

CASE STUDY ON TELECOMMUNICATION

Draft Report

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The telecommunication plays a vital role in development of a country. It provides the prime services that an economy needs for rapid growth, development and modernization. As the economy grows, demand for telecom services increases to conduct the increased number of economic transactions in the expanded economy. Improved efficiency of this sector generates economy-wide benefits as telecommunications are a vital intermediate input and is also crucial to the dissemination and diffusion of knowledge—the spread of the internet and the dynamism that it has lent to economies around the world is testimony to the importance of telecommunications services. The telecommunication sector in Pakistan has done remarkably well in the past few years primarily due to trade and investment liberalization, privatization and openness to modern technology. The share of telecom sector in GDP has increased from 1.5 percent to 1.8 percent in the year 2004-2005¹. Besides being a major contributor to Government revenues, this sector has also been able to attract a huge foreign direct investment in the recent years.

The present study on telecommunication sector has four parts:

- a. In depth review of secondary information.
- b. Perception Survey
- c. Analysis of research
- d. Conclusion.

In-depth Review of Secondary Information

1. Structure of Telecommunication Sector

1.1 Evolution of the Industry:

At the time of independence Pakistan inherited a meager telecom base of 14,000 land lines, primarily meant to serve the administrative set up of the country. At that stage, Post Telegraph and Telephone were one department, later in 1962 both were separated to form independent Postal department and Telephone and Telegraph Department (T&T). These were the first ever reforms concerning telecom sector in Pakistan. In the year 1990, keeping in view the changing global trends, Pakistan started taking gradual sector reform measures within the existing legal and regulatory framework. The focal point of these measures was deregulation to encourage private sector's participation.

The Telegraph and Telephone (T&T) Department was converted into Pakistan Telecommunication Corporation on 15th December 1990 by delegating the powers to the Board of Directors for better functioning of the telecommunication system in the country. Thereafter, on 1st January 1996, the said system was reorganized by establishing Pakistan Telecommunication Authority (PTA), the National Telecommunication Corporation (NTC), Frequency Allocation Board (FAB) and Pakistan Telecommunication Company Limited (PTCL). Government was further committed to deregulate and liberalize telecommunications industry through privatization of state-owned monopoly i.e., Pakistan Telecommunications Company Limited (PTCL) under ITU and WTO Agreements. In the year 2003, Deregulation

¹ Pakistan Economic Survey. 2004-2005

Policy for Telecom Sector was announced. It opened up the fixed line telecommunication sector in Pakistan and abolished the exclusivity of PTCL in basic telephony.

Table 1 Historical Background

1947	Posts & Telegraph Dept. established
1962	Pakistan Telegraph & Telephone Dept.
1990-91	Pakistan Telecom Corporation ALIS: 850,000 Waiting list: 900,000 Expansion Program of 900,000 lines initiated (500,000 lines by Private Sector Participation 400,000 lines PTC/GOP own resources).
1995	About 5 % of PTC assets transferred to PTA, FAB & NTC.
1996	PTCL Formed listed on all Stock Exchanges of Pakistan
1998	Mobile & Internet subsidiaries established
2000	Telecom Policy Finalized
2003	Telecom Deregulation Policy Announced

(Source: PTCL)

Due to the monopoly of the State-owned telecommunication department, Pakistan observed insignificant growth in tele-density over the years. However, after the deregulation, substantial growth has been observed.

1.2 Key Institutional bodies:

The three key institutional bodies within Pakistan for the telecommunications sector are:

Ministry of IT:

The key responsibilities of the Ministry are the issuance of policy directives for implementation by the PTA. The Government may issue policy directives on matter like number and term of licenses, nationality of persons to whom public networks may be transferred and requirements for national security/ international relations, etc.

Pakistan Telecommunication Authority (PTA):

The PTA was established under the Telecommunications Act of 1996. The PTA is a body corporate that shall consist of at least three members. The budget of the PTA shall be submitted to the Government for approval. The functions, powers and responsibilities of the Authority are as follows:

- To protect the rights of licensees
- To make decisions promptly in an open, equitable, non-discriminatory, consistent and transparent manner

- To act expeditiously
- To give persons who are affected by its decisions due notice and give them the opportunity of being heard
- To encourage fair competition.

Frequency Allocation Board (FAB):

The Frequency Allocation Board is responsible for management of the spectrum plan for spectrum usage in Pakistan. Applications for spectrum are in the first instance submitted to PTA but thereafter will be handed over to FAB for allocation of spectrum.

Fixed Network Operators:

Under the Telecom Act (1996) PTA was made responsible to issue licenses to private sector under the policies of Government of Pakistan. The fixed line sector was divided into the Local Loop (LL) and Long Distance International (LDI) segments.

For LDI and LL, PTA received 96 applications for the grant of Local Loop (LL) and Long Distance International (LDI) licenses from the prospective investors. Out of these applications, 73 were for LL licenses while 23 were for the award of LDI licenses. So far, PTA has issued 12 LDI Licenses to various national and multinational companies who deposited initial license fee and fulfilled all other requirements. PTA has also issued 84 Fixed Local Loop Licenses to various companies for 14 telecom regions of Pakistan.

Pakistan Telecommunication Authority (PTA) decided to promote Wireless Local Loop industry. In all, two

nty companies have won the WLL spectrum in fourteen regions².

Fixed line services in Pakistan have also shown magnificent growth patterns over the years. This has been evident from the increased tele-density over the years. Currently the tele-density has reached to 3.4% which was just 2.2% in year 2000³.

Deregulation and increased competition have drastically reduced tariffs not only for local but also for nation wide and international calls. PTCL has been forced to bring in schemes for provision of fixed line connection on easy terms.

1.3 Pakistan Telecommunication Company Ltd (PTCL)

PTCL has a network capacity of about 5.0 million lines, including 0.25 Million WLL connections, out of which 4.5 million are in service. PTCL has a modern digital switching system and long distance and international network, based on fiber optic and satellite communication systems. A part of the equipment used by it is manufactured in factories working as Joint Ventures with recognized Multinational companies and PTCL.

PTCL is the dominant entity in the telecommunication sector of Pakistan. It generates about a billion dollar in annual revenues, primarily from its subscribers calling within local areas, domestic long distance, and international traffic⁴.

The PTCL's principal activity is the provision of telecommunication services providing domestic and international voice and data services throughout Pakistan. It also manufactures telecommunication related equipments.

1.4 National Telecommunication Corporation

This corporation has been mandated to provide telecommunication services to Federal Government and some sensitive government organizations.

In line with its policy to reorganize and de-regulate telecommunication sector in Pakistan, the Government decided to wind up Pakistan Telecommunication Corporation by 31-12-1995 and create PTCL and NTC as its successors. Both the entities were established on 1-1-96 under Pakistan Telecommunication (Re-organization) Act, 1996. Unlike PTCL, NTC has a definite mandate to provide basic telecommunication services to its designated customers, which include Federal and Provincial Governments, their departments, autonomous organizations and defense services throughout the country.

According to an order issued under Pakistan Telecommunication (Re-organization) Act, 1996, the Corporation was vested 72,000 telephone lines and a countrywide network of microwave and Fiber optic links. Initially, the telephones were provided at federal and provincial capitals, but now NTC network is being expanded to district and tehsil level. NTC has grown rapidly and currently has an installed capacity of more than 100111 lines, with 87,067 working connections (87% capacity utilization)⁵.

1.5 Telecard

Telecard, historically, is one of the largest payphone operators in Pakistan operating thousands of locations across the country. The company officially commenced its nationwide operations in February 1993, and went public in 1995 thus becoming the first listed, privately owned Telecom Company in Pakistan.

² Pakistan Telecommunication Authority. Annual Report 2004-05

³ Economic Survey of Pakistan 2005-06

⁴ Sector Status Report For Ministry of Information Technology' by Inter Connect Communications Ltd 2006

⁵ Economic Survey of Pakistan 2005-06

TeleCard is providing CDMA based WLL service in all major cities by the brand name of Go CDMA. TeleCard believes that the only viable way to substantially increase phone penetration in developing countries like Pakistan is through the wireless access route. Wireless technology is considered to be the only solution for provision of telecom services as the fixed-line, copper and optic fiber solution has failed to produce the desired result in the face of rapidly changing technology and ever increasing demand. The company is in the process of expanding its CDMA network across the country and also plans to introduce 3G services in the Pakistani market in the near future.

Telecard has also acquired major shareholding in Instaphone and plans to launch nationwide CDMA 800 service in near future.

1.6 Worldcall

Worldcall Pvt. Limited is one of the leading telecom operator providing Payphone, HFC and WLL services in major cities of Pakistan. Worldcall launched its WLL services in Lahore in September 2005.

Worldcall has introduced free on-net calls and very cheap nation wide and international calls. Currently Worldcall has 42,000 WLL subscriber base. Like other WLL operators, Worldcall is also providing its services in major cities⁶.

1.7 Long distance, International gateway (LDI)

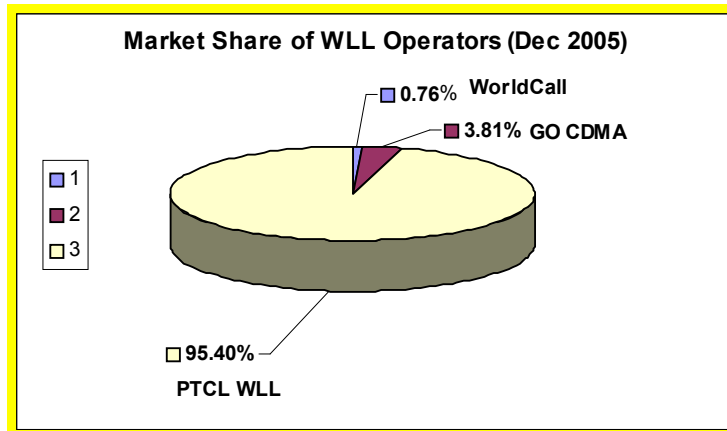
Twelve LDI licenses were awarded to the new operators. All of these twelve LDI companies are now operational carrying international traffic to and from Pakistan. Issuance of these licenses has allowed the mobile and WLL carriers to construct their own long distance backbone networks as well as operate an International gateway. All carriers believe that they have sufficient of their own traffic to justify this network and even go beyond the 14 telecom region points of presence. Competition in the LDI sector has already brought down the tariffs for the international incoming and outgoing calls.

Warid telecom is the only LDI operator who has started the build up of nation wide fiber optic network. It is likely that this will result in increased capacity in the marketplace and will bring the tariffs further down.

Wireless Local Loop operators were offered 20 years licenses with a view to increase the penetration rates in the under served areas. However, it has been observed that almost all the WLL operators launched their services in the main cities and business districts. PTCL, Telecard, Worldcall and GreatBear are the only four operators who have launched the WLL service. There are almost 16 other WLL operators who are planning to launch their service in coming months. Amongst the more serious one are DVCom and Burraq Telecom. WLL Operators, except PTCL, is under no Universal Service Obligations however they are expected to participate in providing the service in under served areas using USF (Universal Service Fund).

Figure 1: Market Share of WLL Operators

⁶ Sector Status Report For Ministry of Information Technology' by Inter Connect Communications Ltd 2006



2. Privatization of PTCL

The General Agreement on Trade in Services (GATS), which emerged from the Uruguay Round, is the first multilateral effort to harness and enhance the liberalizing trend in services trade. While negotiating GATS decision was taken to extend negotiation on basic telecommunications services on a voluntary basis. As a result of these negotiations, Agreements on Basic Telecommunication (ABT) came into force on February 5 1998. ABT consists of the scheduled commitments of participating members relating to basic telecommunication services. These commitments cover the different aspects of trade liberalization such as market access, national treatment and pro-competitive regulation (for example competition safe guards, interconnection guarantees, transparent licensing process and independence of regulators). See annex1 for details on Pakistan's commitments relating to telecommunication sector.

In pursuit of the policy of de-regulation and liberalization, the Government opened up the fixed-line telecommunication sector. The exclusive rights of Pakistan Telecommunication Company Limited to provide basic telephone services (local, long distance, international, and leased line services), which it enjoyed under the Pakistan Telecommunication (Re-Organization) Act 1996 ("Telecom Act 1996"), have expired since 31st December 2002.

In order to provide the regulatory guidelines for liberalization of telecom sector, Government announced Deregulation Policy for the Telecommunications Sector on July 13, 2003. The policy is designed to achieve the objectives of increased service choice for customers at competitive price, increased tele-density and expanded telecommunication infrastructure to un-served or under served areas of Pakistan.⁷

The decision of award of license is preceded by an open and public hearing process. There are stringent technical and financial requirements to ensure the entry of serious bidders. Tariff for both types of licenses will be levied only when the companies have attained the Significant Market Power or SMP which will be determined by PTA.

Later in the year 2005 PTCL was open for privatization. Emirates Telecommunications Corporation's (also known as Etisalat) offer to pay \$2.59 billion was accepted. In April 2006 the management control of PTCL was transferred to Etisalat International Pakistan, EIP (a subsidiary of Emirates Telecommunication Corporation)⁸.

⁷ "De-Regulation Policy for the Telecommunication Sector" Ministry of Information Technology. Government of Pakistan. July 2003.

⁸ The Dawn. April 13, 2006.

3. Growth in mobile phone

Before the liberalization of telecommunication sector, the telecommunication service was available at higher costs and the quality was poor. This was mainly due to lack of competition as no additional choices were available to customers. When mobile cellular services were launched in the country the people responded chaotically. These services commenced in the 1990s when Government of Pakistan awarded two cellular Mobile Telephone Licenses to M/s Paktel and M/s Pak Com (Instaphone) for provision of cellular mobile telephone in Pakistan. Both of these companies established their CMT networks using Advanced Mobile Phone System (AMPS). Third cellular license was issued in 1992 by the Ministry of Communication to M/s Pakistan Mobile Communications Limited (PMCL) “Mobilink”. Mobilink established Global System for Mobile Communication (GSM) network. In order to meet the increased demand for cellular phone, PTA issued license to M/s Pakistan Telecommunication Mobile Limited (Ufone) for provision of GSM service in 2001. The year 2001 proved remarkable as far the growth in cellular subscriber base was concerned. With the introduction of Calling Party Pays (CPP) regime, **the subscriber base jumped from 306,493 to 742,606 in just one year**, the growth rate calculated to be 142%. In order to further boost the mobile phone sector Government drastically reduced the royalty for mobile operators from 4% of the gross revenue to only 1.5%. These measures helped in increasing the cellular penetration to 3.3% in June 2004 (crossing the fixed line density of 2.9% in the same year).

In 2004 mobile licenses to two new companies i.e. Warid and Telenor were awarded through open bidding against auction bidding price of US\$291 million each. As per new mobile policy these licenses were kept technology neutral so that operators could decide best possible option. The introduction of these two mobile operators gave a tremendous boost to the mobile phone subscriber base in Pakistan which increased by phenomenal 182%, as shown in the following table:

Table 2: Cellular market in Pakistan from 1995 to 2005.

<i>Year End</i>	<i>Instaphone</i>	<i>Mobilink</i>	<i>Paktel</i>	<i>PTML (U-fone)</i>	<i>Telenor</i>	<i>Warid</i>	<i>Total</i>	<i>Growth Rate%</i>
1995-96	20,950	16,385	30,703	-	-	-	68,038	
1996-97	43,029	52,600	39,398	-	-	-	135,027	98%
1997-98	53,184	82,912	60,000	-	-	-	196,096	45%
1998-99	108,058	87,556	70,000	-	-	-	265,612	35%
1999-2000	112,000	114,272	80,221	-	-	-	306,493	15%
2000-2001	220,000	309,272	96,623	116,711	-	-	742,606	142%
2001-2002	330,000	800,000	218,536	350,000	-	-	1,698,536	67%
2002-2003	420,000	1,115,000	319,400	550,000	-	-	2,404,400	41%
2003-2004	535,738	3,215,989	470,021	801,160	-	-	5,022,908	108%
2004-2005	454,147	7,469,684	924,486	2,579,103	835,727	508,655	12,775,364	182%
March 06	396,756	12,990,643	954,933	5,750,516	2,332,117	2,578,043	25,003,008	96%

Source: <http://pta.gov.pk/>

According to United Nation’s forecast Pakistan’s population is expected to grow to 190 million by 2018. Assuming that future cellular coverage reaches 95% of all urban population and 30% of rural population and taking into account the relative geography and population density of each province, there is an expected demand of approximately 25 million cellular

subscriptions by 2018⁹. This shows that there is a tremendous potential for growth in this sector in the future.

4. Evolution of investment liberalization

In the context of a developing country like Pakistan Foreign Direct Investment (FDI) is extremely important in bringing about technological improvements, reduction of poverty and raising living standards. This single largest source of private capital flow has successfully contributed to investment and growth in many developing countries. These countries are the ones that followed open trade and investment regime, maintained macroeconomic stability, large markets, predictable institutional environment and good human and physical infrastructure. Pakistan has introduced wide-ranging reforms to attract the inflow of foreign investment. In 1990s the flow of FDI started to decline but later on in the 2000 the Government aggressively pursued the trade and investment reforms to remove the various irritants affecting business and investment climate. According to "World Investment Report 2004" by United Nations Conference on Trade & Development (UNCTAD) there was a rising trend in the flows of investment in the first quarter of 2004. The major chunk of this FDI has come to the telecom sector.

Following the deregulation agenda, PTA has made tremendous contribution by accomplishing the task of opening up of the telecom sector in Pakistan. Implementation (by the PTA) of the policies (by the Government of Pakistan) has opened the door for local and foreign investors to seriously explore the opportunities in the Telecom Sector in Pakistan. PTA has created investor friendly environment by awarding licenses in a fair and transparent manner¹⁰.

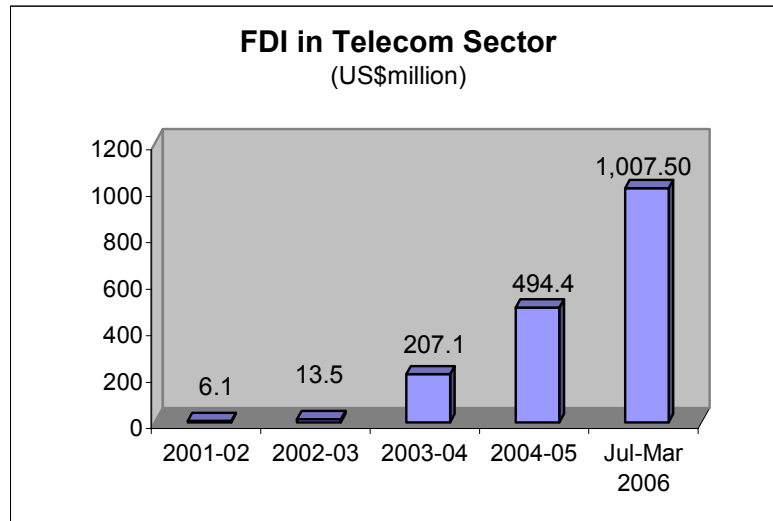
It is evident from the following chart that since 2003 telecom sector has attracted a large sum of FDI in the country. During the first nine month of the fiscal year 2005-06 this figure has surpassed US\$ 1 billion mark.¹¹

Figure 2: Foreign Direct Investment in Telecom

⁹ **Mobile Cellular Policy** Jan. 2004 Ministry of Information Technology. IT & Telecommunication Division. Government of Pakistan.

¹⁰ PTCL Annual Report 2003-04

¹¹ 'Business Recorder' dated June 3 2006



5. Evolution of Technology

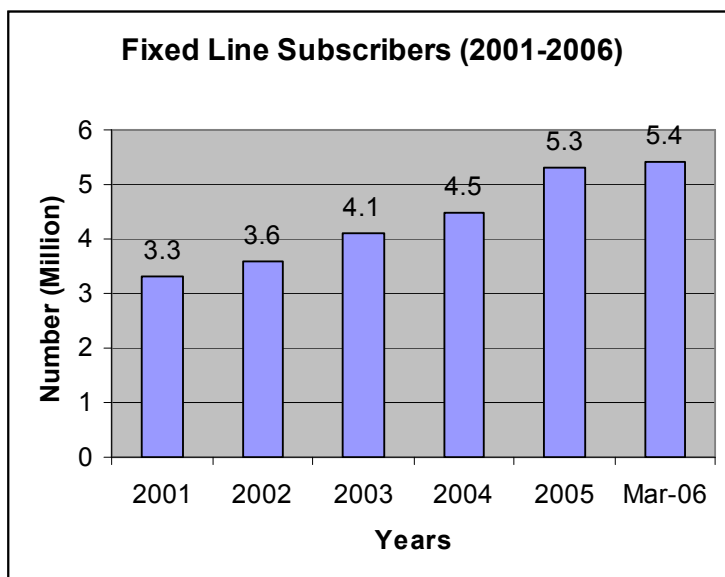
As mentioned earlier, in 1947 Pakistan's inherited a miniscule telecom base from British telecom department. For the next 30 years the telecommunication sector tried to meet the communication needs of the people by its old mechanical, analog switches and analog telephone lines. In 1991 after the conversion of Pakistan Telegraph & Telephone (PTT) into the private sector companies (PTC Act 1991), licenses were granted for non-basic services where the PTT had no experience base. These were Data Network Services, Paging, Manufacturing of Small Telephone Exchanges, etc.

In 1995 the PTCL in its first four years installed nearly 2 million telephone lines, about 200 percent increase in total capacity. Today, the number of working lines has been raised to about 5.05 million. The fixed line telephone density is 3.4 telephones per 100 persons. In addition PTCL started a very aggressive roll out of the conversion of the old analog telecom technologies to digital telecom including installation of Fiber Optic backbone between Karachi and Lahore in the initial phases.

6. Access to telecommunication services:

The basic fixed line telecommunication services were historically provided by the incumbent Pakistan Telecommunication Company Ltd (PTCL). The Pakistan Telecommunication Authority has awarded it a 25 years License. PTCL has a modern digital switching system and long distance and international network, based on fiber optic and satellite communication systems.

Figure 3: Fixed Line Subscribers (2001 - 2006)



Source: PTA

Although the number of fixed lines have increased from 1.2 million in 1992 to 3.3 million in the year 2001, then increased to over 5 million in 2005¹² (Figure above), the tele-density (fixed line) is still low as compare to other countries. (See the table below)

Table 3: Comparison of Tele-densities

Country	Tele-density
Pakistan	3.4
India	8.40
China	20.00
Western Europe	60.00
USA	70.00

Within the country there are huge regional disparities as far the provision of telecom facilities is concern. Geographically, Punjab and Sindh are the regions, largely connected with telecom services and have tele-densities of over 3% in the year 2005. Balouchistan has the lowest tele-density in Pakistan which is only 1.5% in the year 2005. This is due to the fact that deployment of network in the areas in Punjab is commercially more viable than that of Balouchistan. The following table shows the provincial variation in tele-density:

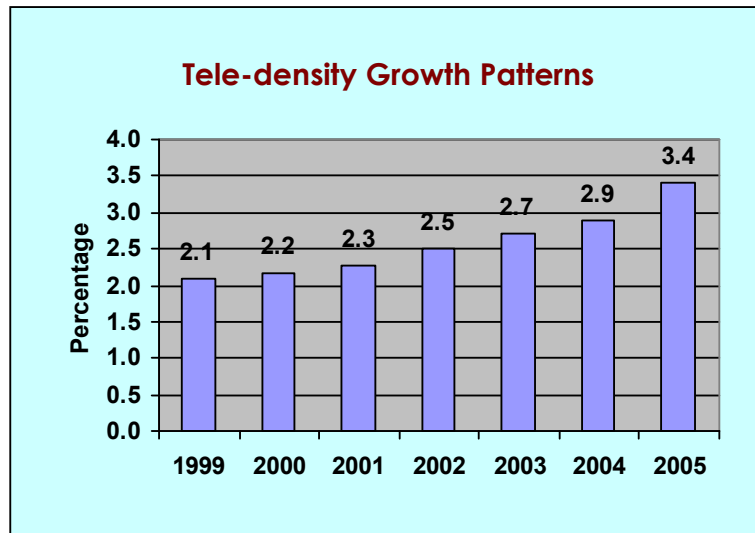
Table 4: Provincial Fixed Line Tele-density Trends (June 2004)

S. No.	Name of Province	Installed Capacity	Working Connections	Tele-density
1.	Punjab	3,010,073	2,577,676	3.04
2.	Sindh	1,479,440	1,225,502	3.48
3.	NWFP	626,596	554,877	2.65
4.	Balouchistan	156,982	116,145	1.52
	Total	5,273,091	4,474,200	3.01

¹² Pakistan Telecommunication Authority. Annual Report 2004-05.

The growth pattern in tele-density is shown in the following figure:

Figure 4 Tele density of fixed line telephony



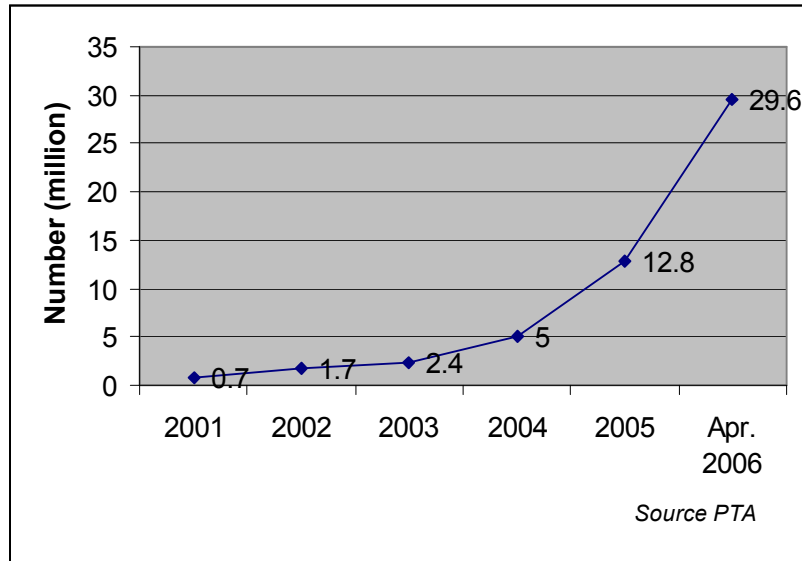
Source: PTA

As discussed earlier, the mobile telephone service was launched in Pakistan in 1990 under license granted to two operators namely Paktel and Instaphone. PMCL (Mobilink), the third operator, got the cellular license in 1992 for providing the nation wide GSM service. Ufone (PTML), a subsidiary of PTCL, launched its service in January 2001. Two more GSM licenses were awarded in 2004 to Telenor and Warid. Efforts are being made to bring cellular telephone penetration in Pakistan at par with other Asian Countries. The industry has shown a tremendous growth in the years 2001-2006 as the subscriber base has increased from 0.7 million to almost 30 million.¹³

Mobilink, Ufone, Paktel, Telenor, and Warid are using GSM technology for their cellular service. Instaphone is still operating with the digital version of the analogue technology D-AMPS.

Figure 5: Growth in Cellular Phone Subscribers

¹³Pakistan Economic Survey 2005-2006



Source: Pakistan Telecommunication Authority

Pakistan mobile industry at the moment is experiencing growth explosion. At present there are six cellular operators providing 29.6 Million mobile connections¹⁴. Though the existing players are trying to meet the growing demand still there is a huge amount of unmet demand in the under and un-served parts of the country. Mobilink has the highest market share of 55% followed by Ufone with 20%, Warid and Telenor with 8% each, Paktel 5% and Instaphone 4%.¹⁵

All the mobile operators are focusing on major cities and business communities. There is very little done for providing telecommunication services in rural areas. GoP is trying to increase rural tele-density by establishing USF. It has also placed obligations in the license terms to cover 70% of tehsil head quarters. Although, the roll-out obligation will help reaching at the edges of the rural areas however USF will act as a catalyst to penetrate right in the heart of rural areas, hence bridging the digital divide and uplifting the economy of the rural population.

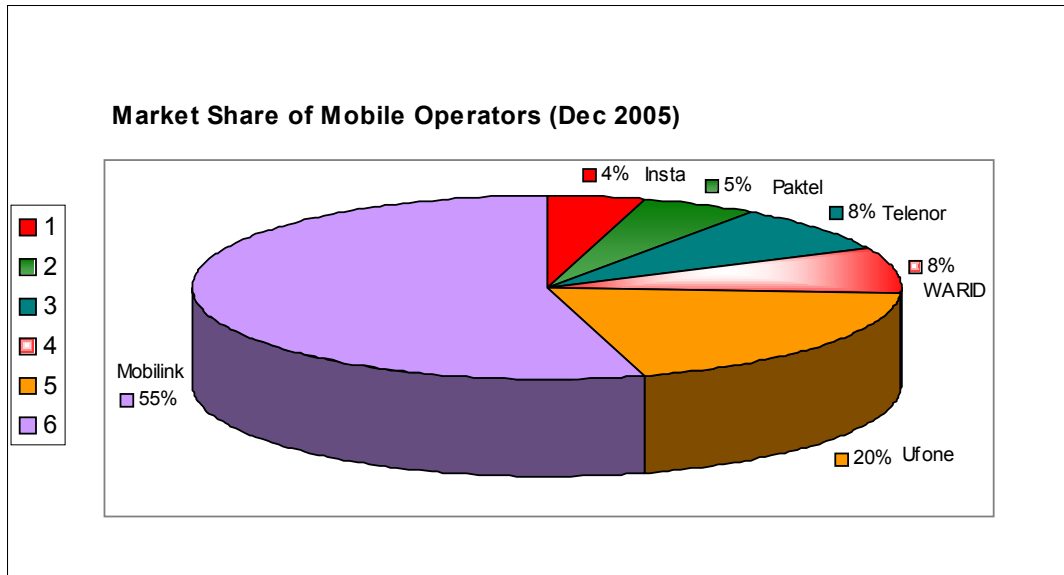
Even the cellular market leader, Mobilink, with largest coverage has provided coverage to 95% of urban and 10% of rural population. The rural coverage only comes from the sites which are primarily installed to cover the cities, Motorway and National Highways¹⁶.

Figure 6: Market Share of Mobile Operators

¹⁴ Pakistan Economic Survey 2005-06

¹⁵ Sector Status Report For Ministry of Information Technology' by Inter Connect Communications Ltd 2006

¹⁶ *ibid.*



7. Evolution of Pricing Policy

State owned Pakistan Telecommunication Corporation had monopoly. It could set the desired price and consumer had no choice but to pay the asking price. After the introduction of telecom reforms and more recently the issuance of WLL and LDI licenses to private sector, the telecom facilities are becoming more and more affordable for general public. Various measures have been taken to facilitate the operators and to bring the tariff rates down. Recently, the royalty on mobile operators has been reduced from 4% to 1.5% of the gross revenue with a further reduction up to 0.5% for new entrants or for existing operators when they renew their licenses. For ISPs and card payphone operators royalty has been reduced from 4% to 0.66% and 2% respectively. For the promotion of telecom services in the province of Baluchistan, license fee for ISPs has been reduced to 50%. 5% royalty on telecom equipment sale has been abolished. For satellite services license fee has been abolished and only registration is required. Type approval equipment fee has also been reduced to 50% and 39% on locally and foreign manufactured telecommunication equipments respectively¹⁷.

By the end of 2000, the number of mobile connections were 0.2 million. Insta and Paktel were the two mobile service providers at that time. The mobile connection was very expensive, which only the rich could afford. In 2001 PTA awarded cellular mobile license to M/S Ufone and introduced the Calling Party Pays CPP regime. Later with the entry of new operators, competition increased and prices started to fall down, which benefited the consumer.

Cellular service retail tariffs are split between post-paid and pre-paid subscribers with a number of packages being available to both sectors. However, approximately 95% of all subscribers are pre-paid. Bundled offers including the subsidy on handsets are being used as a marketing technique by the Cellular and WLL operators. Connection charges are payable for post paid phones at a rate of Rs. 150. There is also an additional Rs. 500 activation tax that is levied at the time of SIM purchase.

¹⁷ 'Business Recorder Islamabad' dated June 3, 2006.

Post paid contract have security deposits ranging from Rs.1, 500 to Rs.30, 000 depending on the level of access required, local, regional, national or international.

Monthly subscription charges (rental) are payable mostly on the post-paid packages. These vary considerably by carrier and are dependant on the package chosen.

Historically, call charges were a complex mixture of Airtime, National Access, Interconnect and 15% GST. This complex tariff regime was changed by Telenor by introducing flat call charges to any destination within Pakistan. This tariff trend was followed by all the operators. Per minute charging regime is also changing with Warid introducing 30 seconds billing and Paktel introducing per second billing accuracy¹⁸.

WLL Network Operators:

Following are the prevailing tariff plans being offered by the leading WLL operators:

PTCL WLL: Rs.3899 Desktop set offer (FWT + Internal Antenna + Free Rs.50 balance)
Rs.3449 Handset offer (Handset + Built-in Antenna + Free Rs.50 balance)

World Call: Rs.3679 Desktop set offer (FWT + Antenna + Free Rs. 100 balance)
Rs.3679 Handset offer (Handset + Antenna + Free Rs. 200 balance)

GO CDMA: Rs.5174 Desktop set offer (Rs.4675 + Rs.499 + Free 2500 Airtime)
Rs.5499 Handset offer (Rs.5000 + Rs.499 + Free 3500 Airtime)

The overall reduction in telecom tariffs is summarized in the following table:

Table 5: Reduction in Telecom Tariffs

Service	(In Rupees)		
	2003-04	2004-05	March 06
Fixed Local Loop			
PTCL			
Installation Charges			
Urban	1350	750	750
Rural	-	500	500
Local call charges per 5 minutes	2.01	2.01	2.01
Local mobile (per minute)	2.8	2.8	2.12
Long Distance Tariff	3.0 – 7.39	3.0 – 5.25	3.0 – 4.0
Local Long Distance (Minimum Tariff)	26.09	20.00	18.0
Wireless Local Loop (Minimum Tariff available)			
Line Rent	-	149	Zero
Local Calls	-		
On net	-	0.4	Free
Off net	-	2.01	2.01
NWD	-	3.15 – 4.75	1.49 – 2.99
International Prepaid Calling Cards (Minimum Tariff available)			
Long Distance			0.67
Intl Long Distance			1.99
Cellular Mobile (Minimum Tariff available)			
Airtime Tariffs			

¹⁸ Sector Status Report For Ministry of Information Technology' by InterConnect Communications Ltd 2006

On net	5.75	5.00	2.50
Off net			
Cell	7.75	7.00	2.50
<i>Fixed</i>	7.76	7.76	2.50
NWD			
On net	14.75	12.75	2.50
Off net			
<i>Cell</i>	16.48	14.39	2.50
<i>Fixed</i>	18.75	16.39	2.50
International Long Distance	34.75	22.0	3.75
SMS			
On net	1.5	1.50	0.50
Off net	1.5	1.50	1.00

8. Telecom Sector and Revenue Generation

The Government has been quite liberal over the years to provide incentives to promote telecom sector, the revenue generation, however, is inconsistent with the incentive structure. The contribution of telecom sector in the form of federal taxes has increased considerably over the years, but the tele-tax/ GDP has been stagnant around 0.6% and 0.7%, indicating that only the natural growth effect has been captured by the tax system¹⁹.

The wide array of concessions given to this sector includes a scheme of declining corporate tax rates, reduction of activation charges on new mobile phone and withdrawal of WHT on pre paid cards. The import of telecom plant, machinery and equipment including parts was zero rated for sale tax purposes during 2005-06.

Table 6 Direct & Indirect Taxes from Telecom Sector: (Rs Million)

Years	Direct Taxes	Indirect Taxes	Total Taxes	Share in Federal Taxes	Share in GDP
2002-03	15573	12273.1	27846.4	6.0	0.6%
2003-04	21009.1	13345.8	34354.9	6.6	0.6%
2004-05	19799.3	23002.2	42801.5	7.2	0.7 %
2005-06*	15641.7	19604.8	35246.5	7.2	0.6%

*July-March

Source: Central Board of Revenue

The overall revenue from telecom sector has registered a significant growth of 24% in FY 2004-05. The revenue has increased to Rs. 42.8 billions as compare to Rs. 34.4 billion in FY 2003-04. The contribution of GST made by the telecom companies operating in Pakistan as presented in the following table shows a significant growth during last few years. The collection has increased from Rs. 11.5 billion in 2002-03 to Rs.20.4 billion in 2004-05. The GST collection through this sector during July-March 05-06 was Rs. 18.9 billion.

Table 7: Sales Tax (Domestic) generated by major Companies

	2002-03	2003-04	2004-05	2005-06 (Jul.-

¹⁹ Central Board of revenue, Quarterly Report. Mar. 2006

				Mar.)
Mobilink	1602.8	3746	7014.1	7444.2
PTCL	7991.9	6556.9	9337.3	5501.8
Ufone	814.8	609	1767.5	2516.0
Warid	-	-	116.2	1517.9
Telenor	-	-	744.2	826.8
Paktel	366.3	381.9	714.6	543.7
NTC	256.2	317.7	340.9	177.5
Instaphone	493.6	506.8	328.4	129.5
Sub-Total	11525.6	12118.3	20390.2	18657.4
Others	0.8	0.9	7.9	226.9
Total	11526.4	12119.2	20397.2	18884.3

Source: Central Board of Revenue.

9. Labour Demand and Supply Effect:

Trade liberalization's effects on demand and supply of labour are reflected in the form of changes in wages, conditions of employment and level of employment. The fundamental structural reforms in telecommunication sector have contributed positively towards creating employment opportunities in the country. In the year 2004 Government declared telecommunication sector as a priority area for employment generation and poverty reduction. This is the fastest growing sector of the economy and pace is likely to accelerate even further in the next few years, creating more jobs, raising the income of people. The following table shows that the pay phone sub sector has generated the largest number of jobs opportunities in the telecom sector. Whereas the total number of jobs opportunities created is equal to 333,939.²⁰ Further indirect employment will be generated through franchise, vendors and distributors of the telecom companies.

Table 8 Employment in Telecom Sector:

Service	Direct Employment 2004	Indirect Employment
Cellular Mobile	3,1922	23,495
Long Distance International	2,687	8,061
Wireless Local Loop	653	9,032
Local Loop	120	160
Payphones	188,800	188,800
Manufacturing	1,145	2,912
ISPs	343	668
Sets & accessories sellers	6,000	120
Grand Total	231,670	233,248

Source: Pakistan Telecommunication Authority. Annual Report, 2004-05

At present there is an acute shortage of trained manpower in telecom sector. Due to the increased demand for skilled and educated labour in this sector, there are many educational institutions providing quality training and educational services to the people who want to enter this sector. In most educational institutions telecom engineering is a separate department with substantial enrollment. There has been a direct access to students for employment in this sector. Better education standards and training methods will have obvious

²⁰ Pakistan Economic Survey. 2004-05

benefits to this growing industry. It is observed that the impact of the expansion of telecom sector and the reduction in rates has significantly contributed to social welfare of the middle class.

10. Perception Survey:

In order to analyze the post liberalization scenario, the perception survey of the stakeholders was conducted. The major objective of this survey was to fully understand the economic impacts of telecom reforms on the related companies, workers and individuals. (See annex II for the list of stakeholders.) Performance of telecommunication sector, effects on the labour market and benefits, if any, for consumer were the major aspects covered in the survey.

10.1 Methodology:

The questionnaire used for the survey (annex III) has four parts, part 1 and 2 are concerned with the impact of trade liberalization on the sector's performance. Part 3 relates to the labour market where as part 4 concerns with the effects on consumers.

13 companies were contacted for part 1 and 2 of the questionnaire, of which 10 opted to respond. Similarly for part 3, 30 employees of various telecommunication companies were asked to fill the questionnaire.

For assessment of the impact on the consumers of all income groups, a sample of 100 individuals was chosen on the basis of poverty profile of the population provided by Center for Research on Poverty Reduction and Income Distribution²¹. These estimates are based on the poverty line of Rs. 878.64 per adult equivalent per month. The following table shows the composition of sample on the basis of poverty profile of the population:

Table 9: Composition of Sample on the Basis of Income:

Income Groups	Number
Very Poor	8
Poor	16
Lower Middle class	21
Upper Middle class	35
Wealthy	20
<i>Total</i>	<i>100</i>

Source: CRPRID/ Planning Commission

10.2 Survey Results:

In order to access the liberalization impact on telecom service providers, the questionnaire was send to almost all the operators. Ten service providers opted to answer the questionnaire. About 70% of the companies admitted that there is a substantial decrease in the tariff of fixed line telephone since 2003 (after the announcement of telecom deregulation policy). Similarly for mobile telephones this decrease was 80%. As far as the change in non-tariff barriers and barriers to investments is concerned, the respondents were not very clear, but they do admit that the liberalization reforms have proven beneficial for the sector as a whole. See following table for details.

²¹ Economic Survey of Pakistan 2005-06

Survey1: Trade Liberalization's Impact:

	Question	Response			No Response
a.	Has there been any change in tariff of fixed line telephone since 2003?	Substantial Increase (10%)	Substantial decrease (70%)	Constant (10%)	10%
b.	Has there been any change in tariffs of mobile telephone since 2003?	Substantial Increase (20%)	Substantial decrease (80%)	No change (0)	
c.	Has there been a change in non-tariff barriers (quotas, import/export licensing, inspection requirement)?	Substantial Increase (20%)	Substantial decrease (10%)	Constant (20%)	50%
d.	Has there been a change in barriers to investment during the last three years?	Increased (30%)	Decreased (30%)	No change (10%)	30%
e.	Has there been any change in import duties on telecom equipments?	Increased (30%)	Decreased (40%)	No change (10%)	20%
f.	Have these changes been beneficial to the telecom service providers?	Beneficial (70%)	Not beneficial (10%)	No effect (10%)	10%

When the service providers were asked to evaluate the sector's performance, 80% agreed that the sector has performed better after liberalization. For 90% investment has increased and for 80% return on investment has improved. There are substantial increases/ improvements in competition (90%), technological advancement (90%), network accessibility (90%), workers productivity (80%) and working environment (90%). All the respondents agreed that the sector has experienced growth in post liberalization era.

Survey 2: Impact on Sector's Performance:

	Question	Response			No Response
a.	Has the sector performed better during the last three years (after trade liberalization)?	Yes (80%)	No (10%)		10%
b.	Has the investment in the sector increased since 2003?	Increased (90%)	Decreased (0)	Remained Constant (0)	10%
c.	Has the return on investment improved?	Substantial Increase (80%)	Substantial decrease (0)	Constant (0)	20%
d.	Have competition increased?	Increased (90%)	Decreased (0)	Not affected (0)	10%
e.	Has the quality of service improved?	Improved Substantially	Deteriorated (10%)	Not affected	0

		(90%)		(0)	
f.	Have there been technological advancements?	Yes (90%)	No (10%)		0
g.	Has the network accessibility improved?	Improved (90%)	Not improved (10%)	Remained the same (0)	0
h.	Have the working environment improved?	Improved (90%)	Not improved (10%)	Same as before (0)	0
i.	Has the sector experienced growth?	Yes (100%)	No		
j.	Has the productivity of employees changed?	Improved substantially (80%)	Decreased substantially (10%)	Not affected (10%)	
k.	Has the access to credit changed since 2003?	Easily accessible (60%)	Difficult accessibility (10%)	Not affected (0)	30%

Trade Liberalization and Labour Market:

A sample of 30 telecom employees was chosen for the perception survey. The results show that liberalization has proven beneficial in some areas while it fails to provide desired results in other areas. For example there are improvements in employment generation (80% respondents), working conditions (77%) and technological progress (97%). But the employees have not received enough training and education facilities to learn new technologies, for 73% there is no change in provision of these facilities. Similarly 33% of the respondents said that there is no change in wages in real terms, for 10% wages decreased. Though there has been a substantial technological advancement, 57% of the employees perceived it has no benefits for the employees.

Survey 3: Impact on Labour Market:

	Questions	Response (%)			No Response
a.	Has there been an increase in employment opportunities?	Substantial Increase (80%)	Substantial decrease (0)	Constant (20%)	0
b.	Has there been a change in wages in real terms?	Significantly increased (57%)	Significantly decreased (10%)	Constant (33%)	
c.	Have the working conditions improved?	Yes (77%)	No (23%)		
d.	Change in training and education facilities?	Increased (27%)	Decreased (0)	Same as before (73%)	
e.	Has there been increase in the skill level of employees?	Increased (77%)	Decreased (3%)	Constant (20%)	
f.	Has there been technological progress in the sector?	Substantial progress (97%)	No Progress (3%)		
g.	If yes, has there been any benefit for the employees?	Benefits (43%)	No benefits (57%)		

Trade Liberalization and Individuals:

Survey results for a sample of 100 individuals of all income groups reveal that telecom services have become extremely affordable for the people. There is a substantial decrease in call charges (for 92% of the respondents), connection charges (for 98% of the respondents) and mobile phone charges (for 94% of the respondents). As far as the quality of service is concerned, almost half of the respondents admitted that there is an improvement (48%), for 34% quality deteriorated. For further details please see the following table:

Survey 4: Impact on Individuals (All Income Groups):

	Question	Response (%)			No Response
a.	Has the overall price of telecom services come down during the last three years?	Substantially decreased (97%)	Substantially Increased (0)	Not affected (0)	3 %
b.	Have the connection charges come down since 2003?	Yes (98%)	No (0)	Constant (0)	2%
c.	Have the call charges come down?	Yes (92%)	No (6%)		2%
d.	Is there an easy availability of connection?	Yes (96%)	No (2%)		2%
e.	Have the prices of cell phones changed?	Reduced (94%)	Increased (3%)	Constant (1%)	2 %
f.	Have the quality of service improved?	Improved significantly (48%)	Deteriorated (34%)	Same as before (16%)	2%
g.	Is clarity of calls improved?	Improved significantly (48%)	Deteriorated (33%)	Same as before (16%)	2%
h.	Is there any change in number of call drops?	Increased (22%)	Decreased (56%)	No change (20%)	2%
i.	Has customer service improved?	Improved significantly (49%)	Deteriorated (26%)	Same as before (23%)	2%

The following five tables show the responses of individuals from all the income groups separately.

For all the respondents from 'Very Poor' 'Poor' and 'Lower Middle Class' groups overall price of telecom service, connection and call charges have decreased substantially.

Survey 5: Impact on Consumers (Very Poor)

Income Group: Very Poor Total: 8					No Response
a.	Has the overall price of telecom services come down during the last three years?	Substantially decreased (100%)	Substantially Increased (0)	Not affected (0)	0
b.	Have the connection charges come down since 2003?	Yes (100%)	No (0)	Constant (0)	0
c.	Have the call charges come down?	Yes (100%)	No (0)		0
d.	Is there an easy availability of connection?	Yes (100%)	No (0)		0
e.	Have the prices of cell phones changed?	Reduced (100%)	Increased (0)	Constant (0)	0
f.	Have the quality of service improved?	Improved significantly (88%)	Deteriorated	Same as before (12%)	
g.	Is clarity of calls improved?	Improved significantly (88%)	Deteriorated	Same as before (12%)	
h.	Is there any change in number of call drops?	Increased	Decreased (88%)	No change (12%)	
i.	Has customer service improved?	Improved significantly (100)	Deteriorated (0)	Same as before (0)	

Survey 6: Impact on Consumer (Poor)

Income Group: Poor Total: 16					No Response
a.	Has the overall price of telecom services come down during the last three years?	Substantially decreased (100%)	Substantially Increased (0)	Not affected (0)	0
b.	Have the connection charges come down since 2003?	Yes (100%)	No (0)	Constant	
c.	Have the call charges come down?	Yes (100%)	No (0)		
d.	Is there an easy availability of connection?	Yes (100%)	No (0)		
e.	Have the prices of cell phones changed?	Reduced (100%)	Increased (0)	Constant (0)	
f.	Have the quality of service improved?	Improved significantly (81%)	Deteriorated (13%)	Same as before (6%)	
g.	Is clarity of calls improved?	Improved significantly	Deteriorated (19%)	Same as before	

		(75%)		(6%)	
h.	Is there any change in number of call drops?	Increased (6%)	Decreased (88%)	No change (6%)	
i.	Has customer service improved?	Improved significantly (81%)	Deteriorated (13%)	Same as before (6%)	

Survey 7: Impact on Consumer (Lower Middle Class)

	Income Group: Lower Middle Class Total: 21				No Response
a.	Has the overall price of telecom services come down during the last three years?	Substantially decreased (100%)	Substantially Increased (0)	Not affected (0)	
b.	Have the connection charges come down since 2003?	Yes (100%)	No (0)	Constant (0)	
c.	Have the call charges come down?	Yes (100%)	No (5%)		
d.	Is there an easy availability of connection?	Yes (95%)	No (5%)		
e.	Have the prices of cell phones changed?	Reduced (95%)	Increased (5%)	Constant	
f.	Have the quality of service improved?	Improved significantly (19%)	Deteriorated (52%)	Same as before (29%)	
g.	Is clarity of calls improved?	Improved significantly (19%)	Deteriorated (48%)	Same as before (33%)	
h.	Is there any change in number of call drops?	Increased (19%)	Decreased (67%)	No change (14)	
i.	Has customer service improved?	Improved significantly (24%)	Deteriorated (43%)	Same as before (33%)	

Survey 8: Impact on Consumer (Upper Middle Class)

	Income Group: Upper Middle Class Total: 35				No Response
a.	Has the overall price of telecom services come down during the last three years?	Substantially decreased (100%)	Substantially Increased (0)	Not affected (0)	
b.	Have the connection	Yes (100%)	No (0)	Constant	

	charges come down since 2003?			(0)	
c.	Have the call charges come down?	Yes (85%)	No (15%)		
d.	Is there an easy availability of connection?	Yes (97%)	No (3%)		
e.	Have the prices of cell phones changed?	Reduced (94%)	Increased (3%)	Constant (3%)	
f.	Have the quality of service improved?	Improved significantly (34%)	Deteriorated (49%)	Same as before (17%)	
g.	Is clarity of calls improved?	Improved significantly (34%)	Deteriorated (49%)	Same as before (17%)	
h.	Is there any change in number of call drops?	Increased (14%)	Decreased (49%)	No change (37%)	1%
i.	Has customer service improved?	Improved significantly (34%)	Deteriorated (37%)	Same as before (29%)	

Survey 9: Impact on Consumer (Wealthy):

	Income Group: Wealthy Total: 20				No Response
a.	Has the overall price of telecom services come down during the last three years?	Substantially decreased (85%)	Substantially Increased (0)	Not affected (0)	15%
b.	Have the connection charges come down since 2003?	Yes (90%)	No (0)	Constant (0)	10%
c.	Have the call charges come down?	Yes (90%)	No (0)		10%
d.	Is there an easy availability of connection?	Yes (90%)	No (0)		10%
e.	Have the prices of cell phones changed?	Reduced (85%)	Increased (5%)	Constant (0)	10%
f.	Have the quality of service improved?	Improved significantly (60%)	Deteriorated (20%)	Same as before (10%)	10%
g.	Is clarity of calls improved?	Improved significantly (65%)	Deteriorated (15%)	Same as before (10%)	10%
h.	Is there any change in number of call drops?	Increased (60%)	Decreased (20%)	No change (10%)	10%
i.	Has customer service improved?	Improved significantly (55%)	Deteriorated (10%)	Same as before (25%)	10%

11. Analysis of Research

11.1 A comparison of the performance of the private and public sectors of the industry.

The telecommunications industry in Pakistan has come a long way and continues its journey towards transition from state-owned monopoly to liberalized competitive structure at multiple levels including policy, regulation, competition, privatization, and social development goals in sight.

Before liberalization of this sector, getting a telephone connection was a momentous task for an ordinary customer. It was a complex and tedious process marked by red tapism in Telegraph and Telephone Department. In some cases customers had to wait years and years before they could hear a phone ring in their homes. The operational lines that were available to people were of bad quality and were prone to faults. Lack of infrastructure and latest technical expertise were the major constraints on the part of T&T Department. As far as the cellular mobile phones are concerned, only the rich could afford the cellular mobile phones.

With the onset of telecom liberalization, the whole scenario changed. Deregulation Policy for Telecom Sector (July 2003) further unleashed the phenomenal growth process in the telecom sector in Pakistan. It has gained rapid momentum and visible results have started coming out in calculative terms. The segment of society which has benefited the most by this process is the consumer. Now they have a wide variety of telecommunication services to choose from. Telecom rates have reduced drastically and communication has become easier for millions of people using latest technology at affordable price, (which has been revealed by the perception survey).

11.2 Telecom Liberalization and its impact on Poverty:

One of the most critical economic issues faced by Pakistan is the existence of widespread poverty. Whether the poverty is defined using the narrow definition of lack of adequate food or income, or the broader definition of lack of access to opportunities, a quarter to a half of the total population falls below the poverty line.

Pakistan being a member of the UN has made international commitment to eradicate poverty. The proposed strategy of the Poverty Reduction Strategy Paper (PRSP) focuses on attainment of Millennium Development Goals (MDGs) for sustainable development and poverty reduction. For this purpose, the strategy aims at forging an alliance with civil society and private sector to reduce poverty and accelerate growth. The PRSP includes guidelines to address issues of gender, employment, and the nexus of environment with poverty. Vital elements of the PRSP include devolution program, human development and rural development strategy²².

The deregulation of telecom sector is part of the economic reforms that are expected to benefit the economy in general and the poor in particular. The phenomenal growth of this sector followed by liberalization is extremely encouraging. Telecom sector's aggregate scale has expanded, thousands of employment opportunities have been generated for the

²² Accelerating Economic Growth and Reducing Poverty: The Road Ahead (**Poverty Reduction Strategy Paper**) 2003

unemployed educated youth, which means increased incomes and in turn enhanced economic activity. Presently when the developing countries like Pakistan are still struggling with the chronic problems of being deprived from basic needs (health facilities, safe drinking water, housing, mal nutrition), it is expected that innovations in communication systems provide a paradigm shift in addressing such problems using new approaches based on ICTs (information and communication technologies) affecting society, government and trade respectively²³.

Policy makers around the world are hoping for the positive outcome from trade liberalization i.e., promotion of economic growth and reduction of poverty. Liberalization of telecom sector in Pakistan has attracted the foreign direct investment, brought about technological changes and generated employment opportunities. Since the liberalization process started a few years ago, it will take some time for the market forces to mature so that the benefits could further trickle down to the poor masses.

12. Telecommunication Policies and Challenges:

The overall initiative of liberalization process in telecom services has been quite successful and has induced competition in every segment of this sector. Technology is changing rapidly and its transfer to local market is even faster. The private sector is taking the full advantage of the situation. This implies that the policies followed by the Government are successful in achieving the desired objectives. However there are a few important observations regarding the policies, their implementation and regulation.

The evolving telecom policies of Pakistan seem to have a micro level scope where the Ministry has issued three different policies, being on telecom sector, (IT Policy and Action Plan 2000, Telecom Deregulation Policy 2003, Mobile Cellular Policy 2004). The national telecom and cellular policies provide an 'investment protectionist regime'. Policy mainly covers the regulatory guidelines, spectrum allocation, and role of incumbents, rights and obligations of market players. The cellular policy is not technology neutral as it revolves around GSM-technology and is quite anti-convergence in nature. The policy is also ambiguous regarding the use of huge funds namely Universal Service Obligation/ Fund, Research and Development Fund, Access Promotion Charges²⁴.

Tele-density in rural areas is still very low (1.26%). The main reason is the low return on investment made in remote markets. Under GATS the role of Government has changed from public service provider to regulator, the new trade regime mitigates the burden of USO on the telecom service providers. The creation of USF fund and its regulation in a market where a big chunk of the service providers are foreign companies, will be a challenging task for PTA.

Telecom licensing process became very capital-intensive, marginalizing domestic players in comparison to Foreign Service providers. This process has become a revenue stream for the government at large, as trade in services became a new means to earn, contrary to tariff liberalization where the government has significantly lost the revenue due to tariff reduction on imports. Pakistan has yet failed to benefit from the reciprocity of multilateral framework of GATS, which encourages market access for Pakistani services export in foreign markets

²³ Beyond Trading in Telecom for Sustainable Development are current telecom market trends leading us towards sustainable development? Yousaf Haroon

²⁴ Pakistan's Mobile Cellular Policy: Comparative Analysis of Policy Approaches for Telecom Competition' Yousaf Haroon

There is a widespread concern that the current policy may limit competition in a number of ways, especially through allocation of spectrum to only (2) more licensees. It is advisable that current scarce resource spectrum should be widened so that it does not become a tool to restrict competition. In developed countries like US and UK, the spectrum is traded as a commodity and managed by the private sector. Besides the two new licensees, there are four existing players in the cellular business namely, Ufone, Paktel, Instaphone and Mobilink, but practically there are only (3) players as Millicom has majority ownership of both Paktel and Instaphone, and there has yet no regulatory rules to manage vertical integration, neither the policy has provided any guidelines²⁵.

The policy does not clearly outline the dispute resolution mechanism. In the short run it may not seem essential but in future when the incumbent PTCL's 25 years license will expire, the disputes will bound to rise. Similarly in the wake of migration of wireless services from 2G to 3G, the current mobile operators have to compete with Wireless Local Loop (WLL) operators with limited mobility in the case of Pakistan, which is going to become a serious problem once the fixed licenses are issued and start operating in respective regions.

Control of grey traffic is another challenge for the telecom sector. This is causing a huge loss to national exchequer and licensed operators. Careful planning and close cooperation between various agencies is required to track such activities.

Penetration of broadband is very low in Pakistan mainly due to non availability of infrastructure, high prices and lack of awareness among general public. By simplifying the process for infrastructure development, the facilities can be boosted which will further benefit economic activity.

The current manufacturing capacity of the industry is not sufficient to meet the local demand. The excess demand is being met through imports. With the growth in fixed line and cellular telephones the demand is expected to grow further. The domestic manufacturing capacity should be expanded. Indigenization will not only save precious foreign exchange, but will also create employment opportunities. There is a need for the diversification of FDI i.e. besides the purchase of existing units; FDI should be directed towards establishment of manufacturing facilities.

13. Conclusion

GATS rules provide for a public welfare model driven by market forces. These rules change the role of Governments from public service provider to a regulator. On the basis of this study the following conclusions can be drawn:

- In Pakistan the liberalization under GATS of state owned telecom sector has proven beneficial to the economy.
- The number of fixed line telephone increased from 2.1 percent in 1999 to 3.4 percent today. The growth in cellular phone is more vibrant and with the entry of new operators Pakistan is emerging on world scene as one of the fastest growing cellular market.
- There has been a phenomenal growth in Foreign Direct Investment. It is estimated that as much as US \$8 billion will be injected into the economy (network and equipments) over the next five years, compare with just US \$1.5 billion since 1999.

²⁵ Pakistan's Mobile Cellular Policy: Comparative Analysis of Policy Approaches for Telecom Competition' Yousaf Haroon

- New and better technology is being transferred in the country.
- The emergence of new players in telecom sectors has facilitated the economy. It has positive impact on business transactions as well as the daily life of a common man. The increased competition among service providers has benefited the consumer as they have a wide array of telecom service choices available at affordable prices.
- For residents of the remote areas these facilities largely remain inaccessible for various reasons. There is a need to develop a mechanism for incentive and motivation to be offered to the private sector to be able to address the issues of digital divide.
- Liberalization of telecom has boosted the economic activity and has generated numerous employment opportunities.
- The results of liberalization of Telecom sector are very encouraging for policy makers of Pakistan. It is expected that this experience will be replicated in other sectors of the economy but before that a strong institution framework has to be formulated to manage market dynamics and trade challenges for long term sustainability of economic growth resulting from liberalization and deregulation.

WORLD TRADE

GATS/SC/67/Suppl.2/Rev.1

16 February 1998

ORGANIZATION

(98-0568)

Trade in Services

PAKISTAN

Schedule of Specific Commitments

Supplement 2

Revision

(This is authentic in English only)

This text supplements the entries relating to the Telecommunication services section contained on pages 7 to 8 of document GATS/SC/67.

PAKISTAN - SCHEDULE OF SPECIFIC COMMITMENTS

Modes of delivery:(1) Cross-border supply(2) Consumption abroad(3) Commercial presence(4) Presence of natural persons			
Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
<p><u>General conditions of this schedule:</u> This offer is subject to following general conditions:</p> <ul style="list-style-type: none"> -Policy, regulatory and operation functions are separate and compliance is necessary. -All services to be provided in Pakistan shall require a licence from the Regulatory authority established under the law. -Operators and Service providers may be granted licence in accordance with the local legislation. -The number of operators, service providers and licensees may be limited due to technical constraints. -The confidentiality of International Total Accounting Rate (TAR) shall be maintained. -The bilateral agreements on accounting rates shall be in accordance with ITU guidelines. -Up to 100% foreign investment on licensed services may be permitted -This schedule on basic telecommunications does not include any broadcasting services²⁶. 			
<u>2.C. Telecommunications Service</u>			
Local, domestic long distance and international services, for public:	Save exclusivity.		About 12 per cent stake of the Pakistan Telecommunication Corporation (PTC), the sole operator for all basic Telecommunication services was sold to the national and international buyers in

²⁶Broadcasting service is defined as a radio communication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmission, television transmissions or other types of transmissions. In Pakistan Telecom Law, like many other countries, broadcasting is not part of basic telecommunication services.

²⁷The GMPCS/Satellite operators shall be reputed to pass traffic via Pakistan PSTN through transit and Gateway exchanges, especially in case of overseas communication from Pakistan. Any operation contrary to this shall be termed as "bypass."

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

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
			1994-95 through two different offers of PTC vouchers in national and international financial markets.
(a)Voice telephone services	Licensed operators subject to the exclusivity period of 7 years for basic telephony services under the law in favour of PTCL. This exclusivity shall expire by the year 2003.		The offers were many times over subscribed. The Corporation has been, inter alia, converted into a limited company namely Pakistan Telecommunication Company Ltd (PTCL) with effect from 1 January, 1996 through the promulgation of a law. Bounds with US\$ 150 million have been floated with an option to convert them into PTCL shares.
(a)Voice telephone services (cont'd)	Country direct card service can only be permitted by mutual agreement with the licensed operator.		

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

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
<p>(b)Packet-switched data, E-mail, Internet and Intranet services</p> <p>(c)Circuit-switched data transmission services</p>	<p>Network facilities of PTCL. The regulatory authority to grant licences and authorizations to private companies for operation of data, E-mail, Internet and Intranet services in addition to the licences already granted.</p> <p>Subject to technical constraints, the regulatory authority to grant licences and authorizations to private companies for operation of domestic VSAT, data, E-mail, Internet & Intranet services in addition to the licences granted.</p>		<p>Privatization of PTCL is on the anvil. The management of the Company shall be transferred to the selected strategic operator. Exclusive licence for operation of basic telephony services for a period of 7 years granted to the PTCL.</p> <p>The Pakistan Telecommunications (Re-organisation) Law has been passed as an Act of Parliament in October 1996. An independent Regulatory Authority and a Frequency Allocation Board have been established. Chairman members and other</p>

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

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
			essential staff of these bodies are already in place. The Authority and Board are already functional. To support effective regulation and spectrum management GOP is undertaking of PTA & FAB.
(d)VSAT for domestic data services	Authorizations to private companies for operation of VSAT for domestic data, E-mail, Internet and Intranet services in addition to the licences already granted		The Pakistan Telecommunication Authority established under the law as an independent body is responsible to:
(e)Telex services			

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

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
(f)Telegraph services	Authorizations to private companies for operation of Telegraph services using PTCL infrastructure by 2003.		<ul style="list-style-type: none"> -Prescribe standards -Determine terms of interconnection agreements. -Investigate and adjudicate on complaints. -Enforcement on valuation -International traffic and accounting settlements. -Issue regulations. -Receive applications for frequency allocation.
(g)Facsimile services			
(h)Private leased circuit services	Domestic VSAT is the exclusive service provider for seven years. This exclusivity shall expire by the year 2003.		The frequency allocation Board established under the law is responsible to allocate and assign frequency spectrum for

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

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
	<p>Pakistan Telecommunication Company Limited except for domestic VSAT is the exclusive service provider for seven years. This exclusivity shall expire by the year</p>		<p>telecommunication, broadcasting public and private wireless services and classify radio telecommunication services.</p> <p>Appeals against the decisions of the Authority may be filed in the High Court.</p> <p>Following services have been licensed to the private operators and further licensing could be possible:</p>
(i) Video conferencing tele-medicine and tele-education terminal end services	<p>Authorizations to private companies for operation of video-conferencing, tele-education and telemedicine services, using PTCL network until seven years.</p>		<ul style="list-style-type: none"> -Cellular Mobile telephone services. -Card pay phones services -Paging -Data network operation -Voice Mail Service -Audio Tex Service -Trunk Radio service -Electronic Mail and

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

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
			internet services -Use of domestic satellites for provision of telecom services -Manufacture of telex, fax, all PABXs/Digital exchanges and modems -manufacture of Fibre/Optic/copper cables -manufacture of telephone sets, terminal equipment answering machine etc. -manufacture of jointing material for copper/optic cables
(j)Trunked radio service	Licences to private companies for operation of Trunked Radio service in addition to the licences already granted using PTCL network until 2003.		Regulatory Authority shall grant licences on competitive basis as per telecom law and regulations. Regulatory Authority may grant licences for satellite based services on following conditions:

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

Sector or subsector	Limitations on market access	Limitations on national treatment	Additional commitments
(k)Satellite based telephony services, including value added services operating over satellite	International telephony services and safeguarding PSTN bypass licences shall be granted		

ATTACHMENT TO PAKISTAN'S SCHEDULE

(Reference Paper)

1. Transparency of Regulations

1.1 Laws and regulations pertaining to provisions of basic telecom services shall be published.

1.2 Advanced public notice and a fair opportunity will be provided for interested parties to comment on proposed measures affecting the provision of basic telecom services.

1.3 The Regulatory Authority consists of three members, one is a professional telecom engineer and other two are technical and financial experts, appointed by the Government for a term of four years and eligible for appointment for a similar term.

1.4 Any member of the Authority shall not have any direct or indirect financial interest in, or have business connection with any person, any establishment or firm which renders telecom services in Pakistan or abroad. For above purpose even any involvement of the spouse or blood relation of any member of the Authority with any telecom firm shall be considered as a direct financial interest or connection with such firm.

1.5 The Authority shall ensure that:

(a) rights of licensees are duly protected;

(b) decisions and determinations are made promptly in open, equitable, non-discriminatory, consistent and transparent manner;

(c) the persons affected by its decisions or determinations are given a due notice and provided opportunity of being heard.

1.6 A person aggrieved by any decision or order of the Authority can within thirty days of the receipt of order, appeal to the High Court and the Court shall decide such appeal within ninety days.

1.7 A person aggrieved by any decision or order of any officer of the Authority may, within thirty days of the order, appeal to the Authority and the Authority shall decide such appeals within thirty days.

2. Interconnection and Numbering

2.1 In the event that a service supplier is unable to reach agreement with any or dominant service supplier or interconnection, following a reasonable amount of time, either party may refer the dispute to the Regulator in Pakistan.

2.2 Service suppliers shall be required to disclose information concerning technical measures/parameters that will affect use of such facilities for other service suppliers.

2.3 The Regulatory Authority shall exercise all powers to enable it to effectively provide guidelines for, and determine, the terms of interconnection arrangements between licensees where the parties are unable to agree.

2.4 Authority shall develop/assign non-discriminatory national telecommunication numbering plans.

3. Competition Safeguards and standards

3.1 When facilities-based service supplier with dominant market position is found engaged in unfair or anti-competitive practices, remedial measures will be available.

3.2 When dominant service supplier provides a competitive service he shall establish separate accounting procedure for the competitive service. Cross subsidy is not permitted.

3.3 The Authority shall notify and publish regulations for establishing national standards for telecom equipment and services. The Authority can specify different standards for different classes of telecom equipment/services and establish procedure for testing.

3.4 The Authority shall not restrict the type of telecom equipment that may be used for the establishment, maintenance or operation of telecom systems or services.

4. Tariff Regime

The level of tariffs for telecom services including basic telephone service shall be regulated by the Authority in accordance with the regulations including the following principles:

4.1 The regulations shall apply equally to comparable provider/users of any regulated telecom service;

4.2 The criteria used for the establishment of tariff shall regularly be published three months before the criterion is adopted;

4.3 Tariffs shall be at a level which provides a reasonable rate of return on investments taking into account the cost of operation; and

4.4 There shall be no cross-subsidization of other telecom services by basic telephone service.

STAKEHOLDERS

1. Landlines Producers and Distributors:
 - Pakistan Telecommunication Corporation Limited
 - National Telecommunication Corporation

2. Cellular Providers Producers and Distributors:
 - Mobilink
 - Telenor
 - UFone
 - Paktel
 - Instaphone
 - Warid

3. Mobile Distributors:
 - Nokia
 - Samsung
 - Sony Ericson
 - Mobile Zone

3. Calling Cards Producers:
 - CallMate
 - BigTime
 - PTCL

4. Payphones Producers and Distributors:
 - Telecard
 - World Call

5. Wireless Phones Producers and Distributors:
 - DV Com
 - GO CDMA

6. Internet Dial-up Providers Producers and Distributors:
 - Comsats

- Paknet
- Satnet
- Cybernet
- WOL

7. Internet Cards Producers:

- Hungama
- Netcard
- Speednet

8. DSL Providers and Distributors:

- Comsats
- Micronet
- NTC

9. Consumers: Institutions and Individuals

Institutions

- Corporations
- Educational Institutions

Individuals: all income groups

- Very Poor
- Poor
- Lower Middle Class
- Upper Middle Class
- Wealthy

Other facilities which consumers of telecom services can rely on:

- Virtual University
- Tele-Marketing
- Online Shopping
- Online Banking
- Online Stocks

10. Trends in Employment

a) Telecom Industry

- Engineers
- Managerial Staff
- Marketing Staff
- Technical and Repair Staff

- Retailers
- b) Governmental Institutions
 - Ministry of IT and Telecom
 - Pakistan Telecommunication Authority
 - Ministry of Commerce
 - Ministry of Industries
 - Board of Investment
 - Special Communications Organization

TELECOM LIBERLIZATION SINCE 2003

PERCEPTION SURVEY: QUESTIONNAIRE

Name: _____
 Occupation: _____
 Organization: _____
 Telephone #: _____
 Email: _____
 Address: _____

Check the relevant box:

1.	TRADE LIBERLIZATION SINCE 2003 AND ITS EFFECTS			
a.	Has there been any change in tariff of fixed line telephone since 2003?	Substantial Increase <input type="checkbox"/>	Substantial decrease <input type="checkbox"/>	Constant <input type="checkbox"/>
b.	Has there been any change in tariffs of mobile telephone since 2003?	Substantial Increase <input type="checkbox"/>	Substantial decrease <input type="checkbox"/>	No change <input type="checkbox"/>
c.	Has there been a change in non-tariff barriers (quotas, import/export licensing, inspection requirement)?	Substantial Increase <input type="checkbox"/>	Substantial decrease <input type="checkbox"/>	Constant <input type="checkbox"/>
d.	Has there been a change in barriers to investment during the last three years?	Increased <input type="checkbox"/>	Decreased <input type="checkbox"/>	No change <input type="checkbox"/>
e.	Has there been any change in import duties on telecom equipments?	Increased <input type="checkbox"/>	Decreased <input type="checkbox"/>	No change <input type="checkbox"/>
f.	Have these changes been beneficial to the telecom service providers?	Beneficial <input type="checkbox"/>	Not beneficial <input type="checkbox"/>	No effect <input type="checkbox"/>
2.	SECTOR PERFORMANCE SINCE 2003			
a.	Has the sector performed better during the last three years (after trade liberalization)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
b.	Has the investment in the sector increased since 2003?	Increased <input type="checkbox"/>	Decreased <input type="checkbox"/>	Remained Constant <input type="checkbox"/>
c.	Has the return on investment improved?	Substantial Increase <input type="checkbox"/>	Substantial decrease <input type="checkbox"/>	Constant <input type="checkbox"/>
d.	Have competition increased?	Increased <input type="checkbox"/>	Decreased <input type="checkbox"/>	Not affected <input type="checkbox"/>
e.	Has the quality of service	Improved <input type="checkbox"/>	Deteriorated <input type="checkbox"/>	Not affected <input type="checkbox"/>

	improved?	Substantially <input type="checkbox"/>		
f.	Have there been technological advancements?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
g.	Has the network accessibility improved?	Improved <input type="checkbox"/>	Not improved <input type="checkbox"/>	Remained the same <input type="checkbox"/>
h.	Have the working environment improved?	Improved <input type="checkbox"/>	Not improved <input type="checkbox"/>	Same as before <input type="checkbox"/>
i.	Has the sector experienced growth?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
j.	Have the productivity of employees changed?	Improved substantially <input type="checkbox"/>	Decreased substantially <input type="checkbox"/>	Not affected <input type="checkbox"/>
k.	Have the access to credit changed since 2003?	Easily accessible <input type="checkbox"/>	Difficult accessibility <input type="checkbox"/>	Not affected <input type="checkbox"/>
3.	IMPACT OF LIBERLIZATION ON LABOUR MARKET SINCE 2003			
a.	Has there been an increase in employment opportunities?	Substantial Increase <input type="checkbox"/>	Substantial decrease <input type="checkbox"/>	Constant <input type="checkbox"/>
b.	Has there been a change in wages in real terms?	Significantly increased <input type="checkbox"/>	Significantly decreased <input type="checkbox"/>	Constant <input type="checkbox"/>
c.	Have the working conditions improved?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
d.	Change in training and education facilities?	Increased <input type="checkbox"/>	Decreased <input type="checkbox"/>	Same as before <input type="checkbox"/>
e.	Has there been increase in the skill level of employees?	Increased <input type="checkbox"/>	Decreased <input type="checkbox"/>	Constant <input type="checkbox"/>
f.	Has there been technological progress in the sector?	Substantial progress <input type="checkbox"/>	No Progress <input type="checkbox"/>	
g.	If yes, has there been any benefit for the employees?	Benefits <input type="checkbox"/>	No benefits <input type="checkbox"/>	
4.	EFFECTS ON CONSUMER SINCE 2003			
a.	Has the overall price of telecom services come down during the last three years?	Substantially decreased <input type="checkbox"/>	Substantially Increased <input type="checkbox"/>	Not affected <input type="checkbox"/>
b.	Have the connection charges come down since 2003?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Constant <input type="checkbox"/>
c.	Have the call charges come down?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
d.	Is there an easy availability of connection?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
e.	Have the prices of cell phones changed?	Reduced <input type="checkbox"/>	Increased <input type="checkbox"/>	Constant <input type="checkbox"/>
f.	Have the quality of service improved?	Improved significantly <input type="checkbox"/>	Deteriorated <input type="checkbox"/>	Same as before <input type="checkbox"/>
g.	Is clarity of calls improved?	Improved significantly <input type="checkbox"/>	Deteriorated <input type="checkbox"/>	Same as before <input type="checkbox"/>
h.	Is there any change in number of call drops?	Increased <input type="checkbox"/>	Decreased <input type="checkbox"/>	No change <input type="checkbox"/>

i.	Has customer service improved?	Improved significantly <input type="checkbox"/>	Deteriorated <input type="checkbox"/>	Same as before
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