100

competitively on both these factors. In 2004, for instance, Pakistan's 100+ universities were producing about 29,000 graduates a year, with another 40,000 supplied by 3-5 year professional colleges, and 375,000 by an even larger number of 2-year arts and science colleges (BearingPoint, 2006). While the quality of athis manpower is not consistent across these institutions, it does provide Pakistan with an ample resource of potential manpower for software / BPO industry - second only, perhaps, to India, China, and Russia.

On the cost side as well, Pakistan performs competitively - in fact significantly better than - the alternative destinations. The figure (below) presents analysis carried out by BearingPoint that looks at a broader range of costs associated with running a mid-sized software operation across 35 countries and indexes these against the United States. Pakistan leads the league table as the cheapest country to set up and manage and IT operation - comparing at 8% of the cost of managing the same operation in the US.

FIGURE 2.6 AT KEARNEY'S GLOBAL SOURCING LOCATION INDEX™ (AT KEARNEY, 2007)

Rank	Country	Financial Attractiveness	People & Skill Availability	Business Environment	Total Score
1	India	3.22	2.34	1.44	7.00
2	China	2.93	2.25	1.38	6.56
3	Malaysia	2.84	1.26	2.02	6.12
4	Thailand	3.19	1.21	1.62	6.02
5	Brazil	2.64	1.78	1.47	5.89
6	Indonesia	3.29	1.47	1.06	5.82
7	Chile	2.65	1.18	1.93	5.76
8	Philippines	3.26	1.23	1.26	5.75
9	Bulgaria	3.16	1.04	1.56	5.75
10	Mexico	2.63	1.49	1.61	5.73
11	Singapore	1.65	1.51	2.53	5.68
12	Slovakia	2.79	1.04	1.79	5.62
13	Egypt	3.22	1.14	1.25	5.61
14	Jordan	3.09	0.98	1.54	5.60
15	Estonia	2.44	0.96	2.20	5.60
16	Czech Republic	2.43	1.10	2.05	5.57
17	Latvia	2.64	0.91	2.00	5.56
18	Poland	2.59	1.17	1.79	5.54
19	Vietnam	3.33	0.99	1.22	5.54
20	United Arab Emirates	2.73	0.86	1.92	5.51
21	United States (tier-2)	0.48	2.74	2.29	5.51
22	Uruguay	2.95	0.98	1.54	5.47
23	Argentina	2.91	1.30	1.26	5.47
24	Hungary	2.54	0.95	1.98	5.47
25	Mauritius	2.84	1.04	1.56	5.44
26	Tunisia	3.03	0.90	1.50	5.43
27	Ghana	3.27	0.90	1.25	5.42
28	Lithuania	2.60	0.83	1.98	5.42
29	Sri Lanka	3.18	0.96	1.22	5.36
30	Pakistan	3.23	1.00	1.11	5.34
31	South Africa	2.52	1.18	1.60	5.30
32	Jamaica	2.83	0.96	1.49	5.29
33	Romania	2.88	0.87	1.53	5.28
34	Costa Rica	3.00	0.86	1.36	5.22
35	Canada	0.77	2.09	2.30	5.16
36	Morocco	2.92	0.90	1.33	5.14
37	Russia	2.61	1.38	1.16	5.14
38	Israel	1.97	1.27	1.86	5.10
39	Senegal	3.19	0.82	1.05	5.06
40	Germany (tier-2)	0.46	2.19	2.40	5.05
41	Panama	2.88	0.75	1.40	5.02
42	United Kingdom (tier-2)	0.50	2.16	2.35	5.01
43	Spain	1.18	1.71	2.06	4.95
44	New Zealand	1.53	1.12	2.25	4.91
45	Australia	0.89	1.69	2.31	4.89
46	Portugal	1.59	1.14	2.11	4.84
47	Ukraine	2.76	0.98	1.09	4.83
48	France (tier-2)	0.45	2.07	2.27	4.79
49	Turkey	2.06	1.31	1.41	4.78
50	Ireland	0.40	1.54	2.29	4.18

FIGURE 2.7 GARTNER'S CLASSIFICATION OF TOP GLOBAL SOURCING COUNTRIES (2007)

Leader and Challengers	Active Participants	Potential Players
India	Belarus	Algeria 'New'
Argentina	Bulgaria	Armenia
Australia	Chile	Bangladesh
Brazil	Costa Rica	Bahrain 'New'
Canada	Dubai	Columbia
China	Egypt	Cuba
Czech Republic	Estonia	Dominican Republic
Hungary	Latvia	Ghana
Ireland	Lithuania	Guatemala
Israel	Mauritius	Jamaica
Malaysia	Morocco	Kenya 'New'
meico	New Zealand	Madagascar 'New'
Phillipines	Nicaragua	Malta 'New'
Poland	Northern Ireland	Moldova 'New'
Romania	Singapore	Pakistan
Russia	Slovenia	Senegal
Slovakia	Sri Lanka	Saudi Arabia 'New'
SouthAfrica	Turkey	Thailand
Spain	Uruguay	Tunisia
Ukraine	Vietnam	Uganda 'New'

As the value proposition offered by Pakistan becomes better known, increasingly, outsourcing advisory and consulting firms have begun to include Pakistan in various rankings of potential outsourcing destination. In 2007, for instance, AT Kearney included Pakistan for the first time in its list of Global Outsourcing Destinations. The 2007 Global Outsourcing Countries ranking by Gartner Inc. puts Pakistan among the list of "Potential Players" in the global sourcing industry.

As these rankings indicate, a country's overall competitiveness is a function of a host of different factors. Cheap and abundant labor is a necessary but not sufficient condition for a country to remain globally competitive. While Pakistan benefits from a generally supportive public policy, and scores well on certain aspects of business environment and infrastructure, it does quite poorly on factors such as law-and-order and political stability. Over the years, however, Pakistan's attractiveness as a software development and outsourcing destination has tended to improve.
Also, in the outsourcing game, competitive advantage is relative. A country that is a leading outsourcing destination today may not remain so in the future. As with manufacturing industry where the actual production first shifted to low-cost Taiwan and Korea and ultimately to even lower-cost China, IT outsourcing and software development activity is also likely to go to the country that can deliver an acceptable product-service at the least cost.

In the outsourcing business, therefore, competitive advantage is not only relative it is also temporary and the only safeguard against its ultimate erosion is to move higher up the value chain. This will provide windows of opportunity to today's second and third-tier destinations to successfully penetrate the global market.

2.4 A Note on Methodology

This report follows in the tradition of an earlier best practices study on the Pakistan's software industry but extends it in a number ways, namely:

- It includes, within its scope, all aspects of IT and outsourcing (i.e. software development, BPO, system integration etc.)
- It includes a greater diversity and coverage of the industry by focusing on larger group of companies (i.e. the entire membership of P@SHA) as well as information technology multinationals within the country
- It attempts to enhance the quality of data by refining the survey questionnaire to incorporate the "lessons learnt" from the earlier study and likely changes over time

The primary purpose of this study, therefore, is three - fold:

- Assess the current state of software industry in Pakistan through systematic data collection and observations of the performance. It collects data on gross revenues, exports, employment, service-offerings, costs, and other measures of importance.

- Understand and investigate one (or more) issues of current relevance and particular concern to the software industry. The study attempts to highlight important trends and challenges that are either currently shaping the industry or are likely to affect it in the foreseeable future

- Assess and document performance of the industry over time in an attempt in stock-taking and reflection but also in re-energizing the private and public-policy debates on the health and future direction of the industry. This, and future Annual Reviews will develop a data-series on the industry to support that aspiration.

FIGURE 2.8 AN OVERVIEW OF STUDY METHODOLOGY AND TIMELINE

In order to do so, the study draws upon a mix of qualitative and quantitative data collection approaches. A survey instrument was designed and tested on a small number of companies. A sample frame (comprising P@SHA members) was identified and approached for filling out of the survey. The survey was made available online to make it easier for industry CEOs to provide information. A series of three email reminders were sent to non-respondents to encourage them to fill out the survey. The survey remained active for a period of two months.

In addition, an interviewees list of most important companies and executives was developed in consultation with P@SHA. 45-60 minute interviews were scheduled with each of these CEOs. Interviews were carried out over a span of one month using a mix-modal (i.e. face-to-face and telephone) approach. In addition to industry CEOs that were the primary focus of the study, additional interviews were carried out with policy-makers, civic-leaders and experts, and CEOs of major IT multinationals in Pakistan. In total, 75 interviews were completed for the study.

Once collected, the data were analyzed and comparisons with 2004-5 study were conducted. These results are presented in this report. One caveat, however, is in order. The sample frames for the two surveys (2004-5 & 2007), although overlapping, are different. The 2004-05 survey of Pakistan's Software Industry was carried out under the auspices of Pakistan Software Export Board (PSEB) and covered over 50 companies - including 35 of the country's leading software companies - and primarily focusing on software development and IT services. The 2007 survey of Pakistan's Software and BPO industry includes over 80 software and BPO companies operating in the country. These include as many as 25 of the companies originally included in the sample frame of the 2004-5 study but significantly extends coverage to a larger group of companies. The two studies have also been conducted with different sets of objectives thus affecting the choice of the sample frame and limiting the manner in which results may be interpreted.

That said, the two surveys are drawn from the same underlying population, and hence the results must be broadly comparable. Only for certain constructs and variables, this might not be so. The report highlights some of these differences as it discusses the results of the survey.

3

PAKISTAN SOFTWARE/BPO INDUSTRY:

COMPANIES, MARKETS AND OFFERINGS

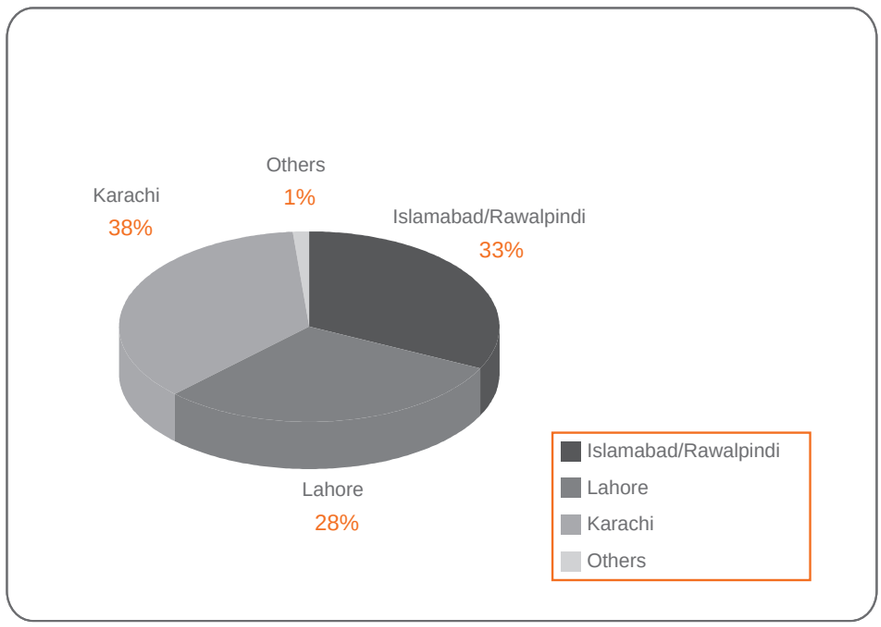
The last three years has been a time of considerable change - both good and bad - and maturity for Pakistan's software and BPO industry. On the whole, two major - and somewhat diverging - trends seem to emerge from the industry level statistics. On the one hand, several of the country's largest and most established companies have matured considerably over the last few years and are ready, it seems, to "break from the ranks" to become mature international entities. One the other hand, however, there is still considerable churn and perhaps stagnation at the lower rungs of the corporate ladder. This report will examine the data gleaned through the survey of software and BPO companies carried out during November - December 2007 and compare those with the results of a similar exercise three years ago (Oct-November 2004). In doing so, it will also seek to better understand these findings by supplementing these with insights from 75 interviews with some of the industry's leading entrepreneurs, businessmen, policy-makers, and influencers.

3.1 The Industry Size and Revenues

Estimating the overall size of an emerging industry is a challenging task. In the case of Pakistan's software / BPO industry, this is further complicated by the fact that most of the industry actors are private, and not public, companies and hence are under no legal obligation to provide verifiable and audited data on the overall size of their operations. Owing to the very nascent and dynamic character of the industry, new firms are being created and some of the old ones closed down on an almost regular basis thus making it difficult even to keep track of the number of firms existing within the industry.

The memberships of two major entities, namely, Pakistan Software Export Board (PSEB) and Pakistan Software Houses Association (P@SHA) provide some handle over the number of software/BPO companies that might exist in Pakistan. Of these two entities, P@SHA's membership - with over 200 paying member companies - represents a more credible estimate of software companies in Pakistan[3].

This presents us with the challenge of extrapolating the findings from a small sub-set of companies to the overall industry – a much larger group whose size, in this particular case, may not be known. Using a 80:20 rule, it could probably be said with considerable degree of confidence that the survey captures an overwhelming majority of the largest and most prominent companies in the country and hence provides a reliable estimate of at least 75-80% of the revenues and employment within the industry.

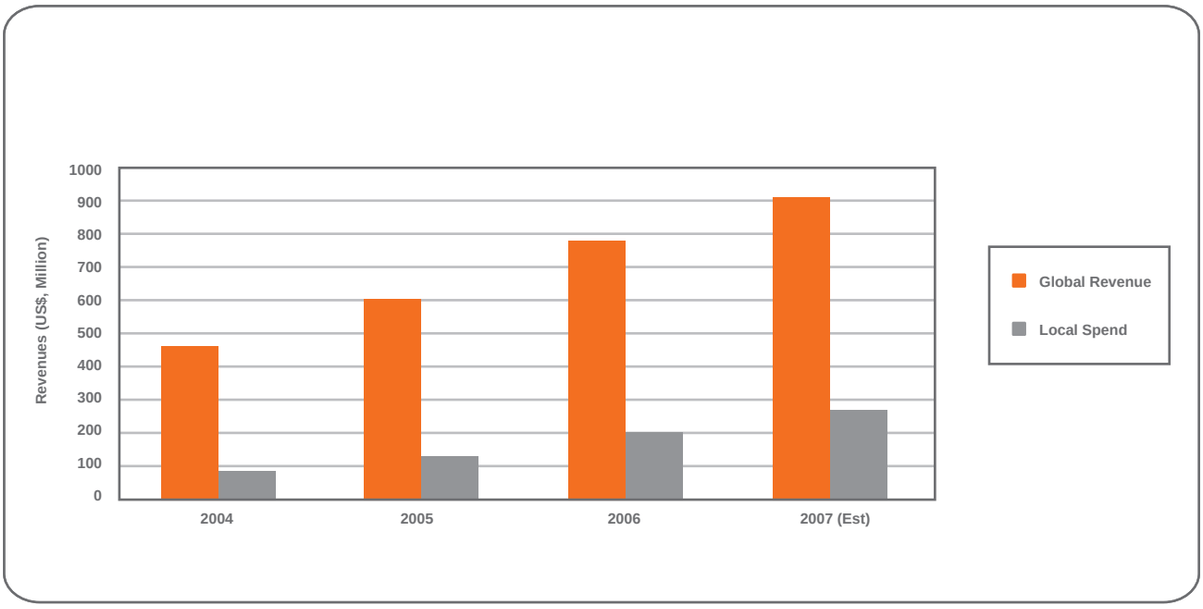


Pakistan's software and BPO companies have grown

[3] PSEB membership figures, by virtue of its role as a regulator and sole provider of certain services (e.g. telecom bandwidth in IT Parks), involve a number of different kinds of entities that may not be classified as software / BPO operations.

significantly in terms of their overall revenue base. Over the years, a number of different entities have tried to estimate the overall size of Pakistan's IT and software industries. A 2005 study by the leading consulting firm BearingPoint puts the overall size of Pakistan's IT industry at around $700 million - of which $70-80 million was attributable to software industry alone[4]. It also puts the annual growth rate of Pakistan's software industry at around 40-50% on an ongoing basis. A 2006 PSEB estimate puts the overall size of Pakistan's IT industry at around $2.2 billion. This includes IT and IT-enabled exports of around $1,050 million and the domestic IT spend of about $1,150 million[5].

The 2004-5 study reported total cumulative revenues for the 50 software companies to be around $81.15 million[6]. Today, the industry revenues seem to have grown considerably from that level three years ago. The figure (below) presents the progression of the cumulative revenues of the 80 companies surveyed as a result of the survey. On the whole, in 2006, the 80 companies surveyed reported cumulative global revenues of $716 million. These figures are estimated to grow to just over $900 million by end-2007 - recording an annual growth of over 15% over the span of a year.



Of this global revenue impact, a little less than a third is earned (as domestic revenue of software/BPO companies) and spent (as domestic IT spending of local operations of international companies) in the domestic market. The figure above presents this local revenue and spending of these software and BPO companies at around $193 million in 2006 and growing to $269 million in 2007. Cumulatively, this represents a leverage of 3.37 dollars of export revenues to every dollar spent at home - somewhat lower than the globally accepted ratio of 4:1, as suggested by the Bearing Point study of 2006.

These two set of numbers, however, only represent a partial picture of the overall size of the country's IT or even software/BPO market. First, they only account for 80 - albeit the largest and most significant ones - of the country's more than 500 software/BPO companies. It is safe, therefore, to predict that these 20% of the companies represent 80% of the industry revenues. Second, there are other category of IT market and revenues that are not captured even by a complete accounting of revenues of local software/BPO companies. The following three additional revenue categories, for example, may account for significant shares of Pakistan's overall IT/software/BPO market.

- Domestic revenues of leading IT multinationals (e.g. IBM, Cisco, NCR, Oracle, Microsoft, SAP, SaaS, and Intel etc.) forms a major share of domestic IT spend and is estimated at around $200-250 These figures are estimates

[4] The BearingPoint study attributes this figure to Pakistan Software Export Board (PSEB).

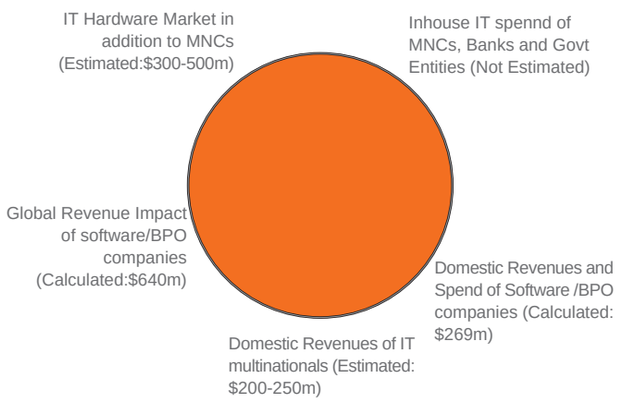
[5] While PSEB's revised estimates of IT revenues (domestic and exports) may be broadly in line the approach used by India's NASSCOM, they are just that, estimates. The problem of estimating the overall revenue of IT of countries is an especially challenging one given the issues of reporting standards as well as the ubiquitous nature of IT and software, as highlighted by the US Government Accounting Office (GAO, 2003).

[6] This used a mid-point approximation technique to translate categorical revenue estimates into point estimates. State Bank figures at that time indicated exports of $32 million. These figures did not include domestic revenues and are likely to under-report export revenues for a variety of reasons.

provided by industry insiders and not calculated for the purpose of this study million a year.

- The domestic hardware market, over and above that captured by the IT multinationals, is the second major revenue category and is estimated at $300-500 million[7] a year.

- In-house IT operations of major MNCs, Banks, and government entities contribute to the overall IT/software/BPO market not only as customers but also by hiring and in-house development activity thus making up a significant share of the overall IT market pie.



Pakistan's Software/IT Market Size - Revenue Categories & Estimates

A. Domestic & Export Revenue + Dom Spend	**$ 269m**
B. Global Revenue Imapct (P@SHA Survey, 2007)	**$ 640m**
Revenue of 80 Companies	**$ 909m**
Projected Entire Industry (Estimate: 80 - 20 Rule)	**$ 1090m**
C. Domestic Revenue of IT MNCs	**$ 2 - 250m**
D. Domestic Harware	**$ 3 - 500m**
E. Inhouse IT spends (Estimate, P@SHA, 2007)	**$ 2 - 400m**
Total	**$ 1.7 - 2.25 Billion**

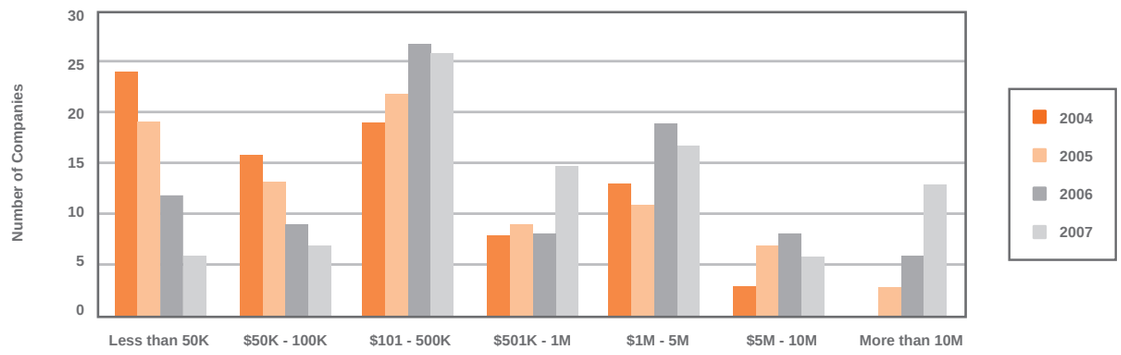
Cumulatively, this implies that the total market for IT products and services in Pakistan may well be over a couple of billion dollars by now (see figure 3.3). As of now, this study can only accurately calculate two of the five revenue categories identified in the figure and must resort to guesstimating the remaining three categories.

This revenue growth has been achieved through significant increases in average revenue size of the firm. The 2004-5 study on Pakistan's software industry highlighted the existence of significant barriers to growth in both revenue and employment within the industry. The myth (or urban legend) of the "200-people barrier" (discussed further in section-3) was a common manifestation of the growing pains that the companies - and the industry as a whole - faced at the time. Of the 52 companies surveyed at that time, only 4 reported global revenues of $5 million and higher, another 13 (or 25%) reported revenues between $1 and 5 million, and another 9 (or 17%) reported revenues between $500K and $1million. More than half of the companies surveyed could only be characterized as small operations with revenues of less than $500K. Three years later, things seem to have changed in a fairly significant way.

The figure below presents the number of companies within a set of seven revenue categories. In 2004, for instance, the single largest revenue category comprised companies with less than $50K of revenue - essentially start-ups or fairly limited software development operations - and none of the companies reported revenues of $10 million or higher. In 2007, there are at least 13 companies reporting global revenues of $10 million or higher. In 2005, 85% of the companies reported revenues of less than $1 million - a fraction that stands at 60% in 2007. There is, undeniably, a general drift in the direction towards growth and professionalization of companies within the industry. However, while

[7] These figures are estimates provided by industry insiders and not calculated for the purpose of this study

FIGURE 3.4 NUMBER OF COMPANIES IN VARIOUS REVENUE CATEGORIES

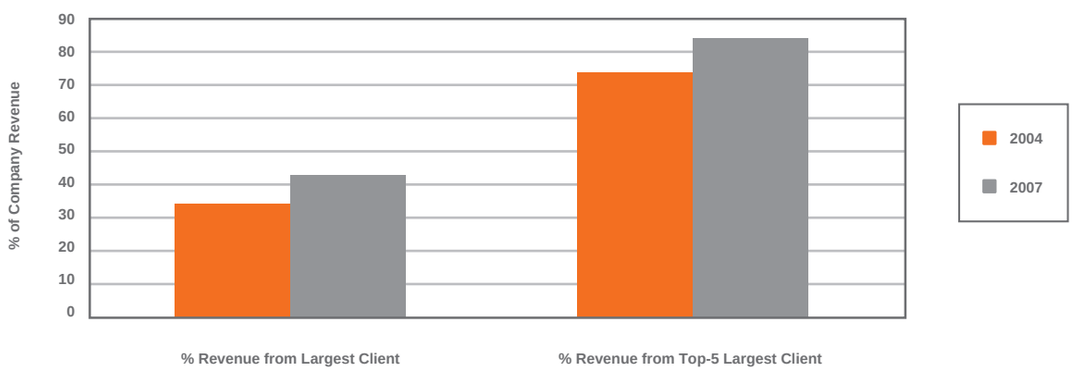


the overall trend is unmistakable, this may be a somewhat simplistic view of these statistics. Beneath this general story of growth and prosperity, there are several underlying trends that are worth considering.

- **First:** There is a clear and undeniable trend towards a small number of companies "breaking from the ranks" and beginning to play in a different league altogether. Some of these are quite well-known names in the industry, such as Systems Ltd., Netsol, Techlogix, Elixir, LMKR, and SI3 etc. but there are several others too that may not be as well known within the industry. Specifically, a handful of companies - the 13-plus members of the "$10 million Club" - may be driving a major part of the overall growth in the industry. For a variety of factors, discussed throughout this report, these companies have been able to address at least some of the issues that may be responsible for limiting firm growth in Pakistan's software / BPO industry.

- **Second:** A considerably large number of companies have experienced sustained growth in revenues over the 3 year period in question. This is evident from the growing number of companies in the over $500K and $1million categories - more than twice as many in 2007 as they were in 2004. A relatively smaller number of companies from this group have shown very strong revenue growth over the last 3 years. During 2004-5, 2005-6, and 2006-7, for instance, 9, 13, and 11 companies respectively reported more than 100% revenue growth over the previous years. This group of "Gazelle Companies" comprises some of the fastest growing - and perhaps the most innovative - ones in the industry that are likely to continue to experience considerable growth in the years to come.

FIGURE 3.5 CLIENT RISK AND DIVERSIFICATION IN PAKISTAN'S SOFTWARE/BPO INDUSTRY



- **Third:** A third, perhaps equally large, group of companies either have hit serious barriers or continue to experience significant limitations in revenue growth. These are some of the smallest companies in the industry and while significant portion of these may be experiencing genuine growing pains others may have become either life-style businesses for their founders or seek to survive on one-off (or captive) opportunistic contracts rather than aspiring to execute a focused and broad strategy of revenue growth. Many of these companies tend to operate on a fairly generalist – even perhaps a vague - notion of a business plan or a target market. This group of companies - "The $500K Companies" - is clearly evident in the growing number of businesses under the $500K category thus making $500K, perhaps, a new ceiling on the revenues of these generalist companies[8].

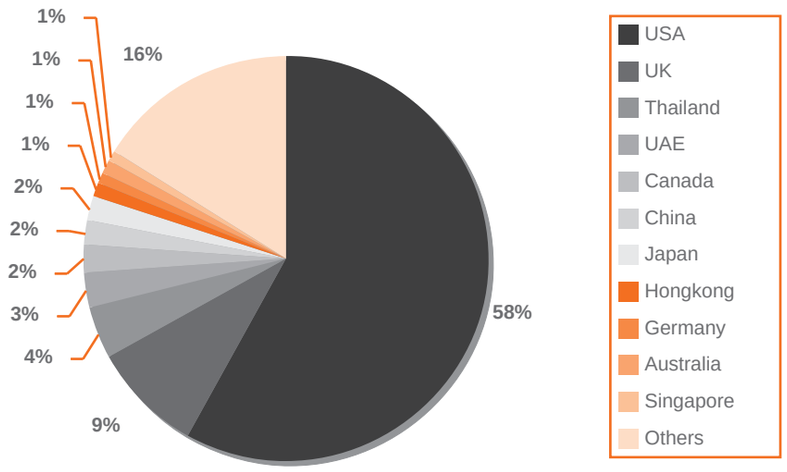
Another important characteristic of the companies' revenue base identified in the 2004-5 study was their dependence on a small number of clients leading to considerably market risk. The industry's grapevine is replete with stories of what were once perceived to be very successful companies going under due to their failure to diversify their global client-base and translate current work with a handful of large clients into repeat business. The example of Cressoft - once a symbol of Pakistan's success in global software exports - is most prominent. The survey sought to determine the companies' dependence on largest client and top-5 clients as a measure of such risk and subsequent diversification. The results are depicted in the figure below:

Clearly, the average proportion of company revenue attributable to the largest client has grown from about 33% in 2004-5 to 43% in 2007. In the similar vain, the average proportion of company revenue attributable to top-5 clients also registered growth from 72.5% in 2004-5 to 83% in 2007. These figures do not auger well for the industry. While they may, on average, represent a deepening of relationship with certain clients, they are also a potentially significant source of risk for the companies involved. That majority of companies in Pakistan's software industry are less than 5-client operations and a considerable number of companies could face significant challenges - perhaps even extinction - should a single one of their clients go down is a fact that cannot be easily ignored. This exposes these companies to not only the risk of performance (for their lack of ability to get repeat business) but also that of the fluctuations and vagaries of the international markets. The industry is clearly in a dire need for diversification and the development of a systematic and broad-based approach to international (and domestic) marketing and business development.

3.2 Geographical and Market Focus of the Industry

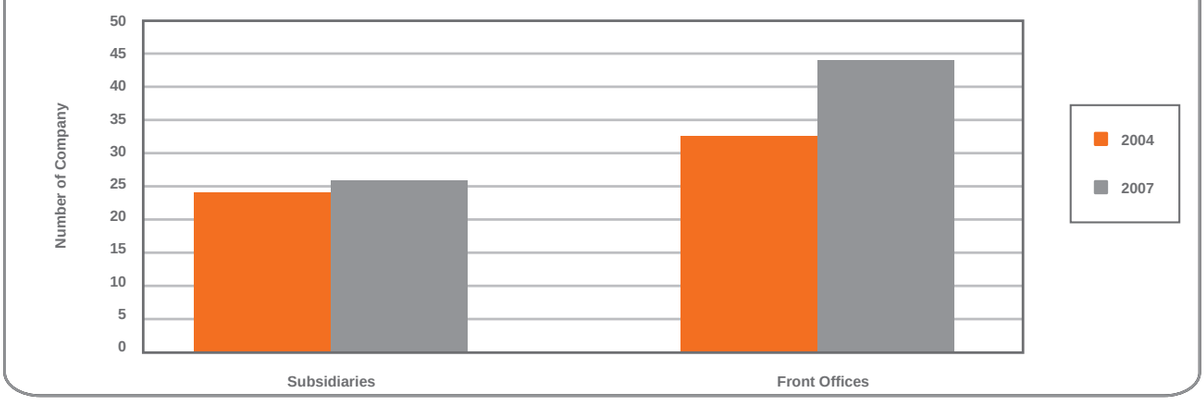
From a market-geographical standpoint as well, there has been considerable change in the industry. Pakistan's software/BPO industry has traditionally been, as is the case of all other software exporting countries including India's, reliant on the US market for a major portion of its revenues. This may be gleaned through the 2006 export revenue figures put forth by the State Bank of Pakistan that puts the share of US revenue at around 58% of the total industry exports. One of the most unmistakable - and important - of the emerging trends over the last three years has been a gradual move away from international (export) market and towards the local (domestic) market. This is driven partly by a host of factors contributing to continued limitations in the companies' ability to compete in the global market (e.g. due to the country's negative image in the western media, travel

FIGURE 3.6 A SNAPSHOT OF EPORT DESTINATIONS OF PAKISTAN'S SOFTWARE/BPO INDUSTRY - SOURCE: STATE BANK OF PAKISTAN JUL - DEC, 2006



[8] One industry observer calls these as "Companies without Business Plans"

FIGURE 3.7 FOREIGN ROOTS AND CONNECTIONS OF PAKISTAN'S SOFTWARE/BPO COMPANIES



restrictions on the citizens of major target markets such as the United States, and the increasing dominance of Indian software companies in global IT export business) but also due to a fast maturing domestic IT market driven by significant growth in IT spending of financial, telecom, and public sector entities within the country.

The first of the two contributors to this trend, namely, a conscious shift away from an export orientation may be gleaned from change in foreign ownership and marketing orientation of Pakistani software/BPO companies. The figure (below) indicates the change in foreign roots (i.e. subsidiary relationships) and connections (i.e. presence of front offices) among the surveyed companies. While the proportion of companies that are foreign subsidiaries (or have front offices abroad) in 2004-5 vs. 2007 are not exactly comparable 2004 figures comprise 60 companies while 2007 figures comprise 85 companies[9] due to differences in survey samples, they are broadly indicative of the underlying trend.

FIGURE 3.8 GEOGRAPHICAL PROFILE OF PARENT ENTITIES OF PAKISTAN'S SOFTWARE/BPO COMPANIES

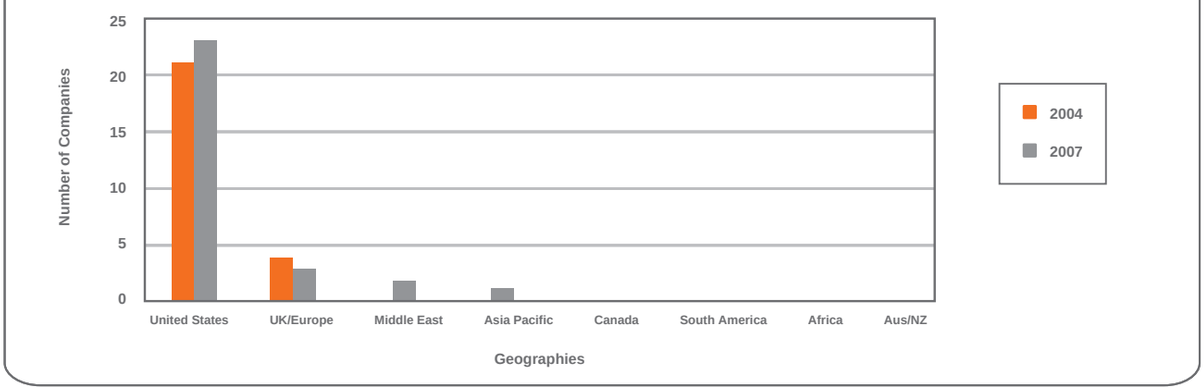
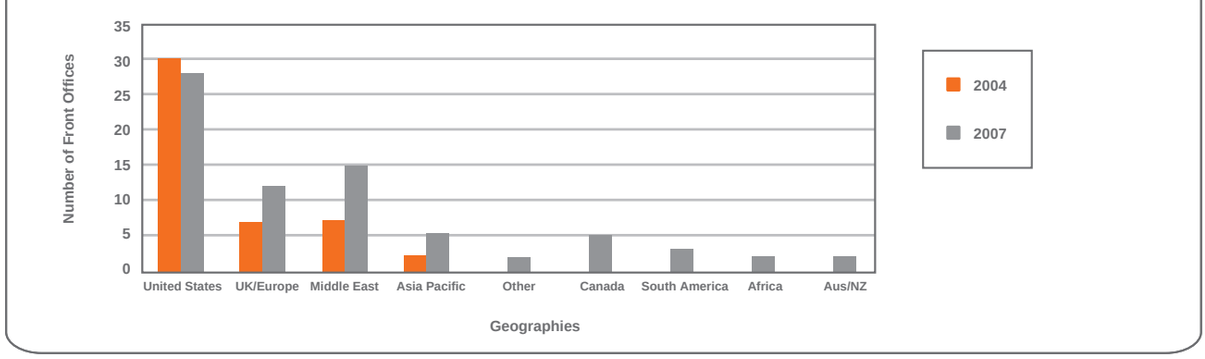


FIGURE 3.9 GEOGRAPHICAL DISTRIBUTION OF FRONT OFFICES OF PAKISTAN'S SOFTWARE/BPO COMPANIES



[9] 2004 figures comprise 60 companies while 2007 figures comprise 85 companies.

The figures below (3.8 and 3.9) further dissect this trend as they look at the geographical distribution of the parent entities and front-offices of Pakistani software/BPO companies. Clearly, as evident in the first of two figures, there is a shift away from United States and towards UK/Europe and other destinations. Of the companies that are subsidiaries of foreign companies, a more or less stagnant number (but a decreasing proportion) of companies now (as against in 2004-5) have a parent office in United States and Europe[10].

The second of the two figures lends further credence to this gradual diversification of markets within the country's software industry. Again, United States as a potential market (as evidenced from presence of front offices of Pakistani software/BPO companies) experiences a small decline as all other regions in the world, namely, UK/Europe, Middle East, Asia Pacific, Canada, South America, Africa, Australia and New Zealand experience small increases with the biggest increase registered in Middle East and Canada.

Again, due to differences in sample frames of the two surveys, this may not necessarily mean a shift away from United States but they do clearly represent a trend of healthy diversification in the country's export markets.

The second of the two contributors to the gradual shift towards domestic and away from export markets is evident in the growing importance of four sectors, namely, finance, telecom, media-entertainment, and government in the overall sectoral breakdown of industry's domestic and export markets. The latter three of these four sectors drive a major share of their growth from the domestic market. Each of these sectors has seen explosive growth over the recent years. In telecommunications sector and mobile telephony, for instance, Pakistan has been declared as one of the fastest

FIGURE 3.10 SECTOR WISE BREAKDOWN OF TOTAL REVENUES OF THE SOFTWARE/BPO INDUSTRY - (FY - 2006)

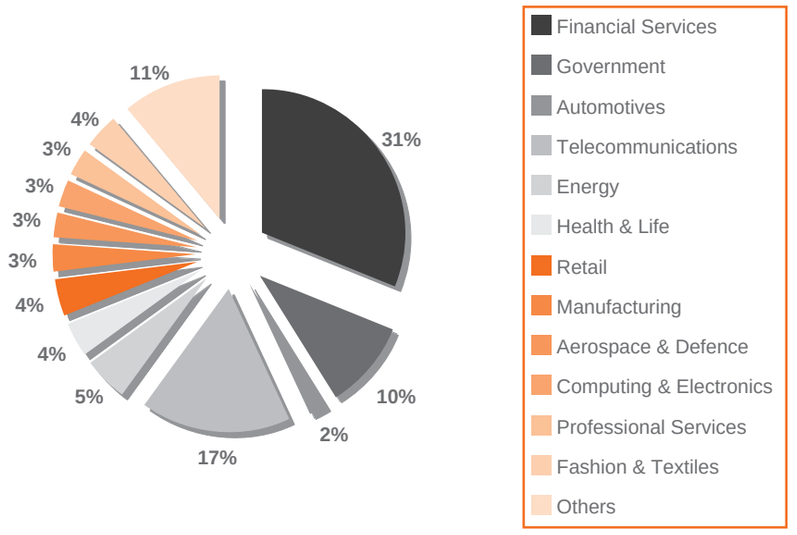
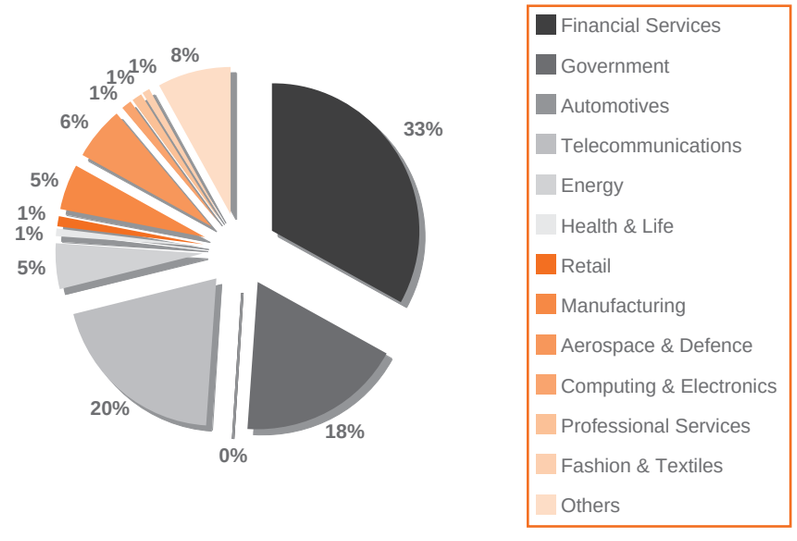


FIGURE 3.11 SECTOR WISE BREAKDOWN OF DOMESTIC REVENUES OF THE SOFTWARE/BPO COMPANIES - (FY - 2006)

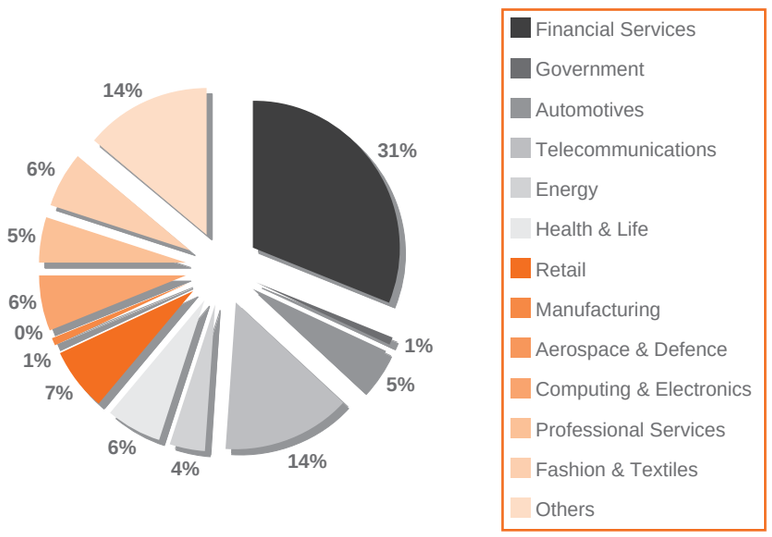


[10] While differences in sample frame do not allow us to make an unequivocal statement in that respect, it is safe to say that the United States and European ownership of Pakistani companies has not grown in a significant way between 2004 and 2005. Exceptions to this rule, however, do exist.

- if not the fastest growing - markets in the world. According to PakistanTelecommunications Authority (PTA), mobile subscribers grew from just over 5 million in 2004-5 to as many as over 60 million today[11]. According to one observer, in 2007 alone, the country's mobile telephone industry added 27 million subscribers with several operators registering triple digit growth rates in their subscriber base[12]. Similar growth has been experienced in the media and entertainment business with recent liberalization of electronic and new media businesses in the country. The number of private news and entertainment channels has grown from a handful in early 2000s to over 50 in the recent years. The government - at various levels - has also embarked upon a program of automation and eGovernment that is also significantly contributing to growth in the domestic IT spending and fueling the local IT software/BPO industry. The figures below amply reflect these changes.

Overall, the split between domestic and export revenues stands at 52:48% as against 40:60% three years ago. This in itself points towards considerable change in the market orientation of the industry. Today, finance (31%), telecommunications (17%), and government (10%), and energy (5%) represent the four largest sectoral contributions to the total revenues of Pakistan's software/BPO industry. Apart from these four sectors that cumulatively account for about 65% of the total revenues, the remaining sectors are fairly well-diversified. Globally, other important sectors include retail (4%), healthcare and life sciences (4%), fashion and textile (4%), aerospace and defense (3%), hospitality (3%), manufacturing (3%), and computing and electronics (3%).

FIGURE 3.12 SECTOR WISE BREAKDOWN OF EXPORT REVENUES OF THE SOFTWARE/BPO COMPANIES - (FY - 2006)

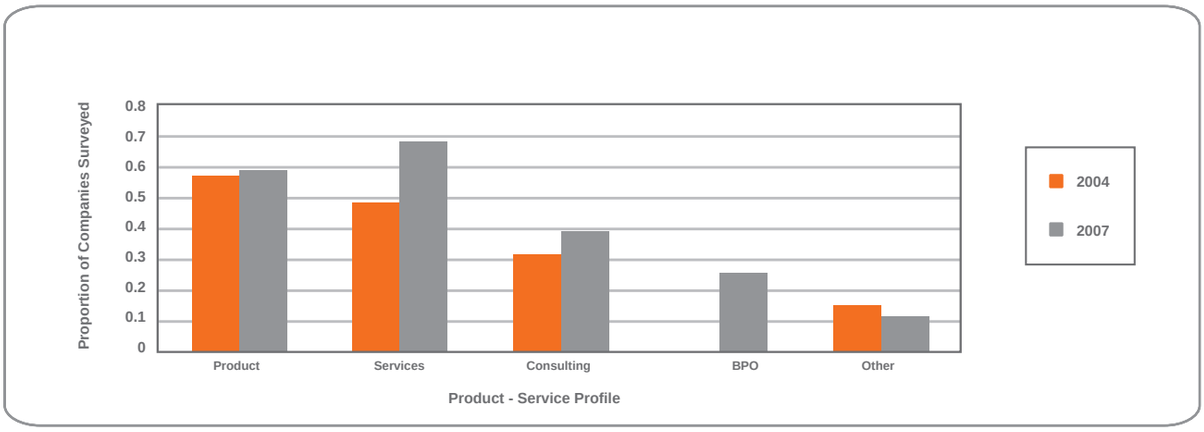


The above sectoral breakdown is broadly consistent with the four major high-growth sectors of the domestic economy identified earlier, the difference becomes even starker when we look at the break down of total revenues within domestic and export categories. Here, the five sectors with largest contribution to the domestic market are again: finance (33%), telecommunications (20%), government (18%), aerospace and defense (6%), energy (5%).

The key differences, however, appear in the breakdown of the sectoral mix of the industry's export revenues. Here, the five largest contributing sectors include: finance (31%), telecommunications (14%), retail (7%), fashion and textiles (6%), computing and electronics (6%), and healthcare and life sciences (6%). Other important sectors, internationally but not domestically, include hospitality, professional services, and utilities.

As evidenced from these figures, the public sector (government) revenues are primarily driven by the domestic market where it constitutes18% of the total domestic revenues (and around 10% of the total overall revenues). The other two of the four largest sectors are also fueled by the domestic market in that their share of domestic revenues exceeds their share of export revenues. The only anomalies - once again, reflecting the differences between domestic and export markets - are the contribution of aerospace and defense sector on the domestic front and retail, fashion and textiles, and healthcare on the export front. It would, therefore, not be inaccurate to suggest that the domestic market has begun to play an increasingly important role in fueling the growth of software/BPO industry in Pakistan - a role that was deemed to be absent a mere three years ago. This is a positive and healthy development and is likely to provide the much needed room for innovation and maturity for the country's fast growing software/BPO industry.

[11] http://www.engineeringpakistan.com/EMS/sectoroverview.php
[12] http://risingpakistan.wordpress.com/2007/07/27/telecom-sector-riding-on-high-growth/



3.3 The Product-Service Profiles

The product service profiles of the companies comprising Pakistan's software/BPO industry also present an interesting picture. The figure below characterizes companies into five generic product-service profiles, namely, product (packaged software), IT services, IT consulting, BPO, and others. While the proportion of companies characterizing themselves as product-focused companies has only marginally increased (from 57% in 2004, to 59% in 2007), the share of companies dealing with various kinds of IT services - namely, pure IT-services and IT consulting services– registered significant increases during the 3-year period. This difference is further enhanced by the fact that the 2004-5 survey probably covered BPO services under the IT-services rather than as a standalone category. On the whole, as many as 68% companies describe themselves as IT-services companies, about 40% as IT consulting companies, and around 27% as BPO companies[13]. As many as 41% of the companies appear to pursue a focused product or service strategy (i.e. focus on only one of the four generic categories), another 35% focus on 2 simultaneous product or/and service strategies, and 20% focus on three or more simultaneous strategies.

The figure (below) that looks at revenue recognition (both domestic and export) from product, services, or BPO categories lends credence to what appears to be a trend away from products and towards services, albeit with one important caveat[14]. While the macro picture presents a trend towards greater focus on services, the number of product companies focused towards the export market has also registered growth over the last 3 years. On the domestic front, average revenue from products register a small decline while that from services has increased over the last 3 years. On the export front, the proportion of revenue from both products and services register a decline over the last 3 years. Should one add the export of BPO services to the IT-services category - as may have been the case with 2004-5 data - however, the average revenue from all services exports also seem to have grown over time.

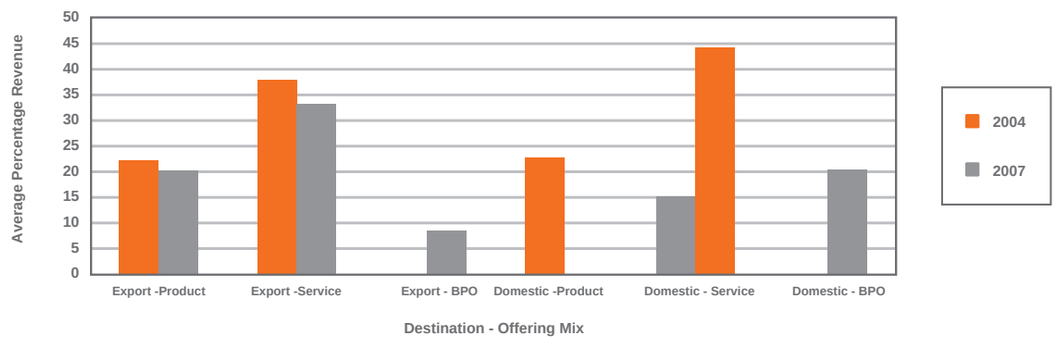
An interesting revenue category is domestic BPO services which today constitutes only 3% of the overall industry but may be among the fastest growing of these revenue categories. This, as yet nascent but, fast growing trend is also corroborated by our interviews with industry leaders. Several large companies - most notably MNCs and banks, but also increasingly utilities and government entities (e.g. Islamabad City Government) - have outsourced their help desk and call-center operations to local BPO service providers. Increasingly, the trend is towards complete outsourcing of IT infrastructure and data centers of major banks, multinational corporations, and public-sector entities. According to one industry insider:

> *"Non-voice BPO and outsourcing of non-core functional areas within large domestic public and private sector entities is likely to be the next wave in Pakistan's domestic IT market. A beginning has already been made with outsourcing of data centers by a small but growing number of private sector entities. The Higher Education Commission (HEC) has engaged potential players in consultation to create and manage a major educational network on an ongoing basis. The National Bank of Pakistan (NBP) has also recently floated an RFP for complete hands-off outsourcing of its IT functions to this effect and other public and private entities may follow suit."*

[13] These are non-exclusive categories so a company can focus on one or more of these categories at the same time.

[14] While the macro picture presents a trend towards greater focus on services, the number of product companies focused towards the export market has also registered growth over the last 3 years.

FIGURE 3.14 DESTINATION - OFFERING MIX OFPAKISTAN'S SOFTWARE/BPO COMPANIES



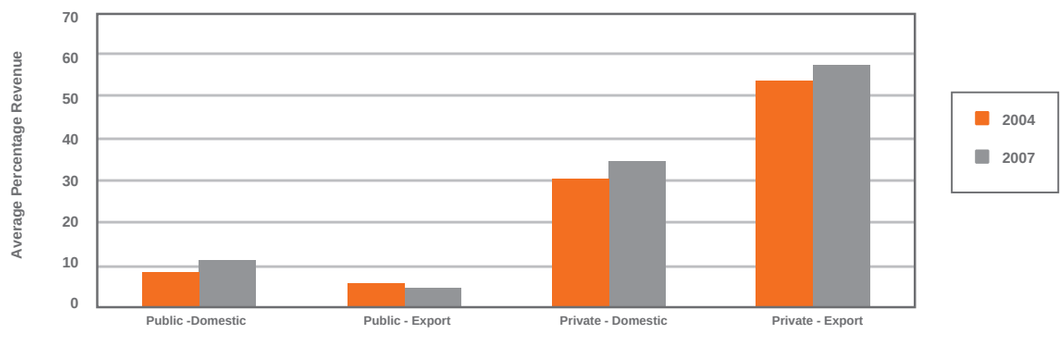
Should this happen in a major way, it would provide the BPO industry with the much needed exposure to both voice and non-voice BPO work and build capability and credentials that may be cashed-upon in the international market. This may also supplement and accelerate the already growing trend away from voice-based work and towards non-voice BPO services in the export market.

The figure below presents another view of the revenue breakdown of the industry from a public-private and domestic-export perspective. Once again, the growth experienced by IT revenues in the domestic market over the last three years is evident in both public and private sectors. While public sector IT spend in the domestic market still lags far behind what it needs to be, it has somewhat caught up with the private sector and fueled the growth of domestic IT spending. Needless to say, however, that progress on several of the projects conceived under the eGovernment Directorate (EGD) is lagging behind industry's expectations, primarily for a lack of resources available to execute them, but also, perhaps, gaps in the industry's capability to credibly deliver on large multi-million dollar IT projects.

Taken together, what do these statistics on the breakdown of product-services, public-private, and domestic-export revenues of companies in Pakistan's software/BPO industry reveal? While the shift away from export and towards domestic markets, from products towards services focus, and the emergence of domestic BPO as a new but growing revenue category are unquestionable realities, these industry level data may also mask interesting underlying changes and trends gleaned through extensive interviewing. A couple of these trends - somewhat hidden but not inconsistent with the figures discussed above--are briefly revealed below:

First, while the data seems to suggest an overall decrease in product-focus within the industry, there is an unambiguous growth in the number of product and ideas-based companies. What really seems to have happened over the last three years is the decline of the "me-too" and "reinvent-the-wheel" type of product companies. The industry's tendency

FIGURE 3.15 PUBLIC - PRIVATE MIX OF PAKISTAN'S SOFTWARE/BPO COMPANIES



of a large number of companies creating, from scratch, an ERP, a GL application, a payroll or an HR system, as revealed in the 2004-5 study, seems to have become a thing of the past. There is a clear shift towards utilization of more established products and technology platforms on which to build upon.

Second, and somewhat related to the former, is the fast growing practice of bundling of products and services (generally, implementation and customization of standard technologies and product platforms) within the industry. This trend may also explain the growing share of IT-services in the domestic market – a qualitatively superior and higher-value added service than pure software development or coding. On the export front, on the other hand, customized software development and coding still constitutes the bulk of the IT-services revenue.

The report will return to these themes in the later sections.

3.4 Employment and Human Resources

From an employment and human resources perspective, the industry presents a mixed picture. Time and again, in conversations with industry CEOs, leaders, policy-makers, and visionaries, the shortage of good quality human resources came up as one of the most significant challenge confronting Pakistan's software and BPO industry and perhaps the most significant constraint it faces in further accelerating the revenue growth it has seen over the last 3 years. While precise data on the total throughput graduates either trained or convertible to IT and software-related occupations is hard to come by, rough estimates suggest that the total annual output of all of Pakistan's various universities and institutes is of the order of 15-20,000 graduates a year.

Around 5,000 of these graduates are generally perceived to be from institutions of some credible quality and standing (e.g. GIKI, LUMS, NUST, FAST, UETs, KU, PU, IBA etc.) while a significant portion of the remaining 15,000 come from mostly "second tier" universities and institutions the average quality of whose graduates cannot be easily verified and another large portion from even more suspect "mom and pop" institutions that have mushroomed during the late 1990s.

Industry insiders suggest that no more than a couple of thousand of these graduates are of a high enough quality that they—with 3-6 months of on-the-job training—can be absorbed in programming and related occupations in software/BPO companies. Consequently, a fairly small portion of these 20,000 graduates find jobs in Pakistan's software/BPO companies.

The 2004-5 survey of the industry found around 4070 professional and technical employees working in 60 companies for an average of 62 employees per company. Then, the industry reported an average employment growth of around 27% over the last year (2003-4). Of the 85 companies that are included in this survey, the total full-time professional and technical employment has shown continued trend of growth. The figure (below) presents a graphical snapshot of total professional and technical employment within the industry.

The technical and professional employment in the 85 firms surveyed for this study grew from just over 4200 professionals in 2004 to around 7000 in 2005, just under 10,000 in 2006, and are expected to exceed 12,000 professionals by end-2007. This amounts to healthy growth rates of around 55% in 2004-5, 34% in 2005-6, and 28% in 2006-7 carrying over and building upon the 27% employment growth observed in the 2003-4. While the year-to-year growth has been somewhat erratic, the industry has nonetheless experienced fairly high growth rates (in excess of 25%) in each of the four years of analysis.

Additionally, for each of the three preceding years, more than 25% of the companies surveyed have experienced employment growth rates in excess of 50% and only three companies in the sample reported decline in employment of professional and technical employees[15]. Clearly, there may some "survival bias" associated with this statistic but the overall trend of growth is quite unmistakable. This trend of increasing employment is likely to continue with the 85 companies surveyed projecting an employment growth of over 40% during the coming year (2007-8).

[15] Clearly, there may some "survival bias" associated with this statistic but the overall trend of growth is quite unmistakable.

4

SHAPING THE FUTURE:

FIVE EMERGING TRENDS IN PAKISTAN'S SOFTWARE/BPO INDUSTRY

"The best way to predict the future is to invent it."

– Alan C. Kay, Founder of Object Oriented Programming (1940 -)

In section 3 & 4 this report has primarily on focused on taking a macro- and a micro- view of the Pakistani software/BPO industry (and the firm) and attempted to highlight how they have evolved over the last 3 years and where they stand today. In doing so, it has briefly touched upon some of the major trends that are affecting Pakistan's software/BPO industry and are being shaped by it. It has, however, done so in the context of the survey data collected from around 85 companies of the country's software and BPO industry.

In this section, this report will delve deeper into five of the most important emerging trends that may already be (or have the potential of) shaping this industry in the years to come. These are trends that are, in some instances, already visible and explicitly talked about in the industry grapevine and, in other instances, shaping up beneath the surface before they could become well-established and validated. In our view, though, these represent important forces and changes that need a deeper reflection and understanding by investors, industry leaders, policy-makers, and aspiring entrepreneurs alike.

1 TREND # 1: THE SHIFT TOWARDS THE DOMESTIC MARKET

The most salient, and perhaps, single most important trend that emerges from this study is the emergence of the domestic IT market in Pakistan. Three years ago, the share of domestic revenue in the overall software revenues of the surveyed companies was 40% with the remaining 60% coming from export of software products and services abroad. Today, the balance has reversed with the figure standing at 52% and exports contributing a minority (48%) of the revenues of surveyed software/BPO companies. Several factors may have contributed to this trend including the fact that serious impediments still exist or have existed in the past (such as the problem of country image, travel restrictions of foreigners, and the devastating effects of the 12-day disruption in the internet backbone during 2006) in the country's ability to make in-roads in the export markets.

The shift towards domestic market, however, is not merely a result of bottlenecks on the export front. It is also driven by an independent opening up of demand for IT and automation on the domestic front. This demand is driven by the massive growth in the banking-finance, telecom, media, and public sectors. A number of large-scale banking automation projects have begun in the recent years with the predominant majority of these attempting to deploy foreign banking automation solutions (such as Misys, Symbols, Kapiti, Globus, and iFlex etc.). Authentic figures for the overall IT spend in the banking sector do not exist and estimates vary considerably. One experienced industry leader in banking automation systems puts the combined annual IT spend in Pakistan's banking sector at around $70-80 million. Another long time observer of the industry puts the spending of the top-5 banks at around $10-15 million per year and the IT spending of a second tier of 5-7 banks between $5-10 million a year.

While the history of the quality of implementation delivered by local companies has been somewhat checkered - and horror stories abound in the industry grapevine - the trend toward increasing banking automation is likely to continue for the foreseeable future. Telecommunications sector also presents a similar picture where the growth of mobile telephony has resulted in considerable increase in local IT spending in the sector. Here too, after an initial burst of equipment and infrastructure investment (e.g. routers etc.) IT procurement is likely to shift towards high-value added applications and services.

Public sector IT spending is yet another important aspect of the domestic IT spend. There are a number of distinct components of this demand. First, over the last few years, a number of different public-sector organizations have

floated major IT projects. These include CBR, MOITT, PIFRA, Punjab Information Technology Board (PITB), NADRA, and Punjab Board of Revenue etc. A number of projects have also been floated through the funding of multi-lateral agencies (such as the World Bank and Asian Development Bank). A $50 million land revenue automation project for Punjab Board of Revenue is being anticipated in the near future.

While there is certainly a clear trend of companies - especially some of the largest companies in the industry - reorienting themselves towards the domestic market, there is also a sense that domestic market is still fraught with considerable challenges. First, domestic market is still not mature enough to sustain a large number of companies primarily because the state of automation beyond the 3-4 sectors identified above is still relatively primitive. Similar limitations may exist on the supply side where with the exception, perhaps, of Sidat Hyder Morshed Associates (SHMA) that claims to have over 300 ERP implementations in the country, no other company can claim an extensive and diverse portfolio of automation projects to its credit. Second, and partly as a result of the above, domestic market in itself is still not seen as a source of sustainable business, from both a volume as well as profitability perspective, for majority of the companies that were interviewed for this report.

Many companies - and most large companies - therefore, have adopted a diversification strategy that balances the risk within their overall product-service portfolio by supplementing the high-risk high-margin export business with low-risk low-margin domestic business. There are clear exceptions to this rule as well. Si3 and Abacus Global Consulting are cases in point as adopting a domestic-only (or, at the very least, "domestic first") market strategies. In the words of one industry executive:

> "*While at the end of the day, US and Europe may represent high-margin markets with considerably more potential than the domestic business, Pakistan presents a much higher probability for us to actually win business. There is no point in attracting competition if you can avoid it. A good strategy always trades off risk against returns.*"

Regardless of what the strategy of an individual company is, the domestic market will continue to drive the shape of the future software/BPO industry in Pakistan and, if appropriately addressed, will result in considerable capacity building for the industry.

2 TREND # 2: THE 'COMING OF AGE' OF SYSTEMS INTEGRATION

The second of the five key trends sweeping through and shaping the Pakistani software/BPO industry today is the coming of age of the systems integrator. While much can be said about the fact that systems integration could (or should) have been the first thing to come to Pakistan and in a way it probably did, for it is not a mere co-incidence that Pakistan's first software company was named Systems Ltd., the model never really caught on. Systems integration activity has always been around in Pakistan, driven primarily by major multi-nationals such as IBM and NCR and, to a lesser extent, a large number of smaller largely "invisible" firms that did not rise to national prominence. During the 1990s, this activity was overshadowed by a large number of software houses trying to create from scratch their own little piece of proprietary software rather than using what was available off-the-shelf to solve a business problem.

Several factors may have played a role in this. First, something has to be said about the temptation and glamour of inventing (sometimes re-inventing) something of your own rather than using a product developed by somebody else. Second, a vast majority of Pakistani technology leaders, at least the initial set of people, not unlike those in other parts of the world, approached the problem of IT in a fundamentally flawed manner. They absolutely fell in love with their technologies and were out to make a technology sale rather than solve a business problem. As a result they probably overlooked the fact that solving a business problem requires putting together systems - combining hardware and software, most of which was already developed – rather than reinventing the wheel. They were - and to a large extent still are - technologists trying to sell a widget rather than entrepreneurs seeking to make money.

Third, in the initial period, and to some extent today as well, the industry has been driven by the mind-set of trying to develop indigenous software to save precious foreign exchange. Fourth, off-the-shelf technology and software was not so readily and cheaply available then as it is today thus forcing many to take the indigenization route. Fifth, systems integration work involved mixing and merging hardware and software components and required considerable working capital requirements to deliver thus making most systems integration projects the exclusive domain of multinationals

and beyond the reach of most software companies.

And finally, many software entrepreneurs who had experienced the "foreign" software working and failing firsthand were disillusioned by the performance and value proposition it offered and thus made a conscious choice to embark upon creating their own. Many of today's software companies (e.g. Autosoft Dynamics, PIBAS etc.) were created as a result of the latter. Others (e.g. Com-cept, CARE etc.) came into being because there may have been a genuine need to write software for purpose-built hardware. There is perhaps some truth to each one of the six factors noted above. Together, they have kept our software entrepreneurs busy and the systems integrator below the radar.

The re-emergence of the systems integrator can be attributed to a set of demand and supply-side factors. The demand-side factors include, most notably, a certain maturation in the Pakistani economy, government, and society with the result that a natural demand for certain kinds of automation has emerged and is only likely to grow in the foreseeable future. The creation of NADRA and its 65 million ID Cards or Machine Readable Passports (MRP) projects is a key example of this natural demand. This had to happen some day and in the economic evolution of Pakistan that day had arrived. Similar argument can be made about land revenue automation, banking automation, eCommerce, and the growth of mobile telephony etc.

On the supply side, as well, there is a maturity argument that can be made. When Abacus Global Consulting started looking for SAP certified consultants in Pakistan almost a decade ago, they couldn't find many in the local market. Today, they have their own workforce of around 75-100 SAP consultants who can deliver on major projects. There are several other examples within the industry. Perhaps another factor that has raised the visibility of the role of systems integrator and thus, given the herd mentality of IT industry, has encouraged other companies to reorient their business models towards systems integration is the media frenzy and glamorous appeal around Si3 – an archetypical systems integrator who doesn't try to create its own proprietary software or systems but makes money by putting together off-the-shelf components to deliver what the client demands. Si3 makes no small claim of its ambition to become the country's first billion dollar company. Whether or not it succeeds in doing so remains to be seen but, knowingly or unknowingly, it might have contributed in making visible the role of the systems integrator and encouraged others to take the plunge.

Two things seemed to have happened as a result. First, there is definitely a growth in the number of companies willing to become partners of leading software multinationals (e.g. IBM, Oracle, Microsoft, SAP etc.) to license and deploy their products and platforms in the local market. The multinationals, consequently have also begun competing aggressively for the sale of their software. Second, there is a much greater willingness in the local industry to experiment with foreign software. Several companies interviewed for the purpose of this study seem to have made a complete switchover from one extreme of "I'll create my own ERP" to the other extreme of "I'll sell whatever I can get off-the-shelf" mindset. The right answer should lie somewhere in the middle. Whether or not this actually delivers results to the industry's clientele that desperately needs results for the projected IT spend to continue unabated remains to be seen. For now, though, the trend is unmistakable.

3 TREND # 3: THE EMERGENCE OF THE 'IDEA ENTREPRENEUR'

The third of a series of trends shaping the country's software industry is the emergence of the "idea entrepreneur". Over a decade ago, when Pakistan embarked upon its quest to become another India in the world's IT markets, the country's strategy and that of tens, if not hundreds, of its software entrepreneurs was simple: "If you have a desktop computer and an internet connection, you can export software". While there were more sophisticated entrepreneurs as well, the vast majority of the companies opened in the early to mid 1990s somehow believed in this mantra. Many an entrepreneur learnt the hard way that there was a wide gap between writing a piece of software and writing it so well to be able to sell it and make a profit. The 2004-5 study noted that the industry is going through a "rethink" of this simplistic notion of the software export business and that there are plenty of stories of individual and collective struggle and heroism to keep companies afloat during these times of immense turmoil and learning. It also noted that many are beginning to realize the difficulties of selling a generic product of the so called "software house" and appreciate the importance of concepts like domain knowledge and niche market etc. According to one industry leader:

> "*People did not focus on developing intellectual property, they took the easy route by going into services [either pure coding or custom development services or BPO]. Even in services you need to build [domain expertise and] intellectual property now.*"

Three years ago, one could begin to see the silver lining in the cloud in the very first companies being formed around an idea, a defendable domain expertise, and intellectual property. Today, this is fast becoming a trend, albeit one that needs to be further encouraged, nourished, and further strengthened.

The "idea entrepreneur" is distinguished from his other more generic colleagues by the presence of well-defined and focused idea behind the setting up of the company rather than a more haphazard process of "trial-and-error" and "stumbling upon something that sticks" notion of value proposition development. This is indeed a difficult challenge, given the rather primitive entrepreneurial ecosystem in which a Pakistani entrepreneur must operate. Ideas based businesses generally, although not always, require some upfront investment for the development of a product or a unique service proposition. If the entrepreneur is not properly endowed to make that investment, there is always the tendency and danger of getting distracted and consumed by projects that generate the necessary cash flow to sustain the company but stifle the development of the idea.

Ideas based businesses generally take one of the three forms. These are: a clear domain expertise that uses an intimate knowledge of a particular industry or business to deliver something of considerable value to a client; a unique product or service that makes up a strong value proposition for a group of targeted customers; and a defendable piece of intellectual property (or network-effects based defensibility) that differentiates a company from its competitors. Regardless of the source of the idea, the underlying notion really is that an ideas based business builds a defensible "unfair" competitive advantage for itself and provides a check against commoditization of its product or service offering while at the same time providing a unique value proposition to its client.

Ideas based businesses are increasingly becoming visible on the Pakistani software/BPO scene. Examples include companies such as Sofizar that uses a proprietary internet-marketing search engine optimization algorithm to sell events tickets (such as concert tickets etc.) to an international mass market and, in the process, makes money off the commissions from these sales; Naseeb Networks that runs a popular Muslim Social Networking website aimed at Muslim Diaspora in the West; Pixsense that is in the process of launching a mobile based picture sharing application; Enterprise DB that provides a novel Open Source based database application with complete Oracle compatibility at 1/10th of the cost; and Alchemy Technologies that has leveraged the deep domain expertise of its founders and the opportunity represented by a regulatory change (i.e. BASEL-II compliance requirements) to progressively build a suite of banking solutions for the local (and international) banking industry. These are merely a handful of examples representing the tremendous - though often below-the-radar - activity in the ideas businesses that is currently taking place in Pakistan.

TEXT BOX 4.1
GREEN & WHITE'S TOP PICKS OF PRODUCT IDEAS IN THE WORKS

- (No particular order)

iScrybe.com
PakTranslations.com
Orgoo.com
Amaana.com
BumpIn.com
DIDX (Super Technologies)
Weblo
MulazamatTV
Lootmaar
HelpHee (Config Systems)
Virtual Team (GenITeam)
PermiterLogics (Uraan)
Buzzvines
Workspace
iRecords (Streaming Networks)
Wixd
Peanut Labs / Xuqa

Source: Greenwhite.org

Green & White - a popular virtual hangout for the software / telecom / new media businesses in the country - lists a number of such companies working on or in the process of launching innovative ideas and products - the next generation of ideas-based businesses - in the foreseeable future. Some of the major challenges that these new and emerging companies (or free-standing product development teams) face is the lack of financial resources to develop and launch a viable product, appropriate mentoring and guidance on how to do it right, and just the right amount of inspiration to make it to the finish line. In the words of one of the industry CEOs:

> "*We don't have the right kind of hunger in us. They don't teach us how to survive and thrive in cut-throat capitalism at school.*"

What is missing - and is urgently required if this trend of ideas based entrepreneurship is to become well - entrenched in the industry - is a strong innovation eco-system to support the worthy endeavors of the emerging ideas entrepreneur.

4 TREND # 4 - OUT OF 'VOICE BUSINESS' (AND INTO FUNCTIONAL BPO?)

The fourth of the five key trends sweeping across Pakistan's software/BPO industry today is the gradual shift away from the voice based BPO (i.e. call-centers) business. The 2004-5 report although did not focus on business process outsourcing, nonetheless, noted the growing trend at that time of opening up of call centers in Pakistan. It also questioned the long-term viability of managing this scale-driven volume-based business model in Pakistan when it said:

> "*Playing the volumes-game (ITES/BPO), without the requisite scalability and HR, is unlikely to succeed on an industry-wide scale. Until we can resolve the scalability issue, we must learn to play in the equally lucrative ideas-game.*"

While companies have and will venture into this area and many have succeeded as well, voice-based BPO is one area where, in a general sense, Pakistan's inherent value proposition does not satisfy many of the elements critical to building a successful and profitable business, namely, manpower, space, economics, image, and connectivity infrastructure.

Pakistan is a country whose HR situation has proven to be notoriously fickle, if not problematic. While Pakistan is home to 160 million people with an English-speaking heritage and happily plays that card to market itself in the international call-center business, the number of people with good enough communication skills and command of accent-free language is an altogether different ballgame. The Resource Group (TRG) - one of the country's leading call-center businesses - realized this when they positioned their call-center job profile as an "interim career" for children of overseas Pakistanis and returning expatriates and as "something to do before taking-off to college" for educated youth from the country's English medium convent and grammar schools. With the manpower of this profile fairly limited, it is virtually inconceivable to create call-centers with (tens of) thousands of seats.

Even if the manpower situation were to somehow get solved miraculously, physical infrastructure (or office space) becomes a critical bottleneck for further growth of the call-center. While the government has provided preferential office space to call-center companies in its various STPs, the supply continues to hopelessly lag behind the demand. Faced with this dilemma, and the need to grow the number of seats to make the business model work, Voxel Communications - a notable call-center in Islamabad - embarked upon the task of building its own purpose-built call-center facility in an empty warehouse in the outskirts of Islamabad. While it had access to resources to do so, others are not that fortunate and thus find it hard to make the basic economics work. Call centers are, by their very nature, commodity businesses with very low margins that make money on the volumes that they can generate. With the scarcity of manpower and physical space, volumes are precisely what Pakistani call-center operations, by and large, have not been able to deliver.

The two final critical ingredients of a successful BPO industry are image and connectivity. Call-centers are often time-sensitive (both inbound and outbound) and mission-critical (inbound) operations that need 24x7 connectivity with the markets they serve. Perhaps more important than that, they need the clients' comfort and sense of security that the vendor can provide uninterrupted trouble-free operation that is being promised in the contract. Even today, as was the case in 2004-5, both these elements of the call-center business model remain illusive for the industry. Pakistan remains in the news for all the wrong reasons. According to one industry executive:

> "*According to our estimates, In 2007, Pakistan occupied 14% of the space-time coverage in the US media - mostly negative press - which tops all other subjects covered by US media including Iraq (4% coverage) and the US Presidential Elections (9%). How bad can it really get?*"

Despite the misalignment between the demands of the business model and what the country has to offer, however, a fair sized BPO sector had emerged in Pakistan by mid-2005. While it is difficult to accurately estimate the exact size of the industry, an independent observer puts it at about 3000 seats in around 30-50 call-centers. Then came the watershed event in the short history of the BPO industry in Pakistan.

On July 27, 2005, the SEA-ME-WE3 submarine internet backbone cable that connects Pakistan to the West was disconnected and remained disconnected for 12 days. This had a devastating effect on the call-center industry in

Pakistan and, according to one estimate, around 30 or so call-centers without satellite backup capacity laid off more than 3000 employees during this period. Their clients - unwilling to have their operations suspended for a 2 week period - moved elsewhere. According to one industry executive who was in the thick of Pakistan's response to this crisis:

> "*The government tried to do everything that they could to help including providing free-of-cost satellite backup connections but it was quite inadequate for the industry. In those 12 days, the whole industry was wiped out. A while after the internet was restored, we tried to contact companies to assess the extent of damage. In many cases, even the email addresses of executives had stopped working as if those companies never existed.*"

Pakistan's nascent BPO industry that had survived and, in some cases, thrived despite all the negatives had formally started its move away from voice-based work as a result of that single event. Two important sub-trends have shaped the industry's response to this event.

First, the domestic market for voice-based BPO seems to have opened up both as a response to (i.e. excess capacity) and independent of (i.e. general maturity of the industry) this event. Several companies have opened domestic focused BPO operations for multinationals, banks, and telecommunications companies as well as some public sector agencies. While margins are even slimmer locally than they were in the export market, they, nonetheless, are able to deploy capacity that was built over the years.

Second, companies are gradually looking to move towards non-voice BPO which is less susceptible to the kind of disruptions that the industry has faced in the past and is non-real time and less time-critical than voice-based BPO. This is also an area where HR maybe more readily available and where domain and functional knowledge can provide some differentiation and "sticking power" for the BPO vendor.

Another innovative model is to use a company's existing product-service offerings as a starting point to offer additional BPO services. Systems Ltd., for example, has leveraged the knowledge of its own well-established mortgage processing software to obtain non-voice outsourcing work from existing clients. Systems' parent company Visionet Systems has opened up a facility in Bangalore to provide the comfort of mind necessary for its BPO clients. Today, BPO is one of the fastest growing segments of Systems' revenue stream. Other companies with well-established product profiles and relationships (e.g. Netsol) may be equally well-positioned to do the same.

The BPO industry is currently in a state of flux in Pakistan. The trend towards domestic and away from voice-based export work is emerging but real. Several, if not all, of the problems identified above are solvable but they require concrete concerted action on the part of the government and the industry - both of which have thus far lacked the will to collectively undertake what is necessary to make a dent in the situation. In the absence of such action, though, while individual BPO businesses will continue to operate and many well-managed ones succeed as well, an international BPO industry of some significance is unlikely to emerge.

5 TREND # 5 - BUSINESS MODEL INNOVATION FOR EXPORT SUCCESS

> "*In a dynamic and fast changing industry like IT/Software, tomorrow can and will be radically different, and not merely an extension of today. It would require investors' foresight, business managers' insight, and entrepreneurs' courage to capture the moment and build the next generation of niche players and industry leaders and build it in the 'New Pakistan'. Profits are certainly to be earned by those who 'break the rules' and try the unthinkable.*"
>
> **- PSEB Best Practices Study (Osama, 2005)**

The fifth and final one of the five trends sweeping across the industry can be summarized in a few sentences in the words of one industry insider:

> "*Pakistan's software/BPO industry has just recently woken up from its slumber - from its dream of playing catch-up to and imitating the Indian software industry. For years, we have tried to follow the Indian business*

models. Some of us are only recently beginning to think for ourselves and do something that is in line with our circumstances and resources and uniquely our own…'85"

India is where it is today because it found itself at an opportunate moment in history. The world needed manpower to solve a pressing problem. India had the numbers to supply to the world. The clients did not care if the numbers supplied were properly trained or whether they made mistakes on - the -job and use the clients as guinea pigs as long as they had the numbers to do the work that needed to be done. The clients were willing to be patient - ery patient -and the Indians, to their credit, were eager to learn and excel in whatever was being asked of them. The world has changed today and perhaps never again that same opportunity will be provided to any other country on the map of the world. But that does not mean that there would not be opportunities for countries to succeed and even leapfrog. In today's world, there are opportunities for those who have the insight and vision to find them.

The quintessentially Indian business models of body-shopping and BPO/outsourcing are uniquely suited to Indian resource conditions and the peculiar circumstances of a particular time. They created successful companies of yesterday. The successful companies of tomorrow will not adopt Indian business models of yesteryears but would have to create their own unique business models suited to the resource endowments and circumstances of another time. More than anything else, the ability to conceive and execute upon unique and innovative business models would differentiate the leaders from laggards of tomorrow. Pakistani companies are increasingly waking up to that realization and are doing "their own thing" rather than mindlessly trying to be an Indian clone. Here are just a few selected snapshots:

- **Netsol's Novel Profit-sharing Outsourcing Arrangement** - Last year, Netsol embarked upon an innovative outsourcing arrangement that had an interesting twist to it. The project started as a 6 -8 person proof of concept team dedicated to insurance claims processing for one of its clients in the financial industry. Initially, Netsol ran the project for a while to prove its performance credentials and win the trust of the client. Once that was achieved, it invited the client to establish a joint-venture company with Netsol owning a 51% controlling stake in the new venture. Both the client and Netsol invested $0.5 million in the new company. Netsol trained the staff and acquired necessary professional certifications for the operation. The client had complete visibility, including costs and profits, into the operation and could see how the new company made money and delivered value. Since the client jointly owned the company, it also received half of the overall profit. Today, the operation has grown to 125 people. The client receives, in profit sharing, 30% of what it pays out to buy the company's services thus achieving considerable savings for itself. Netsol, in return, has a captive client and an expanding business.

- **LMKR's Innovative Use of Financing to Grow** - In 2005, LMKR had sold 60% of its equity to Halliburton and had become the latter's subsidiary whereby some new capital was injected into the business to help grow and diversify. This influx of equity resulted in considerable growth in the business over the span of the year. In December of 2006, LMKR bought back its equity from Halliburton at a higher valuation. Two months ago, it again brought in an international (UK-based) private equity firm Actis Group that has bought 49% of the company's equity. In addition to new money, Actis also brought in its networks and connections to the European market and a lot more. "I can't grow this company beyond a particular size without the help of these international players. I don't care if I own 100% of my company or not as long as we can grow it and value is added. We plan to go public and in a year's time and raise even more money to expand internationally. This is the only way to grow and become a global player in the IT space," says the company's CEO. LMKR's approach towards financing goes against the industry "wisdom" to holding ownership and equity close to ones chest rather than leveraging and spreading it around. A popular Silicon Valley saying goes: "It is better to be a 5% owner of a $1 billion company than a 100% owner of nothing".

- **Techlogix's Quest for Growing a High-End IT Consulting Operation** - Techlogix is one of Pakistan's leading and most exciting high-end IT consulting and software development operations. The company focuses on a number of practice areas, namely, business process management (BPM), master data management (MDM), business intelligence (BI), application integration, project portfolio management, enterprise applications, and software product engineering. Today, as it attempts to diversity and grow, it is faced with the challenge of formalizing its seven practice areas and grow these into full-fledged enterprises of their own. *"In due course, we would like to grow each of these business practice areas into as much size as the entire Techlogix earns today. This will require formalizing and growing these practices, internationally branding our methodologies, and diversifying our markets,"* says the CEO of Techlogix - Pakistan. The challenge is not unique to Techlogix but it is one towards which the company shows an unusual depth of thought and commitment. Scaling a professional services firm to 10x its current size

is the challenge Techlogix faces today and, in addressing it, is creating an example worth emulating for others in the industry.

- **Voxel Communications' Clever Resource Swap** - Faced with virtual elimination in mid-2005 when the internet backbone breakdown eliminated a major part of the call-center business in Pakistan, Voxel Communications was faced with a stark choice to close down its purpose built facility or to do something innovative to survive. *"We found out that the only choice available to us was to buy somebody or be bought out. That is really difficult to do when you've just been through a bloodbath and have literally no money left in the bank"*, says Voxel's CEO. After a lot of strategizing and soul searching, Voxel discovered that its largest client's growth was being constrained because of its inability to find capital. It approached its key client in the US with a proposition. Voxel had excess capacity and equipment in Islamabad and it was willing to lend this equipment to the client if the latter outsourced a certain number of seats to Voxel in return. This would give the client the in-kind capital needed to grow and Voxel a paying client. It took seven months to convince SBP on the legitimacy of this unusual arrangement. The client bought into the idea and Voxel implemented the plan. In the first year alone, Voxel brought back into the country $91K for every $100K of equipment that it had lent to the client. The call center currently employs 135 people dedicated to business from this particular client. Not only did it find an innovative way to do business after a hopeless situation but reverted a lost client back to a captive one.

- **TRG's International Acquisition Strategy** - TRG's international acquisition strategy is well-known within the industry. The company found what it believed was an innovative approach to solve the country's image problem. It raised capital from the domestic market and embarked on a strategy to acquire controlling stakes in distressed call-centers in the United States. Once acquired and integrated into the larger company, TRG would route a major portion of the operations of these distressed call centers to its facilities in Pakistan. This would circumvent the image issue as the final client would hardly notice the change in ownership and the fact that the calls were being routed to Pakistan. While jury is still out on the success or failure of TRG's acquisition strategy, the assumption sounds quite naï'efve at second thought and in all likelihood TRG has found it difficult to realize the benefits envisioned. TRG has since somewhat changed its original strategy and is now looking at alternate destinations (such as the Philippines) to expand its call-center operations. The company's back-office, however, remains in Pakistan. Regardless of the final verdict on the success or failure of TRG's acquisition strategy, the company deserves credit for being the first to propose a different approach to solving a conventional problem and leading the industry's foray into "out-of-the-box" thinking and business model innovation.

Each of the examples above provides an attempt to find non-traditional approaches to solving traditional problems. They represent business models that are innovative and not entirely obvious. They use creative ways of achieving an unfair advantage over the competition. Business success - dramatic business success - lies in a company's ability to think unconventionally to avoid competition, deliver better value than the incumbent, or fulfill an unmet market need. Doing so requires one to be a step or two ahead of the competition. As these examples illustrate, Pakistani software/BPO companies are gradually waking up to that reality.

Collectively, these five trends represent an important set of forces that are shaping and are being shaped by the companies and the business environment of today. Understanding, responding to, and building upon these trends is critical to the success of individual companies - both new and old - and the industry as a whole.

5

ENTREPRENEURSHIP IN PAKISTAN'S SOFTWARE/BPO INDUSTRY

The state of entrepreneurship in a country depends on a wide array of individual, historical, economic, and cultural factors. High technology entrepreneurship has long been one of the several weak points in Pakistan's software/BPO industry. In the Pakistani society, not unlike other relatively under-developed societies of the world, the concepts of entrepreneurship and risk-taking are relatively nascent. The traditional - and somewhat conservative - social and cultural mores of the Pakistani society expect a certain kind of conformance from individuals.

When a young man (or woman) grows up, he or she is expected to get educated with the primary, if not sole, purpose of ensuring his or her future employability (i.e. "getting a job"). Landing a job and working for a stable career - in armed forces, government, or one of the relatively stable organizations in the private sector (e.g. Banks or MNCs) - is seen as the "ultimate prize" in a young man's (or woman's) life and non-conformity to that generic career trajectory is generally frowned upon by "elders" and family alike.

The idea of making a risky career choice, doing something out of the ordinary, or pursuing one's dream (especially if it doesn't involve a stable job or lots of relatively risk-free and guaranteed money) is still an exception, rather than the rule. Some of this is understandable, especially given the lack of a well-functioning and generous social support structure. Not unlike other developing countries, there is no unemployment insurance, social security, or other forms of tax benefits available to those whose career may take unexpected turns. Other religio-cultural factors such as the expectation that a young man (and generally this applies to men) would be able to earn and support a family by the time he is 20-25 years of age also contribute to a risk-averse mentality.

It is in this backdrop that one must view and analyze the emerging entrepreneurial culture in Pakistan's software/BPO industry. Until quite recently, the ultimate objective of a young man (or woman) graduating with a degree in IT or computer science was to land a job in one of the big (and well-paying) software/IT companies in Pakistan or to move abroad to United States, Europe, or the Middle East. The entire educational experience and curriculum of these young men (and women) was oriented towards achieving that goal and, in some cases, they were actively discouraged by their faculty members to think outside that particular box. Until quite recently, the industry also did not provide many visible role models for these young men (and women) to follow. This may be about to change.

There is a growing realization that Pakistan, in general, and the IT industry, in particular lacks a broader entrepreneurial eco-system to encourage and support the aspirations of those who dare to venture. There is also a growing acknowledgement of the fact that the educational experience of the country's vast majority of graduates does not include adequate exposure to entrepreneurship. This realization is particularly stark among entrepreneurs and professionals returning from the West to do their own start-ups in Pakistan. Not only have these returning expatriates provided much needed role models for young men (and women), they have also taken on the challenge of actively addressing this acute deficiency.

A number of local and foreign groups are active in this domain. The Organization of Pakistani Entrepreneurs in North America (OPEN) – an organization of successful Pakistani - American entrepreneurs and high net-worth individuals with offices in Boston, New York, and the Sillicon Valley that has traditionally focused on the Pakistani Diaspora in America - has recently begun to engage with those back home. OPEN organizes a series of events and mentoring sessions at its various chapters and an annual conference in Silicon Valley that attempts to introduce Pakistani-Americans to opportunities in Pakistan

The Indus Entrepreneurs (TiE) is another volunteer organization of entrepreneurs of South Asian descent that has, in recent years, set up chapters in Lahore and Karachi. TiE has, for a few years now, organized an annual Business Plan Competition aimed at encouraging young entrepreneurs to present and refine their ideas. The latest in this series of Business Plan Competitions was organized recently and the winners were announced on December 16-17th, 2007 at a TiE Global Conference in Lahore. Industry insiders who have shared their feedback, suggest that this particular event fell considerably short of the expectations for several reasons.

First, several members of the audience (including the judges) noted that the quality of business plans received was not up to the expectations and that those submitted were, perhaps, not ambitious enough. There was also a dearth of participation from more established "real life" entrepreneurial teams with majority of the submission being from student teams enrolled in colleges and universities. Second, none of the top-3 business plans dealt with an IT (or technology-based) idea highlighting either a lack of interest or preparation by the technology community.[16] Third, industry insiders also suspect lapses in the management of the competition (e.g. that the publicity of the event was not adequate and the potential benefits were not properly publicized) suggesting that several potential participants may either have not known about the competition or were discouraged to apply due to lack of publicity or awareness of the benefits respectively. The competitions fallings aside, it is a step in the right direction.

In addition to these expatriate-driven efforts, some local efforts have also been undertaken to promote an entrepreneurial culture and to encourage young students to think about taking on the entrepreneurial challenge. Over the years, several local business schools have organized Business Plan Competitions, albeit with mixed results. These efforts have, in some instances, also been supported and sponsored by technology MNCs and public sector entities. One of the complaints that one hears from organizers of these competitions is the lack of quality and sophistication in the business plans that have been received. Another tangential but related effort that deserves a mention is the well-established tradition of Annual Software Competitions that have been regularly organized by a number of different entities since the mid to late 1990s. These competitions generally attract much wider, enthusiastic, and higher quality participation than the business plan competitions. It might be worth exploring the possibility of merging the business plan competition with the software development competitions by asking participants to think about and judging entrants on commercial potential of the submissions.

One the latest and most prominent initiative for supporting software / BPO entrepreneurship in Pakistan is the Business Acceleration Program (BAP) supported by MIT's Pakistan Club of Enterprise Forum (MITCEF). The program specifically focused on providing advice to already existing businesses (rather than trying to create new businesses) that could help them accelerate their level of growth. 17 companies submitted applications to participate in an intensive series of activities spread over several months. The program concluded with the announcement of a winner and a runner up. The industry feedback on this program has been very positive.

TEXT BOX 5.1 MITCEF'S BUSINESS ACCELERATION PROGRAM (BAP)

The basic idea of MIT-BAP originated during a series of engagements by Ken Morse and Bill Aulet of MIT Enterprise Forum who were engaged through a USAID funded effort to enhance the company building skills of Pakistani technology entrepreneurs. These workshops, delivered in Karachi, Lahore, and Islamabad and focusing on key company building and management issues such as Global Sales, Marketing, Operational Excellence, Finance, and Leadership, were designed to attract local IT/technology entrepreneurs. As a follow up to these workshops, the idea of a business planning competition was also discussed.

The idea began to take shape when several MIT Alumni of Pakistani origin got involved and created the Pakistan Club of MIT Enterprise Forum (MITCEF). After studying the example of similar efforts in Pakistan and deliberating upon these, it was decided to focus on a business acceleration program rather than a business planning competition to: a) provide help where it was most needed (i.e. remove impediments to growth of already existing companies); and b) get around the problem of lack of quality at the idea stage. The program was designed and applications invited from existing entrepreneurs.

- 20 teams submitted applications for participation in the MIT-BAP
- 17 teams were formally admitted after an initial screening of the applications
  - These teams were assigned experienced local mentors to engaged in a continuous interaction with them to help them refine their business plans and discuss strategic issues
- 11 teams submitted revised plans and made it through the second stage of the program
  - These teams were assigned foreign coaches who spent varying amounts of time with these teams on the phone and offline to further refine their business plans and value propositions
- Each of these 11 business plans were then submitted to 3 different graders comprising experienced entrepreneurs at home and abroad
- 5 final teams were selected to make presentations before a final panel of judges
- A winner (Sofizar) and a runner up (Alchemy Technologies) were announced at the end of these presentations

Due to the overwhelming appreciation of the MIT-BAP program in 2007, the MITCEF has decided to continue the program on an annual basis.

The MIT-BAP is likely to be held on annual basis. Another consequence of the program is the realization that the participants need ongoing follow up by MIT-BAP organizers and mentors to actually deliver upon some of the plans developed and promises made. There have already been certain benefits to the participating companies (e.g. introductions to potential investors, new advisors etc.) but a lot more needs to happen. The MIT-BAP organizers have also taken it upon themselves to try to bridge the gap of angel investment in Pakistan's IT industry. An announcement

[16] It is not clear if there was a conscious bias against technology-businesses (there seems to be a predominance of traditional businessmen rather than technology entrepreneurs or if technology businesses failed to clear the bar set by the judges for inclusion in the final list.

has already been made regarding the setting up of a Tech Angel Network (TAN) for Pakistan being organized by MITCEF. The initiative is currently in the works.

While the broader entrepreneurship and innovation support structure is gradually taking shape in Pakistan, localized and solitary examples of entrepreneurial excellence continue to be seen. Two examples that come to mind are iScrybe that - after considerable initial struggle - was ultimately funded by LMKR and Adobe and MulazamatTV that recently announced an acquisition by a foreign company. There is considerable “below the radar screen” entrepreneurial activity in Pakistan that continues despite bottlenecks and fails to get onto the radar because of a lack of financing and exit options in the country.

“There are at least 15-20 Mixits in Pakistan”, says the CEO of Mixit Technologies Inc. - a fast rising star of Pakistan’s software industry with offices on the Wall Street. It is the job of an entrepreneurial support system to promote and bring out these opportunities. Today, the industry is seeing the beginnings of such a system taking roots.

6

INFORMATION TECHNOLOGY MULTINATIONALS IN PAKISTAN

Pakistan is home to some of the world's largest and most prominent information technology multinationals - some of which have been around for several decades and have demonstrated deep confidence in and commitment to the country's future as a sophisticated user and producer of information technology products and services. Today's technology giants like NCR, Siemens, Microsoft, IBM, Cisco, HP, SAP, Oracle, and Intel have well-established operations in Pakistan and are increasingly playing an active part in the overall innovation eco-system of the country thus supporting the growth of the local software/BPO industry. Many of these companies have also experienced considerable growth in direct revenue in the local market thus demonstrating the country's growing importance as a market for software and infrastructure products. Rough estimates of combined domestic market share of 8-10 leading information multinationals range from $200-250 million per annum and growing at 25-30% per year, on average, with good years in between that could see revenue growth of 50% or more.

In addition to their direct contribution as providers of high-end software, hardware, systems, and infrastructure, these multinationals also play a critical support role in the domestic IT market. Some of the activities in which these multinational routinely engage with include:

- **Provision of Training Programs and Certification** – Several of these multinationals operate their own training and certification programs (e.g. Cisco, Microsoft, Oracle, and SAP etc.) thus providing critical training to local manpower. Cisco, for example, through its CCIE and CCNA certifications recognizes 50 or so individuals and more than 1500-2000 entities as a part of the Cisco Ecosystem aimed at delivering an array of services around Cisco's networking products and platforms. Google has recently embarked upon a program to promote Google Enterprise Professional (GEP) and Google Adwords Professional (GAP) certifications within the local industry. SAP operates a SAP Academy to train professionals in its proprietary ERP system.

- **Capability Building through Software Development Partnerships** – Several multinationals (e.g. IBM, Oracle, Microsoft, SAP etc.) also contribute to the capability development within the local industry through development partnerships (e.g. the Microsoft Partner Program) with local software companies that not only promotes transfer of technology and know-how but also serve as an important means to signal a certain degree of maturity of the company in question. Microsoft boasts a partner network of more than 2000 individuals and companies that are able to support its various technologies. The trend for using these multinational development partnerships to extend the capabilities of software companies has recently taken off and a number of companies seem to have benefited from these arrangements.

- **Creation and Support of Specialized Niche Industry Segments** – Certain multinationals have also taken on the task of creating and supporting the emergence of specialized niche industries. While these actions are largely driven by self-interest, they have, at times, resulted in a benefit to the broader industry. An example of this is the critical role played by IBM in the development of systems integration sub-industry, by NCR in the creation of data warehousing capability, and the role of Intel in the consolidation of a hardware vendor industry in Pakistan.

- **Market Awareness, Development, and Support** – Several of the multinationals discussed above have also contributed to market awareness and development activities. One recent example is Google's efforts to outreach the fragmented SME sector to promote its Google Adwords and Google Apps programs. Other multinationals have similarly run awareness programs for specific market sectors to generate demand for their products and services.

- **Contribution to the Broader Innovation Eco-System** - Multinationals also make an important contribution to the broader innovation eco-system within the country. This is carried out through sponsorship of conferences, workshops, software development and business plan competitions, and other philanthropic activities. Several of these multinationals have actively supported industry associations (e.g. P@SHA) and liaised with chambers of commerce and other entities. Microsoft has recently established a Microsoft Innovation Center in Karachi - one of only 30 such centers in communities worldwide - where it provides a free environment for developers to train, test, and proof-of-concept their products and software. It has also signed up with other entities (e.g. PSEB, academia) to deliver specialized training sessions and encourage collaborations within the broader ecosystem.

- **Direct Hiring and Recruitment of Talent** - Most of these multinationals also compete with the domestic software/BPO industry through the hiring and recruitment of direct talent. Several of these companies have experienced considerable increases in headcount over the last few years. IBM's headcount has doubled over the 3 years and Cisco has grown to over 50 people within 2 years of its inception. NCR has, over the years, embarked upon an ambitious program of building a global consulting practice (NCR Teradata) out of Islamabad. SAP and Oracle also have long-standing operations in Pakistan. In addition to local hiring, some of these multinationals also engage on the local scene for recruitment of talent for their overseas operations. Microsoft, for example, hires 40-50 graduates from some of Pakistan's leading universities to go to Redmond, WA each year. Google has recently begun to engage in a similar exercise, albeit at a much smaller scale.

- **Establishment of Regional and Global Centers of Excellence** - Another way in which multinationals engage with the local market in a manner that brings additional revenues and competence to the country is through the establishment of regional and global service delivery operations and centers of excellence. NCR has probably one of the most successful of such operations. Its Teradata division - now a separate company - operates a global center of excellence and service delivery operation in data warehousing from Islamabad. Cisco is looking at a similar possibility of setting up a virtual practice focused towards the Middle East market and has recently sent an initial batch of professionals for a 6-month training course to Bangalore. Most of these multinationals find Pakistan as an attractive hub to service the high-end needs of the Middle Eastern market and may be looking at similar possibilities.

While each of these modes of engagement make these multinationals important valuable players and partners in the success of Pakistan's information technology, software, and BPO industry, the million dollar question - the holy grail, so to speak - of how they view Pakistan and their long-term commitment to the country lies in whether they plan to set up large development operations within the country. Here, the answer that leading executives provided during interviews are somewhat mixed.

Four set of common factors seem to interact in the formulation of the response to the development center question. The first of these four factors is the longevity of the company's involvement with Pakistan. IBM, for instance, has been in Pakistan for decades now and is quite well integrated with the national technology scene. Google, on the other hand, is very new and has just begun to dabble around. The second of the two factors is the perceived opportunity for the company in question. The decision calculus of a multinational that sees a large opportunity in Pakistan either as a talent-base or as a potential market would be quite different from one that only sees a limited market.

The third factor is a complex mix of a whole range of elements that may constitute a country's perceived or real risk.

FIGURE 6.1 MAJOR MULTINATIONAL DEVELOPMENT CENTERS AND PROJECTS IN PAKISTAN (SOURCE - PSEB,2007)

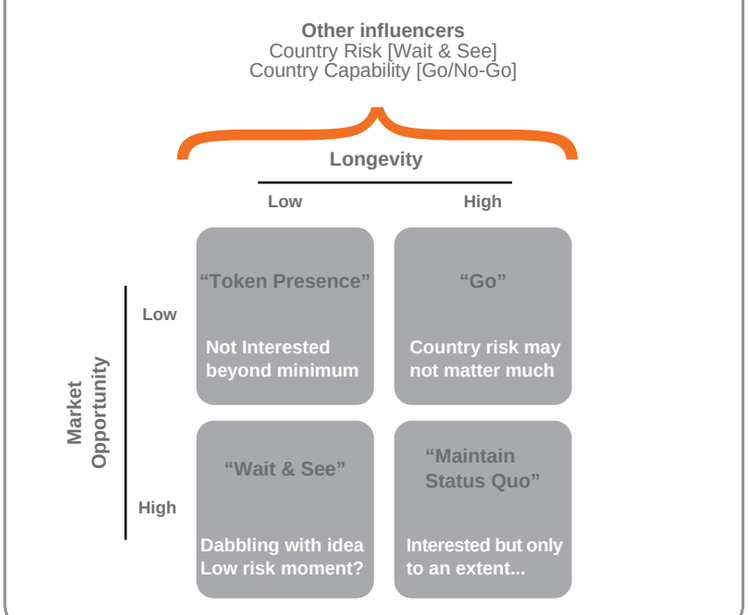
This may include law and order, political stability, and corruption, among others. The fourth and final factor affecting this decision is capability. In short, does the country have the capability to host a development operation of certain size and scale. Based on the interviews with senior leaders, the figure 8.2 provides a graphical snapshot of the decision calculus of a typical MNC on the development center question.

While all the executives interviewed for the purpose of this study agreed on the importance of law and order and political stability in the country (and the negative image that this creates) their responses were tempered with where they stood on the longevity and market opportunity axes. Google, for instance, scores low on both longevity and market opportunity (at least in the short-to-medium term) and would therefore only be interested in a token presence in Pakistan. IBM, on the other hand, scores high on longevity and medium-to-high on opportunity and hence maybe willing to go ahead with setting up a trial development operation in Pakistan.

The importance of the fourth factor, namely, capability cannot also be denied. Cisco's Country General Manager described his experience with attempting to convince Cisco's Corporate HQ on setting up an R&D development center in Pakistan:

> *"We spent a lot of time, working with Cisco's expatriate Pakistani community, in trying to develop a case for setting up a development operation in Pakistan. We met Cisco's senior leadership and the idea was quite well-received by them. We narrated a list of "concessions" or incentives that the government was willing to provide and how it makes sense for Cisco to set up this operation. The first question that we encountered was how many professionals can a development center in Pakistan realistically expect to have? What is the human resource potential of Pakistan in the relevant R&D areas? The tens of people that could realistically be hired in Pakistan didn't make economic sense to Cisco's bosses. Cisco has recently set up 'Cisco – East' in India and hired a staff of 3,000 people within months. They plan to scale it up to 10,000 in 18 months. Unless we offer genuine capability to do quality R&D at a large enough scale, large MNCs are not interested in Pakistan. We realized that we were trying to sell the wrong product to Cisco".*

FIGURE 6.2 MNCs' DECISION CALCULUS FOR LOCATING A MAJOR DEVELOPMENT OPERATION IN PAKISTAN



Country capability then becomes one of the most important elements of an MNC's decision to locate a major development operation in Pakistan. In the context of the 2x2 matrix described above, country capability becomes the Go/No-Go filter through which an MNC views the interplay of other three factors in a country.

Should the government put efforts - including providing incentives and using its persuasion muscle -into trying to attract multinationals into setting up development centers in Pakistan? What would be the effect, given the manpower shortage that the local industry already faces, of one or more major multinationals setting up a 1,000 or 5,000 person operation in Pakistan? There are two views on this issue. The straight forward answer is that such a happening, without a corresponding increase in the country's HR output over a sustained period of time, is likely to be detrimental to the local industry that has only recently begin to grow and mature. Another answer - a somewhat unconventional one - in the words of an Industry CEO runs as follows:

> *"The government should make maximum effort to convince multinationals to open large development centers in Pakistan. This may have the initial effect of upsetting the status quo but in the long run this will cause the local industry to respond and become more competitive. You can never predict how they will respond but I am confident that the churn of professionals and ideas between the MNC community and local industry will open tremendous new opportunities of innovation. We were on a trade visit to Ireland recently and met many of their local companies. None of their local companies seemed much bigger and more capable than the larger players in our local industry. The Irish software/IT industry is built around their ability to attract major multinational investment. If we can do the same, our software industry will not be any inferior than Ireland's"*

Unless Pakistan can credibly produce high quality engineers and computer scientists in large enough numbers to make it worthwhile for MNCs to invest in setting up a facility, it is not likely to attract much attention as a potential development destination for leading multinationals of the world. This, however, may not necessarily mean that nothing could be done until the country can provide manpower to large MNCs in batches of 10,000. Small collaborations and development partnerships may still be possible and encouraged and, in the long run, may develop the capacity and the confidence to undertake bigger initiatives.

7

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8

MULTINATIONALS AND INDIVIDUAL INTERVIEWEES

While not a direct subject of the study, the following individuals from IT multinationals and individuals in their private capacities participated in the study:

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2. Dr. Aamir Matin, Country General Manager, Cisco - Pakistan
3. Mr. Kamal Khan, Country General Manager, Microsoft - Pakistan
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