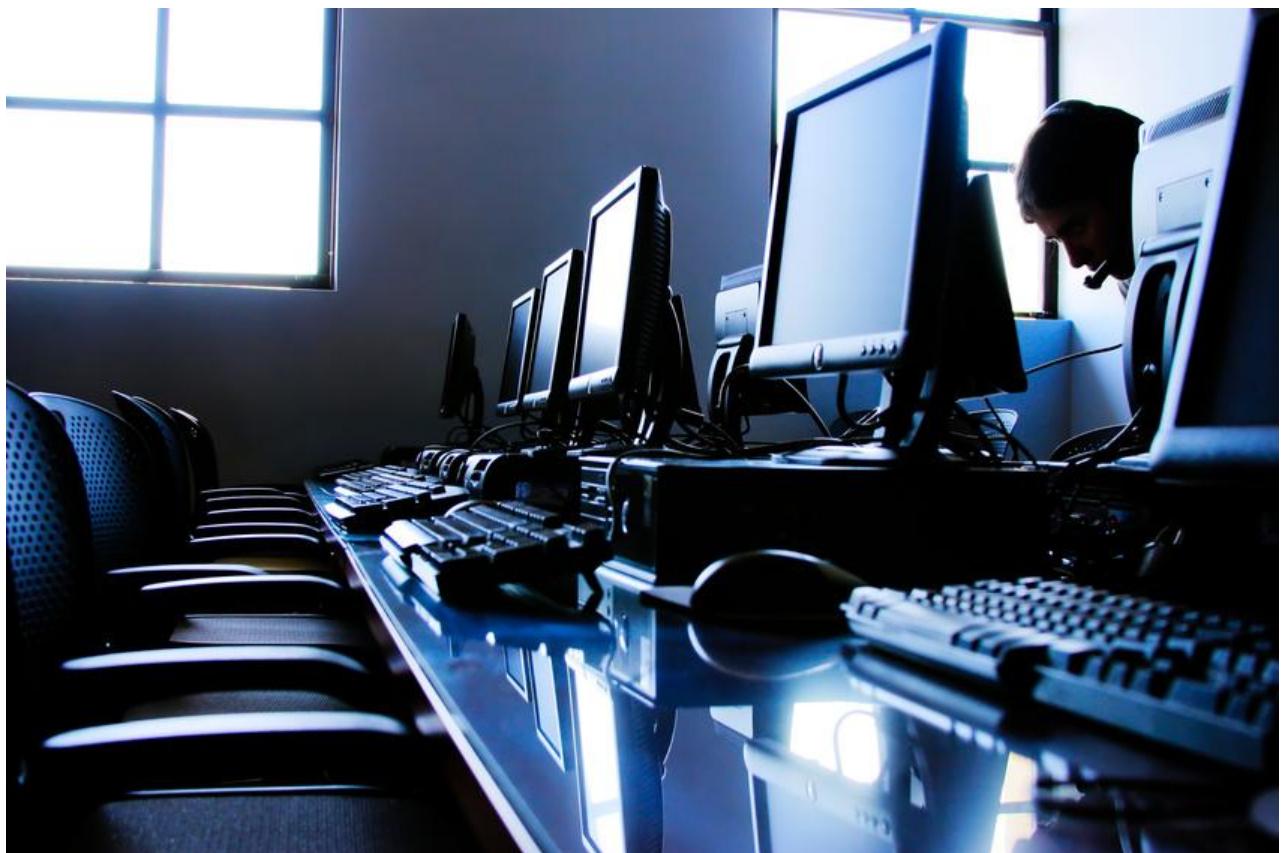




Trade Related Technical Assistance (TRTA II) Programme

ASSESSING PAKISTAN'S EXPORT OPPORTUNITIES FOR COMPUTER AND RELATED SERVICES

POLICY RESEARCH STUDY



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List of acronyms

| | |
|--------|--|
| BOI | Board of Investment |
| BOP | Balance of Payments |
| BPO | Business process outsourcing |
| CA | Certification authorities |
| CPS | Computer Related Services |
| CPC | Central Product Classification (UN) |
| ERP | Enterprise resource planning |
| ETO | Electronic Transaction Ordinance |
| DDA | Doha Development Agenda (negotiations under the WTO) |
| GATS | General Agreement on Trade in Services, WTO |
| ICT | Information and Communication Technologies |
| IP | Internet Protocol |
| IPR | Intellectual Property Rights |
| IT | Information Technology |
| ITA | Information Technology Agreement |
| ITeS | Information Technology Enabled Services |
| Mbps | Megabit per second |
| MOC | Ministry of Commerce, Pakistan |
| MOIT&T | Ministry of Information Technology and Telecom, Pakistan |
| NRI | Network Readiness index |
| PASHA | Pakistan Software Houses Association |
| PKI | Public key infrastructure |
| PSEB | Pakistan Software Export Board |
| PTCL | Pakistan Telecommunication Company Limited |
| PSEB | Pakistan Software Export Board |
| PTA | Pakistan Telecom Authority |
| PITB | Punjab Information Technology Board |
| SBP | State Bank of Pakistan |
| STP | Software Technology Parks |
| TDAP | Trade Development Authority of Pakistan |
| WTO | World Trade Organization |

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Introduction

Computer and Related Services (CRS) is an emerging field in international trade in services and especially so for the Asia and Pacific economies. For Pakistan, the importance of the CRS sector cannot be underestimated in terms of its export potential and contribution to the domestic economy. The fact is highlighted further by the successful case study of India where CRS has emerged as the single largest contributor of export earnings with a target of achieving the US\$ 100 billion mark by 2013.

With a significant growth rate, despite the overall economic downturn, Pakistani information technology (IT) and Information Technology Enabled Services ITeS companies have shown remarkable growth in the last few years and local companies have been recognized at the global level. The total industry size is US\$ 2.8 billion. The global sales revenue of Pakistani IT and ITES companies was valued at US\$ 1.6 billion¹ in 2010. The official exports figure for CRS is not sizable at US\$ 29 million for 2010-2011²; however this is in part due to the inherent problem of documentation and accounting of IT and ITeS exports. More than 1500 companies are registered with the Pakistan Software Export Board (PSEB) and a few are listed on the Karachi Stock Exchange, notably business process outsourcing (BPO) companies such as The Resource Group (TRG) and a few Pakistani IT companies are listed on international stock exchanges as well.

For 2010 the World Bank's *Doing Business Index*³ puts Pakistan among the leading South Asian countries in terms of ease of doing business and second in many other indicators such as protecting investors, getting credit and trading across the borders. Despite the country's geopolitical and economic instability, Pakistan is quickly emerging as a force in the region, partly due to its fast paced IT industry. Government policies toward foreign investors have also contributed to making the country stand out. These policies include 100 percent foreign equity ownership in all ICT areas, 100 percent repatriation of profits for foreign investors and tax exemptions for new and existing suppliers in the ICT sector until 2016. An increasing number of foreign companies also prefer Pakistan for their outsourcing operations due to the large pool of professionals proficient in English, cheap connectivity rates, and competitive operational costs.

Perhaps the most exciting development over the last few years is the increasing role of entrepreneurs in ICT-based projects, with younger people launching their own businesses rather than looking for jobs. Several applications using Web 2.0, social networking, mobile applications and other software-based businesses are growing.

Although the CRS (IT/ICT) sector in Pakistan is experiencing strong growth, it is not being given a proper focus and priority by the Government beyond the usual "incentives" such as tax exemptions and preferential rates for bandwidth etc. Moreover there is lack of "industry" character in terms of harnessing global opportunities and creating a "brand Pakistan" at the global level. The industry knows little about the market access opportunities available through Pakistan's multilateral commitments in the context of World Trade Organisation (WTO) General Agreement of Trade in Services (GATS) or even at the bilateral or regional levels- such as Pakistan's Free Trade Agreements (FTA) with China and Malaysia which have comprehensive coverage of CRS in their schedules of commitments. This relative neglect of the Pakistani CRS industry is a notable factor in not fulfilling its true potential. There is a visible absence of government support and spearheading in making industry aware of such opportunities and harnessing the potential benefits deriving there from.

Pakistan has made reasonably liberal commitments in CRS under GATS during the Uruguay Round and signalled a readiness to undertake deeper commitments in the current Doha Development Agenda (DDA)

¹ Pakistan Software Export Board www.pseb.org.pk

² State Bank of Pakistan, Trade in Services figures www.sbp.gov.pk

³ World Bank, doing business index 2010, www.doingbusiness.org

round. This sector remains one of the most liberal under GATS in almost all of the WTO member countries. However the lack of regulatory and institutional infrastructure makes it much more uncertain and opaque in practical terms. Pakistan, being no exception to this, is trying to develop the legal, regulatory and institutional infrastructure for the CRS sector and has made some notable developments in recent years but it is still far from being adequate.

The CRS sector is one of the notable activity areas in terms of international services trade transactions in Pakistan but not fully accounted for in the country's national accounts. Due to inadequate reporting and accounting systems, official figures for imports and exports of CRS are far less than actual transactions. Unlike goods trade, it is very hard to keep a proper track of CRS trade flows and reliance has to be put on BOP statistics which are dependent on reporters' disclosure rather than the real capture of documented trade flows. Moreover, some of the CRS companies do not bring money back to Pakistan but rather ask importers to pay in some other country, thus making those transactions non-reported.

Potentially CRS is one of the key export growth sectors for Pakistan, given the country's entrepreneurial eagerness together with the fact that there is an ever increasing global market for CRS. There is a need to develop a proper legal, regulatory and institutional support mechanism to translate this potential into reality. Both the government and private sectors have to play equal roles. Following an overview of CRS in Pakistan along with an assessment of the export potential, this study provides a series of recommendations for stakeholders to consider.

Classification of CRS

Classification is a major issue in the context of truly capturing the contribution of CRS to trade performance. The GATS Services Sectoral Classification List⁴ includes computer services as a sub-sector of business and professional services. This sub-sector includes 5 sub-categories:

- a) Consultancy services related to the installation of computer hardware,
- b) Software implementation services,
- c) Data processing services,
- d) Data base services, and
- e) Other

A more detailed breakdown of these sub-sectors can be found in the United Nations Provisional Central Product Classification (UNCPC), as illustrated in Figure 1 below.

With respect to classification there are two issues that are worth noting: 1) The relationship of the activities included under this sub-sector to telecommunications services, and; 2) their relationship to the creation and supply of computer software.

With regard to telecommunications, there would appear to be considerable overlap, particularly as it is increasingly common for activities such as data base and data processing services to be performed and/or supplied on-line. First, the corresponding UNCPC entry for data base services (844), while specifying that the services may be provided through a communications network, states that it explicitly excludes electronic data and message transmission services classified under UNCPC 7523. However, it is not apparent from the text whether the exclusion applies to some or all of the activities listed under CPC 7523, which corresponds to several value-added telecommunications services in the GATS Classification List (h. Electronic mail, i. Voice mail, l. Value-added facsimile services, j. On-line information and data base retrieval and k. Electronic data interchange). Moreover, for telecommunications, the GATS Classification List applies a cross-reference to a UNCPC computer services item - 843 data processing services - for its own item n (on-line information and/or data processing). Given the interplay between the two sector's listed activities, it may not be clear when telecommunications services, computer services, or both are being supplied.

Table 1: Computer and Related Services: GATS classification list entries and UNCPC descriptions

| UN CPC | W/ 120 | UNCPC description |
|-------------------------------------|---|---|
| | B. Computer and Related Services | |
| 841 842 843 844 845+849 | a. Consultancy services related to the installation of computer hardware b. Software implementation services c. Data processing services d. Data base services e. Other | |
| Ba | 841 | <u>Consultancy services related to the installation of computer hardware</u> : assistance services to the clients in the installation of computer hardware and computer |

⁴ WTO document no. MTN.GNS/W/120

| | | |
|----|--------------|---|
| | | networks. |
| Bb | 842 | <u>Software implementation services</u> : all services involving consultancy on, development and implementation of software, and defines "software" as the sets of instructions required to make computers work and communicate, which may include a number of different programmes developed for specific applications (application software) and situations in which the customer may have a choice of ready-made off-the-shelf programmes (packaged software), specifically developed programmes for its requirements (customized software) or a combination of the two. The sub-categories are: |
| | 8421 | <u>Systems and software consulting services</u> : services of a general nature prior to the development of data processing systems and applications. It might be management services, project planning services, etc, |
| | 8422 | <u>Systems analysis services</u> : include analysing the clients' needs, defining functional specification, and setting up the team, as well as project management, technical coordination and integration and definition of the systems architecture |
| | 8423 | <u>Systems design services</u> : include technical solutions, with respect to methodology, quality-assurance, choice of equipment software packages or new technologies, etc. |
| | 8424 | <u>Programming services</u> : the implementation phase, i.e. writing and debugging programmes, conducting tests, and editing documentation |
| | 8425 | <u>Systems maintenance services</u> : consulting and technical assistance services of software products in use, rewriting or changing existing programmes or systems, and maintaining up-to-date software documentation and manuals and specialist work, such as conversions |
| Bc | 843/ 8431 | <u>Data processing services</u> : or "input preparation services" include data recording services such as key punching, optical scanning or other methods for data entry |
| | 8432 | <u>Data-processing and tabulation services</u> consisting of services such as data processing and tabulation services, computer calculating services, and rental of computer time |
| | 8433 | <u>Time-sharing services</u> : UNCPC states that there is no clear distinction between 8432 and 8433, noting that computer time only is bought; if it is bought from the customer's premises, telecommunications services are also bought. Data processing or tabulation services may also be bought from a service bureau. |
| | 8439 | <u>Other data processing services</u> : consisting of services which manage the full operations of a customer's facilities under contract: computer-room environmental quality control services; management services of in-place computer equipment combinations; and management services of computer work flows and distributions |
| Bd | 844 | <u>Data base services</u> : all services provided from primarily structured databases through a communication network. The UNCPC specifically excludes "data and message transmission services" which it classifies under telecommunications services (as 7523) and excludes documentation retrieval services classified as library services (as 96311) |
| Be | 849 | <u>Other computer services</u> : services for which UNCPC lists two sub-categories |
| | 8491 | <u>Data preparation services</u> : services for clients not involving data processing services |
| | 8499 | <u>Other computer services</u> not classified elsewhere.: training staff of clients and other professional services |

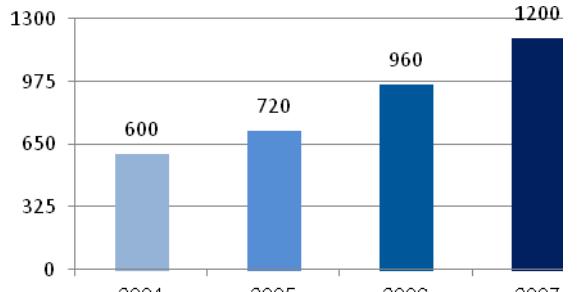
CRS in Pakistan

The IT and Information Technology enabled Services (ITeS) industry (grouped as CRS) in Pakistan is growing rapidly due to the countries attractive investment environment for entrepreneurs. Pakistan has a skilled labour force and growing IT infrastructure to facilitate investments. As detailed by the Pakistan Software Export Board and Pakistan Software House Association, the current main facts related to the CRS in Pakistan are:⁵

5 Pakistan Software Export Board www.pseb.org.pk and Pakistan Software House Association www.pasha.com.pk

- Pakistan's IT industry's global share is estimated at US\$2.8 billion, including global sales revenue of US\$1.6 billion in June 2011.
- A skilled workforce of 110,000 English-speaking IT professionals in the economy, of which 24,000 are engaged in exports.
- Nearly 1500 IT and related companies. Two are listed on the Karachi Stock Exchange (KSE), two on the National Association of Securities Dealers Automated Quotations (NASDAQ) and one on the Dubai International Financial Exchange (DIFX).
- Pakistan features nine Software Technology Parks offering around 700,000 square feet of IT-enabled office space.
- Seven multinational companies have 'Development Centres' in Pakistan.
- There are some international certifications for computer and software companies. At present there are 110 ISO 9001⁶, 23 CMMI⁷ and 11 ISO 27001⁸ certified companies.
- A strong telecoms sector supports the IT industry's development.
- From its nascent beginnings in the late 1980s, the Pakistani CRS/IT 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 generating over 2 billion dollars a year in revenue, up from less than a billion dollars a few years ago.
- Impressive (40%) growth in CRS has been registered since 2007. About half of this growth is coming from foreign, software and high-end services projects. IBM, Cisco and Microsoft are expanding Pakistani operations aggressively while several start-ups are now backed by Venture Capitals such as ePlanet Ventures, Motorola, Adobe and Innovacom.
- Current growth rates indicate that the industry will exceed the 11 Billion US\$ mark within the next five years.
- Putting it all together, the Pakistani Technology industry is very different from what it was in the early 1990's. From four founding companies in 1994, membership of the Pakistan Software House Association (PASHA) today exceeds 370. From 4,200 employees in 2004, current employment is at 12,000 and rising. This labour force is not very high in absolute number and in comparison with other services sectors but the notable point is that the undocumented services suppliers (individuals and non-registered suppliers) are not included in this number.

Box 1: The industry at a glance

| Software / BPO companies in Pakistan | | Software / BPO revenues |
|---|-------|--|
| <u>Estimated total No. of companies</u> | 500+ | |
| No. of PASHA Members | 370+ | |
| Companies surveyed | 85 | |
| Foreign subsidiaries | 32% | |
| Firm with front offices abroad | 54% | |
| ISO certified companies | 46% | |
| CMM/CMMI certified companies | 1 | |
| CMM – Level 5 companies | 2 | |
| Domestic: Export breakdown | 52:48 | |
| | |  |

Source: Pakistan Software House Association (PASHA)

6 International Standards Organization (ISO) standards for operations of entities involved in services.

7 CMMI (Capability Maturity Model Integration) is a process improvement approach that provides organizations with the essential elements of effective processes, which will improve their performance

8 ISO standard on information security management

- **Global Information Technology Report 2010-11**

The World Economic Forum's Global Information Technology Report assesses the extent to which countries leverage ICT advances for increased competitiveness and development. The framework gauges:⁹

- The conduciveness of national environments for ICT development and diffusion, including the broad business climate, some regulatory aspects, and the human and hard infrastructure needed for ICT;
- The degree of preparation for, and interest in using ICT by the three main national stakeholders in a society (i.e., individuals, the business sector, and the government) in their daily activities and operations; and
- The actual use of ICT by the above three stakeholders.

As indicated Table 2, the Global Information Technology report for 2010-11 ranked Pakistan 88 of 133 countries in terms of its ICT networked readiness. This ranking suggest an unfavourable domestic enabling environment to exploit the export potential CRS and the focus of policy priorities towards this sector. As detailed in further shortly, some of the most crucial impediments are derived from regulatory and infrastructural bottlenecks. Some of the notable bottlenecks are lack of venture capitals and access to finance, skilled/trained workforce, and availability of latest technology and lack of readiness/focus by the government.

⁹ World Economic Forum (WEF), Global Information Technology Report 2010-11

Table 2: Pakistan's ICT readiness

Pakistan

Key indicators

| | |
|---|-------|
| Population (millions), 2009..... | 163.8 |
| GDP (PPP) per capita (PPP \$), 2009 | 2,683 |
| GDP (US\$ billions), 2009 | 162.0 |

Global Competitiveness Index 2010–2011 rank (out of 139) 123

Networked Readiness Index

| Edition (No. of economies) | Score | Rank |
|------------------------------|------------------|------|
| 2010–2011 (138) | 3.5....88 | |
| 2009–2010 (133)..... | 3.487 | |
| 2008–2009 (134)..... | 3.398 | |
| 2007–2008 (127)..... | 3.489 | |
| 2006–2007 (122)..... | 3.384 | |

| Environment component | 3.5 | 96 |
|---|------------|-----------|
| Market environment | 4.2 | 61 |
| 1.01 Venture capital availability* | 2.8.....51 | |
| 1.02 Financial market sophistication* | 3.9.....85 | |
| 1.03 Availability of latest technologies* | 4.6.....87 | |
| 1.04 State of cluster development* | 4.0.....46 | |
| 1.05 Burden of government regulation* | 3.2.....71 | |
| 1.06 Extent & effect of taxation* | 3.846 | |
| 1.07 Total tax rate, % profits..... | 31.6....39 | |
| 1.08 No. days to start a business | 21.....81 | |

| | | |
|---|-------------|------------|
| Readiness component | 4.3 | 60 |
| Individual readiness | 5.1 | 56 |
| 4.01 Quality of math & science education* | 3.5.....89 | |
| 4.02 Quality of educational system* | 3.3.....86 | |
| 4.03 Adult literacy rate, % | 53.7....128 | |
| 4.04 Residential phone installation (PPP \$)..... | 29.3....19 | |
| 4.05 Residential monthly phone subscription (PPP \$) ...5.7.....33 | | |
| 4.06 Fixed phone tariffs (PPP \$) | 0.0847 | |
| 4.07 Mobile cellular tariffs (PPP \$)..... | 0.063 | |
| 4.08 Fixed broadband Internet tariffs (PPP \$) | 28.2....36 | |
| 4.09 Buyer sophistication* | 3.562 | |
| Business readiness | 3.9 | 70 |
| 5.01 Extent of staff training * | 3.3....114 | |
| 5.02 Quality of management schools* | 4.0.....80 | |
| 5.03 Company spending on R&D* | 3.067 | |
| 5.04 University-industry collaboration in R&D* | 3.4.....80 | |
| 5.05 Business phone installation (PPP \$)..... | 29.3....9 | |
| 5.06 Business monthly phone subscription (PPP \$)6.8....18 | | |
| 5.07 Local supplier quality* | 4.195 | |
| 5.08 Computer, communications, & other services imports, % services imports | 29.6....66 | |
| Government readiness | 3.9 | 84 |
| 6.01 Gov't prioritization of ICT* | 4.5....83 | |
| 6.02 Gov't procurement of advanced tech.* | 3.4....83 | |
| 6.03 Importance of ICT to gov't vision* | 3.7....90 | |
| Usage component | 2.9 | 96 |
| Individual usage | 2.6 | 106 |
| 7.01 Mobile phone subscriptions/100 pop..... | 52.2....114 | |
| 7.02 Cellular subscriptions w/data, % total | 0.0....110 | |

Source: World Economic Forum (WEF), Global Information Technology Report 2010-11

Exports of CRS from Pakistan

The services sector contributes over 50% of the GDP of Pakistan but not proportionately in the country's international trade flows, i.e. the share of services in international trade of Pakistan is less than 10%. There has been an increase in services exports in recent years and for the first time it hit the US\$ 5 billion mark in 2011¹⁰. There is still not a full realization of the potential of services exports and the share of CRS in exports of services is still not as significant as it could be. This is largely attributable to the reporting and accounting of international trade transactions in this area.

¹⁰ Ministry of Commerce, Pakistan, www.commerce.gov.pk

Table 3: Exports of CRS¹¹

(Thousand US Dollars)

| | Jul-10 to May-11 | FY-2010 | FY-2009 |
|---|------------------|-----------|-----------|
| Hardware consultancy services | | 2,338 | 2,101 |
| Software consultancy services | | 31,421 | 25,164 |
| Maintenance & repairs of computer | | 295 | 412 |
| Export of computer software | | 124,184 | 120,294 |
| Other computer services | | 29,053 | 35,033 |
| Earnings of journalists / authors | | 377 | 160 |
| Subscription to news papers/periodicals | | 288 | 327 |
| News agents and correspondents | | 350 | 848 |
| Computer and information services | 197,000 | 188,304 | 184,339 |
| Total of services sector | 5,016,000 | 5,229,219 | 4,106,444 |

Table 4: Foreign Direct Investment in CRS- State Bank of Pakistan¹²

(Million US Dollars)

| Service Type | 2006-07 | 2007-08 | 2008-09 | 2009-10 | Jul-10 to Mar-11 |
|----------------------|---------|---------|---------|---------------------|-------------------|
| Software development | 5.3 | 13.7 | 19.1 | 9.2 | 6.7 |
| Hardware development | 4.6 | 6.6 | 1.5 | 2.6 | 2.1 |
| IT Services | 62.2 | 160.5 | 42.1 | (90.9) | (100.0) |
| Total for IT | 72.0 | 180.7 | 62.7 | (79.1) (outflow) | (91.2) (outflow) |

Modes of supply of CRS from Pakistan

As defined in GATS, services are supplied through four modes. The supply of CRS is a particularly interesting case since it occurs through various modes. An overview of these modes and how Pakistani companies are supplying CRS through such modes is given below.

Mode 1 – Cross border supply

Cross-border services are supplied from the territory of one Member into the territory of any other Member. In this mode, the service supplier is not present within the territory of the partner member.

A user in country A receives services from abroad through its telecommunications or postal infrastructure. Such supplies may include consultancy or market research reports, tele-medical advice, distance training, or architectural drawings. A large amount of CRS is done through this mode. Major benefits of CRS exports through this mode include a reduction or avoidance of visa issues and cost efficiency. In fact, most of the big and notable companies in the Pakistani CRS sector (such as TRG and Netsol) are heavily relying on mode 1 exports.

Most of the Pakistani companies involved in call centres and other BPO are supplying services through mode 1. Moreover, there is a notable presence of individual services suppliers, particularly software development, who supply services through mode 1.

11 Source: State Bank of Pakistan www.sbp.org.pk

12 Source: State Bank of Pakistan www.sbp.org.pk

Mode 2 – Consumption abroad

Under this mode, services are supplied in the territory of one Member to the service consumer of any other Member. In this mode, the service supplier is not present within the territory of the member rather the consumer moves to the country of the supplier.

There is not much international trade in CRS through this mode anywhere in the world, including Pakistan.

Mode 3 – Commercial presence

Under this mode, services are supplied by a service supplier of one Member, through commercial presence, in the territory of any other Member. The service is provided by a locally-established affiliate, subsidiary, or representative office of a foreign-owned and controlled company (bank, hotel group and IT company, etc.)

Some of the Pakistani IT companies involved in CRS exports have offices in other countries with a couple of notable examples of companies listed on the American stock exchange NASDAQ. Some foreign IT companies have offices in Pakistan which provide CRS to Pakistani customers as well as export from Pakistan.

Mode 4 – Movement of natural persons

Under this mode, services are supplied by a service supplier of one Member, through the presence of natural persons of a Member in the territory of any other Member. In this mode, the service supplier is present within the territory of the other Member. A Pakistani national provides a service in the United States market as an independent or contract-based supplier (e.g., consultant, IT specialist) or as the employee of a service supplier (e.g. consultancy firm or IT company).

CRS exports from Pakistan rely heavily on this mode of supply. Professionals of Pakistani software houses go abroad for requirements analysis and sometimes development/deployment also. In some categories of CRS like consultancy services related to the installation of computer hardware (841), software implementation services (842), physical presence of consultants (natural persons) becomes mandatory to provide the service effectively.

Overview

The aforementioned definition and classification of modes of supplying services is significantly broader than the balance of payments (BOP) concept of services trade. While the BOP focuses on residency rather than nationality i.e. a service is being exported if it is traded between residents and non-residents - certain transactions falling under the GATS, in particular in the case of mode 3, typically involve only residents of the country concerned.

Commercial linkages may exist among all four modes of supply. For example, a Pakistani company established under mode 3 in the United States may employ nationals from Bangladesh (mode 4) to export services cross-border into Canada. Similarly, business visits into Canada (mode 4) may prove necessary to complement cross-border supplies into that country (mode 1) or to upgrade the capacity of a locally established office (mode 3).

A specific example for Pakistan occurred when IBM established an office in the country. The company recruited people from Pakistan, and provides CRS services to companies in Pakistan and abroad. Some of these services are provided locally (employees work from Pakistan) while others employees travel to foreign countries. When employees go abroad, they use the telecommunication networks and other services of that country.

Domestic regulatory environment in CRS

The telecoms and related infrastructure, i.e. telephone, internet bandwidth, frequency allocation etc, in Pakistan was largely under government control until 2003. Beginning in 2003, the deregulation of basic telecommunications gave a sudden surge to the telecoms through decreased cost and improved access. Inevitably there were flow on benefits to the IT sectors which are heavily dependent on the smooth functioning of telecommunications. Improvements assisted no end the country's efforts to join the IT revolution bandwagon and making a brand in exports of IT and related services. There were many important steps under the "liberalization" policy, from the basic telecommunications to the value added services, IT and CRS, by the Government of Pakistan coupled with generous incentives for investment in the IT and CRS sectors.

However, steps towards greater liberalisation were not always accompanied by an appropriate legal and regulatory environment. The rationale of having proper regulation was in fact taken in a wrong perspective by the government, i.e. considered to be mutually exclusive with liberalization efforts, thus the appropriate interplay between regulations and liberalization could not be found during the initial years.) However, it was not until very late when the government realized the importance and rationale of proper regulation to manage this wave of liberalization of different areas including the IT and CRS sectors. The liberalization of value added IT and CRS were focused on increased bandwidth access, preferential allocation of frequency (where needed), and assurance of infrastructure support from the basic telecom provider, i.e. Pakistan Telecommunication company.

It would be incorrect to argue that liberalization in the IT sector failed due to the absence of proper regulation but it may be plausible to advance that a proper regulatory system would have been much more helpful in realizing the sector's growth potential.

Key regulators of CRS

Due to the width and depth of the CRS (taken as IT and ITeS), it is hard to have a single regulator or regulatory agency in the sector. Pakistan is relatively new to the CRS bandwagon, therefore the regulatory functions are not specific to the sector, but rather a number of institutions mentioned below.

The **Ministry of IT and Telecommunications** is the apex federal government body to design and implement policy in CRS. The strategic oversight and implementation through different organs and departments of the ministry act as an umbrella for the ICT industry in Pakistan.

Pakistan's **Telecommunications Authority** manages the telecom-related operations as a regulator. Since most of the CRS are dependent on telecom-related services, the regulatory functions of the Pakistan Telecom Authority (PTA) are also relevant for the CRS companies.

Regulatory instruments

There is no licensing system per se to operate as a CRS provider however if a company wants a dedicated frequency allocation or dedicated high bandwidth lines then it has to go through the procedural formalities of the Frequency Allocation Board and the PTA respectively.

Some of the notable legislative and regulatory instruments for CRS in Pakistan are as follows:

Introduced in 2002, the Electronic Transaction Ordinance (ETO) covers public key infrastructure¹³ (PKI) and certification authorities (CA), electronic transactions, digital signatures, and related elements that constitute the basis for secure electronic transactions over the Internet.

Recently a bill on cybercrime was promulgated amid protests from the industry against the draconian penalties and the lack of clarity with regard to building the capacity of the implementers (police, investigation agencies, lawyers, courts). The bill will undergo necessary changes after review by the government.

New laws relating to Internet Protocol (IP) protection, data security, and consumer protection are also being drafted. The telecoms sector has a comprehensive set of laws that are supplemented by the requisite rules and regulations. The licensing process and sector regulation have proceeded successfully and a policy review is scheduled this year. Issues related to spectrum (e.g. WiMAX) and broadband are being tackled on a real time basis (as the issues evolve) and getting resolved. Considerable spectrum clearance has taken place and it is expected that more bands will be cleared for license-free transmission, in addition to the current 2.5 GHz and 5.8 GHz Wireless Fidelity (WiFi) bands.

The Investment Policy of Pakistan provides incentives to foreign investors in the CRS. Some of these incentives are permission of 100% equity for foreign investors, establishment of IT parks, swift dispute resolution system, facilitation of business services and other infrastructure issues through Board of Investment.

Key CRS stakeholders in Pakistan

The following are key CRS stakeholders in Pakistan.

Public sector

- Ministry of Information Technology and Telecommunications
- Pakistan Telecommunications Authority
- Frequency Allocation Board
- **Pakistan Software Export Board**
- Ministry of Commerce
- Trade Development Authority of Pakistan
- State Bank of Pakistan
- Board of Investment
- Provincial departments dealing with IT issues such as the **Punjab Information Technology Board**
- Pakistan Computer Bureau

¹³ Public Key Infrastructure (PKI) is a set of hardware, software, people, policies, and procedures needed to create, manage, distribute, use, store, and revoke digital certificates

- Intellectual Property Organization (IPO) of Pakistan

Private Sector

- **Pakistan Software House Association**
- Call Centers Association of Pakistan

Pakistan Software Export Board (PSEB)

The Pakistan Software Export Board (PSEB) is an apex Government body mandated to promote Pakistan's IT Industry in local and international markets. PSEB facilitates the development of the country's IT industry through a series of projects and programs in infrastructure development, human capital development, company capability development, international marketing, strategy and research, and the promotion of innovation and technologies.

Government incentives to the international outsourcing community include 100% equity ownership, 100% repatriation of capital and dividends, and income tax exemption for IT companies until 2016. Pakistan has a large talent-pool of English-speaking, cost-competitive and skilled workforce, a large number of internationally-certified companies and reliable telecoms infrastructure. PSEB works extensively with international trade associations, commerce bodies and the media to promote Pakistan's IT industry. PSEB has more than 1500 IT companies, which possess expertise in custom software development, enterprise resource planning (ERP), financial solutions, mobile content, document management, enterprise computing and BPO.

Software houses in Pakistan involved in exports need to be registered with the PSEB. This registration helps these companies in availing tax benefits allowed for software houses. PSEB offers the following procedures to facilitate the operations of software companies.

- Software house gets registered with PSEB by paying an annual fee of (US\$ 90). PSEB also has a record of the expertise of companies.
- Potential clients contact PSEB from all over the world that need software or other services. PSEB then publish all such queries on its website.
- Interested software houses contact the PSEB which provides liaison between software houses and clients.
- PSEB charges a fee of 0.2 to 0.5% of earnings.
- In case of services supplied through mode 4, the PSEB offers support in visa processing of people going abroad for providing services.
- PSEB collects information periodically from software houses about the projects they have completed, their timelines and client satisfaction levels.

Pakistan Software Houses Association (PASHA)

PASHA¹⁴ is a platform for promoting, protecting and developing the software industry in Pakistan. It provides a focal point of representation for outside agencies of various concerns. Its main objective is

¹⁴ Pakistan Software Houses Association. Website: www.pasha.org.ok

devising ways to tackle issues by confronting the concerned authorities to achieve desirable gains for the organization's members.

Learning through various endeavours over the years, PASHA has implemented formal policies as rules of the association. These have been further communicated to the Government for the formulation of policies for growth of the IT sector in Pakistan. PASHA pursues the following objectives:

- Provide a platform for member software and service companies to share technical and management related experience
- Promote, protect and develop the software and services industry in Pakistan
- Provide a forum for the formulation of standards for the software and services industry in Pakistan
- Provide a focal point for outside agencies such as end-user organizations and foreign trade/donor agencies etc, to contact for queries related to accredited software and service companies and the general state of affairs of information and communication technology in Pakistan
- Solicit support such as subsidized communication facilities and relaxation of strict government policies to enable the growth of IT and related sectors.
- Devise ways and means for tackling and solving the problems and difficulties confronting the members and allied industries/ trades
- Collect, tabulate and circulate statistics and other information relating to or of interest to the business of its members and/or the industry in general
- Publish or encourage and support the publication of bulletins or any other information useful or beneficial to the member companies and the industry in general
- Initiate, protect, promote and support the legitimate interests of members, including those necessary for and in the interest of Pakistan and to take steps to secure public support against measures affecting the software and services industry
- Make representations to and communicate with federal, provincial governments, local or other authorities (both in government and the private sector) on any matter affecting the business of its members or of its trade
- Secure, organize and coordinate action on all matters pertaining to or affecting the interests of its members
- Endeavours to settle, adjust and resolve controversies between members and to arbitrate in matters of differences or disputes arising between members
- Frame, vary, modify and/or amend, from time to time, the arbitration rules of the association
- Advise and assist the government in the formulation of useful and progressive policies and to cooperate with them in their successful implementation
- Take effective measures to eradicate unethical practices in the field of trade, commerce and industry
- Frame and assist in the framing of rules of practice for facilitating and simplifying the business of its members
- Maintain and manage any training facilities which may be set up by the association with or without the assistance of the government
- Encourage friendly feelings, close cooperation and unanimity among the members of the association on all matters connected with their common goals and objectives
- Only in connection with the activities and operations of the association, to purchase, take on lease or in exchange or otherwise acquire or deal in and to construct, maintain, develop or control lands, buildings, or any kind of movable or immovable property or any rights or privileges connected with such property or properties
- Sell, improve, manage, develop, exchange, lease, mortgage, dispose of, turn to account or otherwise deal in all or any part of the property of the association

- Invest and deal with the money of the association not immediately required in such manner as may, from time to time, be determined
- Generally to do all that may be conducive or necessary to achieve and attain all or any of the aims and objects of the association directly and indirectly

Punjab information Technology Board (PITB)

The Punjab Information Technology Board (PITB) is striving to make Punjab the hub of Pakistan's IT industry through human resource development, economic activity generation, IT education, outsourcing, and infrastructure development.

It was set up by the Government of Punjab as an autonomous body with the mission to "develop IT as a major sphere of economic activity, and promote its use in the public and private sectors for increasing efficiency and competitiveness¹⁵". So far, PITB has achieved considerable success in a short time towards realizing the objectives for which it was formed.

The stated purpose of PITB is to use synergies of the IT industry, academic institutions, and the government representatives on the PITB board to develop and implement consequential strategies, which will enable Punjab to achieve its IT potential.

¹⁵ Government of the Punjab, Gazette notification

GATS compliance in CRS

Pakistan's CRS Commitments under GATS

At present, Pakistan has made the following commitments and provisional DDA offers in CRS under GATS.

Modes of supply: (1) Cross-border supply (2) Consumption abroad (3) Commercial presence
(4) Presence of natural persons

| Sector or Sub-sector | Limitations on Market Access | Limitations on National Treatment | Additional Commitments |
|---------------------------------------|--|-----------------------------------|------------------------|
| I. HORIZONTAL COMMITMENTS | | | |
| ALL SECTORS INCLUDED IN THIS SCHEDULE | | | |
| | <p>1)</p> <p>(i) Except in the case of representative offices where specifically provided for in this Schedule, commitments under 'commercial presence' are subject to incorporation in Pakistan with maximum foreign equity participation of fifty-one sixty per cent unless a different percentage is inscribed against a particular sector or subsector</p> <p>(ii) All expenses of representative offices where specifically provided for in this Schedule, shall be met by remittances from abroad. Such offices shall restrict their activities to the undertaking of liaison work or of representing the interest of the parent company abroad.</p> | | |
| | <p>2) Unbound, except for measures concerning the entry or temporary stay of natural persons falling in following categories:</p> <p>A. Intra-corporate transferees:</p> <p>Specific categories of natural persons listed below who are in the employment of a juridical entity of another member country of the WTO for a period of at least one year and who enter for temporary stay to render services for (i) the same juridical entity engaged in substantive business operations in Pakistan or (ii) a juridical entity constituted in Pakistan and engaged in substantive business operations in Pakistan which is owned by or controlled by or affiliated with the aforementioned foreign juridical entity:</p> | | |

| | | | |
|--|---|--|--|
| | <ul style="list-style-type: none"> • Managers are: Persons who direct a branch office or one or more departments as their head, or supervise or control the work of other supervisory, professional or managerial personnel and have the authority to appoint or remove the personnel and power to exercise discretionary authority over day-to-day operations. Stay 30 days to three years, with possibility of extension • Executives are: Persons within an organization, who primarily direct the management, have wide decision making power and are either members of the board of directors or receive directions from the board or the general body of shareholders. Stay 30 days to three years, with possibility of extension • Specialists are: Persons within the organization who possess knowledge at an advanced level of expertise and who possess proprietary knowledge of the organization's product, service, research equipment, techniques and management. Stay 30 days to three years, with possibility of extension | | |
| | <p>B. Business visitors are natural persons listed below who enter for temporary stay in Pakistan after obtaining a work visa for time periods as indicated against each category:</p> <ul style="list-style-type: none"> • Business persons are natural persons who stay in Pakistan without acquiring remuneration from within Pakistan and engage in making direct sales to the general public or supplying services, for the purpose of, sales and leasing; to supply after-sales and after-lease services; for the purpose of participating in business meetings or developing business contacts including negotiations; for the sale of services and/or similar activities, including those to prepare for establishing a commercial presence in Pakistan. Stay 30 days to 180 days • Service Sales Persons are: Installers, repairers and maintenance personnel and supervisors possessing specialized knowledge essential to a seller's contractual obligation, performing services or training workers to perform services, pursuant to a warranty or other service contract incidental to lease of commercial or industrial equipment or machinery, including computer software, purchased from an entity located outside the territory of Pakistan, during the life, the warranty or service agreement of the same. Stay 30 days to one year | | |

| | | | |
|--|--|--|--|
| <p>C. Professionals are:</p> <p>Natural persons who seek to engage, as part of a services contract granted by a juridical entity engaged in substantive business in Pakistan, in an activity at a professional level included in the specific commitments of Pakistan. Stay 30 days to one year</p> <p>D. Independent Professionals are natural persons, who meet the necessary educational requirements and/or alternative credentials of that profession in Pakistan; whose visit has been sponsored by a juridical person in Pakistan for temporary stay for imparting training. Stay 30 days to one year</p> <p>E. Other skills:</p> <p>Natural persons having skills inter alia in information technology, construction engineering, tourism, educational services, health related services, selected sporting services; who enter for temporary stay to impart training. Stay 30 days to one year, subject to labour market test</p> | | | |
|--|--|--|--|

Specific commitments (offers in bold) in the CRS.

| B. Computer and Related Services | | |
|---|--|--|
| Consultancy services related to the installation of computer hardware (CPC 841) | <p>1) Unbound None</p> <p>2) Unbound None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> | <p>1) Unbound None</p> <p>2) Unbound None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> |
| Software implementation services (CPC 842) | <p>1) Unbound None</p> <p>2) None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> | <p>1) Unbound None</p> <p>2) None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> |
| Data processing services (CPC 843) | <p>1) Unbound None</p> <p>2) None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> | <p>1) Unbound None</p> <p>2) None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> |
| Data base services (CPC 844) | <p>1) Unbound None</p> <p>2) None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> | <p>1) Unbound None</p> <p>2) None</p> <p>3) None</p> <p>4) Unbound except as indicated <i>in the under horizontal measures commitments</i></p> |

Compliance overview

Pakistan made liberal offers under CRS during the Uruguay Round and has offered to commit to this area more fully in the form of “none” (full commitments) in its schedule during the ongoing DDA negotiations, under CPC 84 (as written in the extract from schedule above). This means full market access to any foreign service providers to operate in the Pakistani market. There is no discriminatory licensing regime or any other requirements; however there are still some restrictive or non-compliant measures which may be questioned in the context of GATS commitments.

Some notable non-compliant measures

- Under its horizontal commitments, Pakistan has committed different categories of service providers in the form of natural persons. In practice, work visas or permits are processed in a centralized manner through the Board of Investment (BOI) of Pakistan and rarely are these commitments taken as a determining factor, i.e. the discretion of BOI in granting work visas often overrules the country's binding commitments under GATS. Obtaining the permission to work as a contractual service supplier and independent professional is a very hard task. There is no appeal or enquiry procedure available for this.
- The BOI practice has at times clashed with Pakistan's commitments under GATS when it comes to commercial presence (mode-3) of foreign IT and related companies. The BOI requires a minimum investment of US\$ 150,000-300,000 in some cases which is not inscribed in Pakistan's schedule of commitments.
- The investment policy of Pakistan has a condition that any foreign representative office cannot engage in “profit earning” activities in Pakistan, i.e. no substantive business operations is allowed unless foreign services suppliers register with the securities and exchange commission of Pakistan. However, this condition has not been inscribed in GATS commitments by Pakistan, thus contradicting the commitments.
- The State Bank of Pakistan has certain profit repatriation conditions such as a certain percentage of revenues (12% at present) as a franchise fee. Such a measure is also not inscribed in Pakistan's schedule of commitments, thus posing a possible burden on foreign service providers.

Challenges faced by the CRS industry in Pakistan

The CRS is a growing yet nascent industry in Pakistan faced with many challenges at the national and international levels. Some of the major challenges faced by this industry, from an international trade perspective, are given below.

Challenges for exports

Government ownership and support

Although the government of Pakistan has announced various measures and incentives for the CRS industry (given below), the real ownership and drive at the top level is still missing largely due to absence of a unified industry platform. The private sector has to compete alone in the international market without the level of support that its competitors get from their respective governments.

Incentives given to the CRS industry by the Government of Pakistan

- Provision of low-rent Software Technology Parks (STPs), with fiber-optic connectivity, libraries and conference rooms.
- Provision of funds to software companies to achieve ISO-9000 certification and CMM/CMMI rating.
- 100% ownership of equity allowed to investing foreign IT/ITeS companies.
- Tax exemption for IT companies till 2016.
- 100% repatriation of profits allowed to IT companies.
- Seven years' tax holiday for venture capital funds.
- Minimum rate of 30% depreciation on computer equipment.
- The SBP has allowed banks to open Internet Merchant Accounts.
- Availability of instant, reliable and high-speed connectivity.
- Over 85% of telecommunication infrastructure is on fiber-optic cables.
- Internet access is available in over 1862 cities/towns across Pakistan.
- Reduction in cost of 2 megabit per second (Mbps) connection to US\$ 1000/month.
- Call centres can avail redundant backup connectivity through Pakistan Telecommunication Company Limited (PTCL).

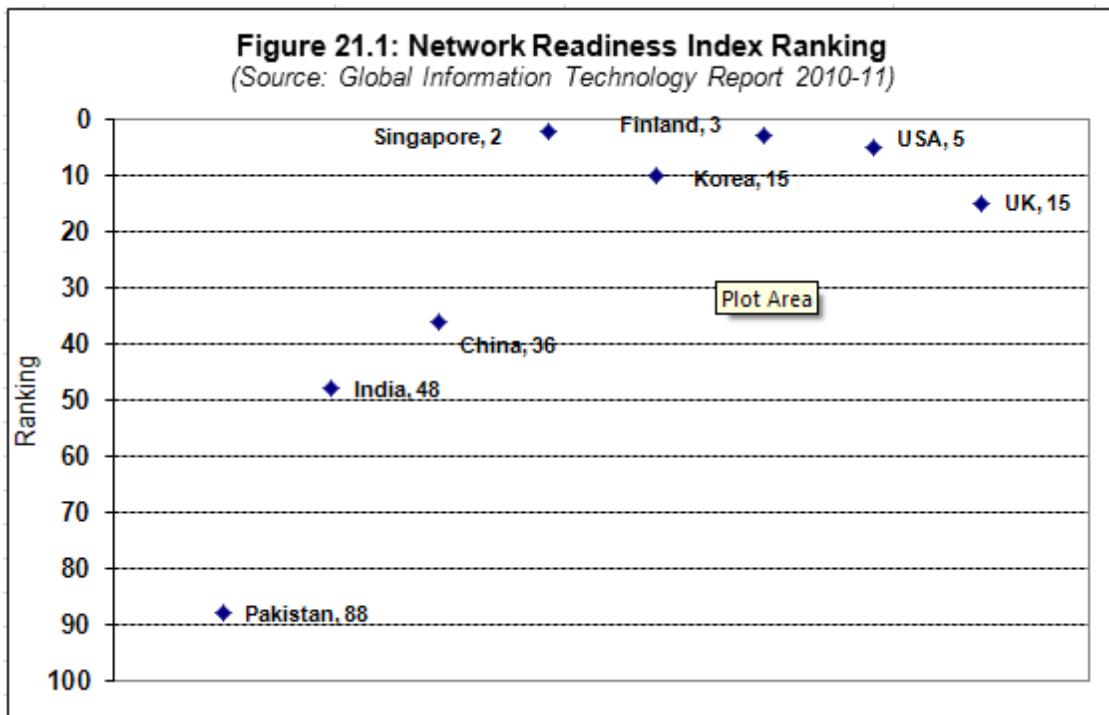
Infrastructure issues

The infrastructure available to the CRS industry remains far less developed than under the international benchmark.¹⁶ There have been many announcements from the respective authorities to give priority to the IT companies in terms of frequency allocation and bandwidth but rarely have these come to fruition due to

¹⁶ As per ICT Development Index (IDI) of the International Telecom Union, the Maldives tops the IDI rank, in South Asia, securing the 67th position, followed by Sri Lanka (105th), India (116th), Bhutan (119th), Pakistan (123th), Nepal (134th) and Bangladesh (137th).

competing priorities of other sector mainly the defence and national security related. The recent trend of power outages and other energy related issues have seriously hampered the industry's capacity. There is a need to focus on energy policy and the development of alternative energy sources as it provides a basic input for any of the services sectors particularly the CRS where continuous power supply is critically important.

The figure, given below, shows that Pakistan ranks much lower than its regional competitors in terms of the Network Readiness index (NRI).¹⁷ The NRI is produced in the global information technology report by the World Economic Forum (WEF) using a comprehensive methodology and set of indicators.



Source: World Economic Forum (WEF), Global Information Technology Report 2010-11

Visa issues

The CRS industry requires a lot of interaction with clients. Various means are used for this interaction, including face-to-face meetings, telephone, conference calls, video calls, and text chatting. Pakistani professionals also need to go abroad but confront onerous visa-related issues. Sometimes visa requests are totally rejected while in other countries such requests face undue delays which affect the capacity of an IT company to fulfil clients' needs in a timely manner. Representatives of some software houses reported incidents in which they lost clients due to the reason that professionals could not reach clients on agreed timetables due to delays/rejections of visas.

Language barriers

Many professionals who directly deal with foreign clients face language barriers. This is a hurdle in effective communication of capabilities of individual as well as organization, understanding clients' requirements, providing solutions, and support. This issue exists for both mode 4 of service supply in which professionals go abroad to provide services as well as mode 1 service supply in which professionals

¹⁷ World Economic Forum (WEF), Global Information Technology Report 2010-11

provide developments and support services from the home office. The foreign services suppliers in this area could be encouraged (through GATS offers under the DDA) in order to fill this gap.

Weak documentation

Foreign clients expect all of the codes and related processes to be properly documented but most IT companies do not give due importance to such documentation. This results in a decreased level of client satisfaction. The reported reason of this is the lack of dedicated resources for technical writing and less focus of project managers towards documentation. Lack of documentation also affects the transfer of knowledge in case of job rotation and new hiring.

After sales service

Most of the Pakistani software houses have the same team for development and after sale service support. Once the development and deployment of software is completed, teams often move on to other projects. Clients needing after sale support face problems in terms of the availability of human resources. Representatives of software houses reported that some clients increasingly ask whether they have separate support departments.

Retention of skilled human resources

The IT industry has experienced high turnover of skilled labour. As a result, software houses face problems in the delivery of software and in fulfilling commitments in a timely manner. This problem is compounded by the lack of documentation which is a hurdle in the effective transfer of knowledge.

Challenges for imports

The use of imported CRS in Pakistan is limited mostly to big enterprises and multinational firms operating in Pakistan. There have been no major reported problems regarding the use of CRS in Pakistan except over uncertainty due to privacy and public policy issues as witnessed through closure of certain services and websites in recent months.¹⁸

Another ongoing problem, for the foreign CRS suppliers exporting into Pakistan, is the protection of copyrights. This is the main factor why certain foreign CRS providers shy away from operations in the Pakistani market. Therefore the potential users in Pakistan face the problem of access to such services.

¹⁸ The government of Pakistan had ordered temporary closure of facebook and youtube websites due to public policy and security related issues.

Recommendations

Branding Pakistan in the global CRS market

Pakistan has a huge potential and notable penetration into the global market of CRS but has yet to achieve significant brand recognition. India, on the other hand, is an example to follow not only for being a regional competitor but as a country with a similar resource base in terms of human resources and target markets. Pakistani CRS providers can use the same track as India has but rather than competing in everything it should seek a niche to occupy in the CRS market. Some of the success stories such as Netsol are good examples of global market penetration through strong niche services and achieving an adequate scale of operations.

The Government of Pakistan has a significant role to play in this area to put a priority focus on CRS just like it has, and is still doing, on goods trade in textiles and clothing and rice. The government should assume a leading role and take proactive policy actions to brand Pakistani CRS suppliers in the global market and help their entry through using the foreign commercial representation offices of Pakistan. Moreover, the government should facilitate the BPO services through providing necessary infrastructure such as bandwidth etc and granted access to preferential credit and incentivizing through fiscal measures such as extended tax holidays.

Skills development through a proactive approach

Pakistan has a good human resources base, especially in CRS, but this argument does not hold true beyond a certain realm of reality. The skilled labour force for CRS is rarely “designed” for future demands and industry trends; rather the mere talent of such workers is moulded through putting them into practice at the work desk. The CRS providers face this problem of additional time and resources for training the workers after being employed. If the educational institutions, through coordinated efforts by the Government, take this challenge proactively and train the manpower for future needs and skills, it would give a sudden jump to the industry. Pakistan can use mode-3 access to foreign educational services suppliers in CRS to provide training and skills needed for on the job training and preparing the future skilled workforce.. Another possible solution to fill this gap is to utilize the market access granted by Pakistan, under mode-4 to attract the foreign CRS professionals to work in Pakistan.

Some of the large multinational IT companies working in Pakistan have joined hands with universities to offer joint programs and specific training activities. Some examples include:

- NCR has invested in the National University of Science and Technology to upgrade its IT related programmes through providing hardware and software support.
- Microsoft has provided free licenses to some of the educational institutions especially in the programming and related areas so that the labour force being trained get firsthand experience of using such coding language tools.

Transforming research into action

There is notable IT-related research and development activity taking place in Pakistan at the country's universities and research institutes but rarely is that translated into practice. There is a need to provide a

bridge between the research and business worlds through government interventions or encouraging the private sector to tap into such R&D resources directly. The industry has a disconnect with the R&D community and there is an absence of two-way flows. This flow can be facilitated through providing a bridge between the industry and the research houses/universities. An effort by the government may be required to do this.

Collective outreach and marketing

Most of the companies in the software export business are privately owned and of small size. They are unable to afford high costs of marketing and research and development. There should be centralized outreach and marketing efforts led by representative organizations like PSEB and PASHA. Such organizations are capable of making resources available for these activities. CRS providers should be willing to pay greater annual contributions to representative organizations in exchange for such services.

Foreign customers feel more comfortable in dealing with representative bodies than with individual organizations. The Trade Development Authority of Pakistan (TDAP) may be tasked with this mandate as it has done it for many other sectors in the goods area. There is a dedicated cell for export of services in TDAP that may be mobilized for this task, in association with the private sector CRS providers.

Government ownership and priority beyond fiscal incentives

The Government of Pakistan has not sufficiently focused on the CRS industry beyond the provision of fiscal incentives such as tax exemptions on the profits of IT companies until 2016 etc. This sector has not yet achieved the level of the importance on par with the other priority areas such as textiles and clothing, rice and leather products in export promotion terms. TDAP has rarely thought about participating in an international fair of CRS providers but they have done so for more than 50 per year for other product areas. The government needs to recognize the export potential of this sector and its contribution to employment generation and devote the required policy focus and resources and show an ownership to convert this sector into a greater earner of foreign exchange. In order to give the required ownership, the government may establish an IT exports cell either in the Ministry of Commerce or TDAP. This cell should be manned by the industry professional and proactive policy managers and given a target to steer the CRS sector towards global trends and find ways to utilize its full potential.

Sign the WTO Information Technology Agreement

The WTO Information Technology Agreement (ITA) is a plurilateral¹⁹ initiative but almost all of the major countries have joined this Agreement. The Agreement deals with the liberalization of trade in goods related to IT but the impact of such liberalization on the creation and trade of IT and related services is potentially significant as it addresses the hardware of the IT sector. The examples of India and Thailand are relevant for Pakistan in how these countries have used liberalized trade of IT products to produce and export IT and related services.

Pakistan has often times indicated its willingness to join the ITA but this has failed to occur to date. The government needs to focus on this more resolutely and sign the Agreement. A simple cost (loss of potential customs duties through lowering of tariffs) versus benefit (export earnings through IT enabled Services) analysis would likely be heavily tilted towards signing the ITA.

¹⁹ Unlike other WTO Agreements, not all members are bound to sign onto this agreement.

Establish a CRS supervisory committee

The Government of Pakistan should establish an inter-ministerial committee (reporting periodically to the Cabinet Committee on Economic Coordination) to design, implement and monitor the policy mix for growing the CRS sector. The committee should focus both on the development of the domestic market and the greater use of CRS and the realization of export potential and providing enabling policy tools for it. The Committee should be chaired by the Minister for IT and Telecom and comprised of the Secretaries of relevant ministries and heads of departments. This committee may dwell upon certain policy tools such as:

- Mapping and documentation of the CRS sector in Pakistan
- Identification of bottlenecks and possible policy options to deal with these
- Measures required to boost entrepreneurship in CRS
- Necessary monetary and fiscal measures for growth of the CRS
- Establishment of required coordination mechanism between ministries and different departments to create efficiency for the CRS sector
- Promotion of industry and university linkage in R&D activities

Ensure a culture of IP compliance

The weak protection and enforcement of Intellectual Property Rights is a very serious issue in Pakistan, hampering both foreign and local IPR holders especially in CRS activities such as software, databases and digital media services. Pakistan has been put on the priority watch list of USTR and is regularly told by partner countries to improve IPR compliance and enforcement. Efforts have been made in this direction in recent past but far less than necessary to placate concerns. The main problem is the understanding of IPRs and creating and culture for respecting IPRs rather than taking compliance and enforcement burden in terms of copyright payments and treating the copyrighted and patented goods as “public goods”. Many of the small and medium level enterprises in the CRS sector, particularly those focusing on the national market, are the worst victims of piracy. They are not able to protect their products and services, thus losing revenues and often compelled to exit markets soon after taking off.

It is evident that the IT sector (mainly CRS) ranks highest in the list of Pakistan's weak IPR enforcement and compliance; therefore it may be worthwhile to focus the CRS as one of the flagship sectors to combine efforts for ensuring IPR compliance and harvesting the yield of such efforts through increased exports. The CRS is certainly helpful in enabling the IPR compliance and creating awareness on one hand and carry a huge indigenous potential of growth and earning foreign exchange on the other hand. There are many Pakistani individual and small scale entrepreneurs in CRS who could not take off due to failure in ensuring their copyrights and/or patents (for business method patents etc). The joint platform for IPR awareness, capacity building and compliance culture with CRS development and commercialization would be of great help to foster the entrepreneurship and making CRS as one of the leading foreign exchange earning areas for Pakistan.

Establish and encourage venture capital funds

There is a visible absence of entrepreneurship in many services areas in Pakistan, notably in the CRS sector. There are either very big companies or individual operators, or a group of individual operators at best. There is a lack of initiative, platform and concept of start-ups which is largely attributed to the absence of an enabling environment. It is not only the government that could try to provide this enabling environment, notably through enhancing access to credit by SMEs, and notably service sector SMEs for

whom access to formal credit is particularly challenging, but the private sector has equal responsibility as well. An effort should be made to encourage venture capital operators and creating and entrepreneurship culture to provide a breeding ground on the model of Silicon or Bangalore Valley).

Join ICT initiatives and industry benchmarks

The CRS industry in Pakistan should integrate with the global community of CRS providers through various industry associations and similar initiatives. Adopting global or regional best practices and benchmarking at the global and regional level, including in regard to required certifications, would certainly help improving the image and branding of the CRS industry of Pakistan.

Trade Related Technical Assistance (TRTA II) Programme

Component 1, Trade Policy Capacity Building, implemented by the International Trade Centre (ITC), is aimed at the Ministry of Commerce and Government of Pakistan in developing a coherent trade policy and attendant regulations for export competitiveness. Specifically, it will aim to reinforce the skills of government officers working in trade related ministries and implementing agencies on issues related to trade policy, commercial diplomacy and regulatory reform. The main way in which to achieve this through the institutional capacity building of key local training institutes, which is intended to have an immediate effect on the capacity of government officers working on trade policy issues.

In addition, Component 1 promotes comprehensive, regular and well informed public-private dialogue among the government, private sector and civil society for trade policy development, monitoring and evaluation. To promote local ownership and legitimacy of the dialogue, a steering committee comprising equal representation of the public and private sectors has been established with the formal approval of the Ministry of Commerce of Pakistan. Its mandate is to oversee the planning, implementation and monitoring of public-private dialogue on key issues. To better inform the public-private dialogue process, research studies are commission and internationally peer reviewed before dissemination to stakeholders.

The targeted interventions of Component 1 to achieve these goals constitute the following:

Result for Component 1: Coherent trade policy and regulatory reform for export competitiveness

1. The Pakistan Institute for Trade and Development (PITAD) institutional capacity is strengthened
2. PITAD's and other research institutes' expertise on trade policy strengthened
3. Government officers' capacity on specific trade policy and international trade negotiations strengthened
4. Research studies contributing to the development of a national export strategy conducted
5. Public-private dialogue for a coherent national export strategy is fostered"

For enquiries and further details about Component 1

