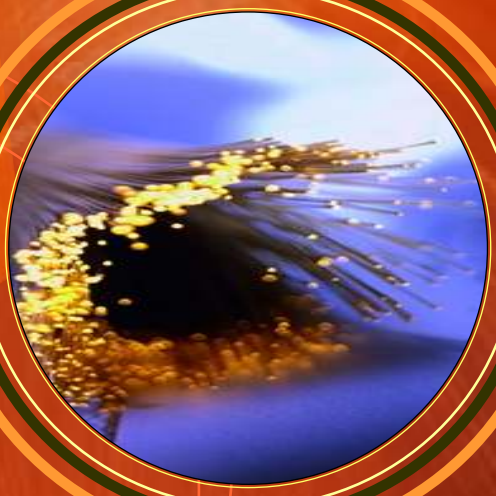
PTA

Annual Report 2009



Pakistan Telecommunication Authority

www.pta.gov.pk

Annual Report 2009

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Anneures

Abbreviations

3G	3rd Generation
AJK	Azad Jammu & Kashmir
AMPS	Advanced Mobile Phone System
APC	Access Promotion Contribution
APT	Asia Pacific Telecommunity
ARPU	Average Gross Revenue Per User
ASR	Approved Settlement Rate
CDMA	Code Division Muliple Access
CED	Central Excise Duty
CMOs	Cellular Mobile Operators
CMPak	China Mobile Pakistan
CNIC	Computrized National Identity Card
CoE	Centre of Excellence
CPD	Consumer Protection Directorate
CPP	Calling Party Pay's
CVALS	Class Value Added License Service
DCNS	Data Communication Network Services
DSL	Digital Subscriber Line
DWDM	Dense Wavelet Division Multiplexing
EDGE	Enhanced Data for GSM Evolution
FED	Federal Excise Duty
FTTH	Fiber To The Home
FWT	Fixed Wireless Terminal
GDP	Gross Domestic Product
GMDSS	Global Maritime Distress Safety System
GMPCS	Global Mobile Personal Communication Systems
GoP	Government of Pakistan
GSM	Global System for Mobile Communications
GST	General Sales Tax
IMEI	International Mobile Equipment Identity
IDP	Internally Displaced Person
IP	Internet Protocol
IPv6	Internet Protocol Version 6
ISP	Internet Service Provider
IT	Information Technology
IT & T	Information Technology & Telecommunication
ITU	International Telecommunication Union
LDI	Long Distance & International
LL	Local Loop
LRIC	Long Run Incremental
LUMS	Lahore University of Management Sciences
MNP	Mobile Number Portability
MoIT	Ministry of Information Technology
MoU	Memorandum of Understanding
MPLS	Multi-Protocol Label Switching
MSC	Mobile Switching Centre
MVNO	Mobile Virtual Network Operator
NGN	Next Generation Networks
NOCs	Non Objection Certificates
NTC	National Telecommunication Corporation
NUST	National University of Science & Technology
OFAN	Optic Fiber Access Network
PC	Personal Computer
PCOs	Public Call Offices
PRS	Premium Rate Services
PSDN	Public Switch Data Network
PTA	Pakistan Telecommunication Authority
PTCL	Pakistan Telecommunication Company Limited
PTML	Pakistan Telecom Mobile Limited
QoS	Quality of Service
RFID	Radio Frequency Identification
S&D	Strategy & Development
SCO	Special Communication Organization
SIM	Subscriber Identity Module
SMP	Significant Market Power
SMS	Short Messaging Service
TAR	Total Accounting Rate
TDD	Time Division Duplexing
UAN	Universal Access Number
UET	University of Engineering & Technology
USF	Universal Services Fund
VAS	Value Added Services
VoIP	Voice over Internet Protocol
WCDMA	Wideband Code Division Multilple Access
WiMax	Worldwide Interoperability for Microwave Access
WLL	Wireless Local Loop

Chairman's Note

Despite the downturns in the economy world wide, this year again proved to be a very successful one for the telecom sector in Pakistan. It was a year full of competition, growth, introduction of new services, consumer and operator friendly Regulations and industry consolidation. It gives me immense pleasure to share all such fascinating experiences with you through this Annual Report of Pakistan Telecom Authority for the year 2008-09. The report covers the regulatory activities conducted by the Authority with detailed analysis of each segment of telecom market for the year 2008-09.

After joining as Chairman, I prioritized focus areas of work. My first and foremost priority was rapid proliferation of Broadband all across the country. For this purpose, we designed a phased strategy. Our efforts proved fruitful and today we have achieved a Broadband growth rate of 146% in just one year. The second prime effort was the protection of consumer's interest. For this, a strategic roadmap was developed which included a new complaint handling mechanism, consumer rights awareness and approving of Consumer Protection and Anti-SPAM Regulations 2009. Thirdly, we worked in hand with the Government to strengthen national security by introducing a SIM Verification System by calling '789' and verifying antecedents before getting SIMs activated. Finally keeping in view our vision, PTA promoted healthy competition while maintaining level playing field for all operators. I made sure that operators do not publish deceptive advertisements, check the quality of service periodically through surveys, consultancies and sophisticated tools. Details have been elaborated in the report for comprehensive reading.

As Chairman of the organization, I feel completely satisfied over our and sector's performance in the foregoing year. Although global and domestic tsunamis made life difficult for the sector but thanks to the timely interventions by the Government of Pakistan through attractive incentives in the form of reduction of GST/FED, activation tax and lowering of custom duties. We are now on the track of recovery and I strongly believe that this dip in the sector would soon be taken over by resilient growth.

I am proud of my team at PTA and would like to extend my appreciation for making every effort to materialize my vision. I would also like to appreciate the Economic Affairs team for compiling this report professionally in a very short span of time. I hope this report would serve its purpose and will be useful for all the investors, stakeholders, researchers and academia.

Dr. Mohammed Yaseen
Chairman

Executive Summary

Keeping in view the vision of the present government of Pakistan, the Authority worked for the betterment of the people of nation at large and for national security. In addition to these efforts PTA kept on promoting local businesses, attract foreign investment and increase sector contribution in national exchequer. This year Authority decided to work on following four focus areas namely Consumer Protection, Promoting ICTs, Promoting Competition and Ensuring National Security in addition to routine regulatory activities.

During the year 2008-09, Authority continued to help curb terrorism & Earthquake victim's besides working on its focus areas. PTA donated Rs. 201 million (20 Crore 10 Lac Rupees) to the "Prime Minister's Special Fund for the Victims of Terrorism", established for the welfare and rehabilitation of Internally Displaced Person's (IDPs). Additionally, PTA in collaboration with mobile operators, through SMS service, contributed Rs. 5.67 million to Prime Minister's Special Fund for Victims of Terrorism and Chief Minister Punjab's Special Fund for IDP's. PTA employees also contributed their one day salary to the relief fund for earthquake victims of Balochistan.

In order to safeguard consumer interest and tackle their grievances, PTA launched a comprehensive complaint handling mechanism on 24th July 2009. Consumer Protection Department at PTA has received and effectively redressed more than 80,000 individual consumer complaints since its establishment. While building up the edifice of consumer protection, PTA issued Consumer Protection Regulations, Anti-SPAMs Regulations to control the obnoxious & unsolicited calls and Subscribers verification Regulations. In order to encourage dialogue and input from all stakeholders, PTA arranged a public forum in Karachi on 7th August, 2009 and similar events are also in the pipeline for other cities. The second most important focus area of work for PTA was the promotion of ICT's in Pakistan where the Authority intended to devise an effective mechanism to introduce emerging information & communication technologies and extensive proliferation of broadband services in Pakistan. In this regard, a number of steps have been taken during the year including the establishment of regulatory platform for Government and the stakeholder's interaction to identify core areas and develop guidelines for different ICT issues. In order to promote competition PTA took number of steps during the reported year including Reviews of Access Promotion Charges, pricing policies of mobile operators, interconnection guidelines, PTCL RIO etc. In addition to this a number of surveys were carried out to check the quality of different telecom services. PTA finalized a revenue sharing agreement between ISP's and PTCL for providing free Dialup internet services in Pakistan. It issued directives to mobile operators for proper advertisement of Government taxes and services charges on telecom services. The deteriorating security situation in Pakistan pushed the regulator to take some major precautionary steps in order

to assist Government of Pakistan in curbing the unsocial activities and security threats. In this regard a number of steps were taken including blocking of unregistered SIM, measures against elimination of gray traffic, preparing comprehensive plan for disaster management, monitoring and reconciliation of international telephony traffic and putting up system for activation of new SIM after verification. In addition to this PTA carried out research work in different areas as a result of which several consultation papers were floated in the industry to get feedback..

Pakistan's Economy experienced slow economic growth ending at 2% rather than the target of 5.5% mainly due to the adverse effects of global financial crisis, however, telecom sector continued to grow positively in terms of subscription, revenue and teledensity. As Pakistan provides lucrative investment environment for foreign investors in the telecom, it managed to attract US$ 815 million in 2008-09. However, as most of the operators are foreign, the pessimistic outlook of global economy compelled the telecom operators to curtail the infrastructure expansion plans still total investments in the sector stood at US$ 1.6 billion. Telecom revenues showed positive growth rate of 18% generating Rs. 327.8 billion in 2008-09. In June 2008, Government of Pakistan raised the GST/FED on cellular industry to 21% from 15%, introduced import duty on mobile handsets @Rs 750 with activation tax @Rs 500 per new connection already in place. PTA immediately stepped into the scenario and took up the uphill task of convincing the Government of Pakistan to facilitate the sector by brining down the tax rates on telecom industry. As a result, Government announced reduction in GST from 21% to 19.5%, reduction of activation tax from Rs 500 to Rs 250 and cutting down import duty from Rs 750 to Rs 250 in budget 2008-09. During the year, the sector contributed a total of Rs. 112 billion to national exchequer in the form of taxes. Telecom teledensity remained on the positive side of the scale and stood at 62% showing a growth of 5.4% at the end of fiscal year 2008-09. All of these helping measures by the Authority and Government are balancing the impact of previously high taxes, low affordability and falling exchange rates as telecom imports also grew by 20% and reached US$ 1.7 billion in 2008-09.

Despite world's largest and most experienced mobile companies operating in Pakistan, the sector experienced slow growth in 2008-09 due to economic slowdown and high taxes but facilitating reforms by the Regulator and Government are stabilizing the market. The mobile penetration reached 57.4% and total mobile subscribers reached 94.3 million with more than 90% of the country having mobile access. The trend in subscription remained to be heavily tilted towards prepaid subscription whereas only 2% subscribers are postpaid. Mobilink is still leading the mobile market with more than 30% market share in terms of subscribers. Although the financial strength of mobile segment remained invariable still the cellular revenues grew by 16% and stood at Rs. 212 billion at the end of 2008-09. The mobile investments dropped by 48% and reached US$ 1.4 billion in the reported year. The industry ARPU stands at US$ 2.48 showing a drop of 20% from last year. Major milestones achieved by the Regulator for mobile sector include reduction in the rate of GST from 21% to 19.5%, in addition to bringing down the activation tax by 50% while reducing the import duty on mobile handsets by 66%. Similarly cleaning of unverified SIMs and SIM activation system (789) now in place is expected to curb the unsocial activities. Reduction in mobile termination rates by the regulator will also go a long way in improving the current financial situation of the industry.

During 2008-09, basic services showed a healthy

revenue growth rate of 26% contributing Rs. 121 billion to the sector revenue which is around 36% of the total telecom sector revenue. With the declining fixed line teledensity reaching 2.2%, PTCL remained dominant in the sector despite the presence of many new FLL companies. There are a total of 3.5 million fixed-line subscribers in the country. There remains room for fiber deployment in rural areas of Pakistan. Wireless local loop (WLL) has been able to sustain positive growth by winning the trust of customers. The WLL teledensity stands at 1.6% with 2.65 million subscribers across Pakistan. Wireless service providers have been able to penetrate the market by offering viable business solutions in the form of PCO's. Long Distance & International (LDI) operators have been in quandary for last few years due to high settlement rates and alarmingly high grey traffic. However, PTA took control of the situation and initiated a number of steps in close coordination with LDI stakeholders. As a result, LDI sector experienced exceptional growth, reduction in illegal traffic and improved call rates. Currently, there are 09 companies providing LDI services via 163 Points of Presence (POP's) all across Pakistan.

Pakistan has been experiencing proliferation of Broadband in the past two years. Broadband subscriber base grew by 146% adding 245,727 subscribers during 2008-09. There are currently 413,809 Broadband subscribers in Pakistan as compared to 168,082 in 2008. PTCL, Wateen and WorldCall are major players in the Broadband market of Pakistan having a combined share of over 79%. As Broadband is still in its infancy in Pakistan, therefore, penetration level is relatively low i.e. 0.26 %. Broadband connection charges for 1Mbps connection dropped below Rs. 1000/- for the first time in history which is a great incentive for new customers. DSL ruled the Broadband market of Pakistan since 2007 due to an established fixed line infrastructure by PTCL. HFC, WiMax and EvDO broke the monopoly of DSL last year, however, the scenario changed completely when WiMax truly established itself as a viable wireless Broadband solution and EvDO made a promising start in the market in the reported year. Currently, there are 405, 359 PCO's all over Pakistan as compared to 449,121 the last year. This shows a negative trend of 9.7% for the first time in the CPP history of Pakistan. The main reason behind this slide is the availability of affordable cellular tariffs, low cost of mobile phones and cellular coverage across Pakistan.

At the end of fiscal year 2008-09, total teledensity of AJK & NAs stands at 39.9% up from 33.1% last year. Cellular industry has been propagating at a remarkable pace since its arrival and total subscriber number has reached 1,973,742 by the end of June 2009. With such high number of mobile subscribers the mobile penetration reached 33% in just 2 years. Almost 82% population of the AJK & NAs is covered with mobile services. Today more than 270 cities / villages and towns are covered by all six operators in the region. PTA completed licensing of WLL services in AJK & NAs and auctioned spectrum in 3 telecom regions. It is expected that WLL will be a successful service in AJK and NAs due to cheaper rates and easy availability.

With the current global and local political and financial situation, the telecom sector had to face tough challenges in the current year. However, being a Regulator PTA has worked diligently for the betterment of the sector so that consumers, investors and Government can all be benefited from it. As we have entered the new year, fruits of positive reforms by the Government and effective regulatory interventions of the Authority are already proving revolutionary the sector is showing signs of recovery. With all our efforts for uplift of the sector, it is expected that it would perform well and stand up to the expectations of all.

Chapter - 1

The Authority

Profile

Pakistan Telecommunication Authority (PTA) was established in January 1997 under the Pakistan Telecommunication (Re-organization) Act, 1996 to regulate the establishment, operation and maintenance of telecommunication systems, and the provision of telecom services in efficient manners. "The Authority" consists of three members; one of them is a professional telecommunication engineer and the other a financial expert, to be appointed by Federal Government for a period of four years. Among the three members, the Federal Government appoints one member to be the Chairman who is also the administrative head of the Authority. Profile of the Authority members is given below:-

Dr. Mohammed Yaseen
CHAIRMAN

Appointed as Chairman PTA in July, 2008 for a term of four years

Dr. Mohammed Yaseen earned his Ph.D from University of Essex, United Kingdom with specialization in Telecommunication Systems. In a successful professional career spanning almost 22 years, his core areas of expertise lie in the field of digital and voice communications, Optical Fiber Transmission Systems, Fiber Access Networks and broadband access. He has contributed in commissioning, operation and maintenance of large international telecom networks, including SMW3 (Segment 2), Southern Cross (Australia - USA), I2I (India - Singapore). He provided consultancy on product development, network / product cost analysis and deployment of Access Networks. He is highly respected among national and international forums for his profound command on developing strategies, defining standards, devising regulations, envisioning future roadmaps and sharp management skills. Dr. Mohammed Yaseen has more than 30 international and national publications on telecom technologies especially broadband, ICT growth, strategies and design of telecom networks.

After his Ph.D, he worked for the Essex University, UK, as Senior Research Officer, projects were funded by HP and European Consortium. He joined PTCL Pakistan, as Senior Lecturer and progressed to Director Strategy and then moved to Australia where he was System and Project Engineer for Alcatel Submarine Networks Australia. He worked for "Advanced Networks and Systems", Australia as Senior Consultant. Prior to holding the office of Chairman PTA, he served as Member (Technical) at PTA for almost three years. He has represented PTA at various International and National forums including Asia Pacific Telecommunity (APT), where he was elected as Vice Chairman, APT, Study Group 2 (Networks).

Syed Nasrul Karim Ahmed Ghaznavi
Member Finance

Appointed as Member (Finance) in February, 2005 for a term of four years, extended further for four years in 2008.

Syed Nasrul Karim Ahmed Ghaznavi joined the Authority in February 2005. He belongs to the Pakistan Audit & Accounts Service. He holds a Masters degree in Business Administration from United States and a Masters degree from University of the Punjab. He has served as Deputy Auditor General in the Department of Auditor General of Pakistan and as GM (Finance)/Member (Finance) in PTCL; and has remained Chairman of Finance Committee of TIP and CTI. While serving in Pakistan Telecommunication Company Limited, he securitized future receivable of US$ 250 million of PTCL in US to attract international investors. This was the 1st securitization of any receivable in Pakistan and one of the few in the world. Negotiated US$ 115.5 million Short Terms Financing Facility with ABN Amro and Deutsche Morgan Grenfell in Singapore, supervised the issue of Exchangeable Bonds worth US$ 160 million of 5 years convertible into Common Shares of PTCL, took active part to list PTC on Karachi and Luxemburg Stock exchanges. He served as chairman of Steering Group on Accounting Rate Reforms (SGARR) of Asia Pacific Telecommunity (APT). He has attended many seminars, conferences, workshops and training programmes at national and international level. He has versatile experience of financial management and requisite competence, qualification and the ability to handle the emerging challenges of telecom sector.

Dr. Khawar Siddique Khokhar
Member Technical

Appointed as Member (Technical) in March, 2009 for a term of four years

Dr. Khawar Siddique Khokhar, Member (Technical), Pakistan Telecommunication Authority (PTA) has more than twenty years of professional experience to his credit. Prior to joining PTA, he was working in Myson Engineering Systems as CTO, Visiting Associate professor in FAST and Consultant in SCO. He has worked in Pakistan Space & Upper Atmosphere Research Commission (SUPARCO) for fourteen years in various capacities. He has also worked in NCR Corporation. He had also been a visiting instructor at College of E&ME and Naval Engineering College. He has worked for the performance evaluation of WiMAX physical layer using measured channel parameters in 2.5 GHz, 3.5 GHz and 5.8 GHz band in UK. He has also worked for 3G/UMTS channel characterization and modeling and has a number of publications in the international journals and conferences to his credit. He has conducted many workshops on WiMAX. He is a member of IEEE, UK and PEC and holds a PhD degree in mobile communications engineering from University of Durham, UK.

Functions & Responsibilities

Pakistan Telecommunication Authority (PTA) regulates the establishment, operation and maintenance of telecommunication systems and provision of telecommunication services in Pakistan. It receives and expeditiously disposes off applications for the use of radio-frequency spectrum and protects the interests of users of telecommunication services in Pakistan. Authority promotes high quality, efficient, cost effective and competitive telecommunication services ensuring rapid modernization of telecommunication systems and telecommunication services throughout Pakistan. Apart from these functions, Authority also investigates and adjudicates on complaints and other claims made against licensees arising out of alleged contraventions of the provisions of the Act, Rules, Regulations and license terms and conditions. It makes recommendations to the Federal Government on policies ranging from international telecommunications, provision of support for participation in international meetings and agreements to be executed in relation to the routing of international traffic and accounting settlements. PTA regulates arrangements amongst telecommunication service providers for sharing of revenue derived from provision of telecommunication service and enforce effective compliance by licensees on account of Universal Services Obligations. PTA also regulates Access Promotion Contribution and settles disputes between licensees.

Authority is responsible for protecting the rights of licensees as well as interest of end users of telecommunication services. All of its decisions and determinations are made promptly, in an open equitable, non discriminatory, consistent and transparent manner and applications / complaints are disposed off expeditiously. In case of a determination or corrective decision, the persons / institutions effected by its actions are given a due notice thereof and provided with an opportunity of being heard.

Divisions

To carry out its functions and exercise its powers in most efficient way, PTA has been structured into seven divisions which perform their duties in their respective areas.

Law & Regulation

L & R Division handles all the legal matters of the Authority and ensures legal cover for its actions and decisions. This division provides assistance to the Authority in drafting and vetting of Rules, Regulations, licenses and contracts. It also advises the Authority on all regulatory issues such as implication of new enactment, government policies, introduction of new technology and its effect on the existing regulatory treatise, interconnection and dispute resolution between the licensees. In case of violations by any entity within or outside PTA, L & R division issues show cause notice, files, manages and maintains record of court cases on behalf of the Authority

Commercial Affairs

This division manages and ensures efficient handling of matters pertaining to tariffs and interconnection agreements of telecom services providers. It also deals with issues related to cost unbundling of services, international Accounting Rate Settlement, interconnect disputes between licenses, and consumer complaint pertaining to tariffs.

Licensing

This division is responsible for granting and renewing licensing for any telecommunication system and service as well as modifying the licenses if needed, under the law. Its duties also include processing the applications for the use of radio frequency spectrum, promoting high quality, efficient, and competitive telecommunication services throughout Pakistan. Promoting modernization of telecommunication systems and services, issuing regulations for licensing of different basic and value added telecom services are also the functions of this division.

Strategy & Development

S & D division is considered to be the Think Tank of PTA as it has the important responsibility of devising strategies to drive the telecommunication growth in Pakistan. This division constantly reviews the telecommunication standards by conducting in-house studies and outsourcing those studies which contribute extensively in policy making and decision making of the Authority. This division is responsible for keeping the Authority up-to-date with advancements in the ever changing trends in the telecom and IT sector around the globe.

Services

The responsibilities of services Division include framing standards for telecommunication equipment, arranging type-Approval of terminal equipment and management of numbering plan for telecom networks in Pakistan. It also deals with matters related to consumer protection and processes complaints against telecom service providers through a computerized

database of complaints for accurate and expeditious action. The cell is responsible for monitoring action on all complaints and obtaining progress from the concerned operators till redressal or disposal of the complaint.

License Enforcement

This Division acts as the eyes and ears of PTA as it monitors/watches all sector operators in light of their license terms and conditions. The main functions of this division are the enforcement of license clauses, monitoring of service quality bench marks, protection of users as well as industry interests, adjudication of complaints and dispute resolutions. The division also secures national interests by carrying out inspections/raids against illegal operators in collaboration with Law Enforcing Agencies. It ensures that operators do not overcharge their customers from the laid down tariffs. It implements the Authority and court decisions and follows up court cases. Meetings of Central Advisory Committee are also arranged by this division.

Finance

This Division manages finances of PTA including revenues receivables, employee pension and GP funds. The Budget & Accounts Directorate prepares the annual budget, monitors the budget, maintains the accounts of PTA, prepares the financial statements and gets them audited by the external Chartered Accountants every year. It also deals with financial evaluation of license applications. Finance division is also responsible for analyzing and evaluation of audited annual accounts and determination of annual regulatory fee(s) payable to PTA by licensee.

Chapter - 2

PTA Focus Areas

2008-09

Introduction

Pakistan Telecommunication Authority [PTA] has, within a few years, come a long way towards achieving a highly promising telecom sector even in a difficult economic situation in the country. Standing on the unprecedented growth patterns of the past few years, Pakistan's telecom scenario today presents a look of a growing sector with the launch of a great many state of the art services and modern telecom infrastructure. The sector is maintaining good foreign investment and generating significant economic activity and huge employment opportunities in the country. During the year 2008-09, the Authority actively participated in the Government's efforts to help the earthquake affectees as well as Internally Displaced Persons (IDPs) of Malakand division. Besides working on its focus areas in line with the incumbent government's policies, it went a long way to overcome the menace of terrorism by installing a new SIM verification protocol.

Humanitarian Efforts

Chairman PTA, Dr. Mohammed Yaseen presented a cheque of Rs. 201 million to Prime Minister Syed Yousuf Raza Gilani for "Prime Minister's Special Fund for the Victims of Terrorism" in order to help rehabilitate the IDP's. The amount included Rs. 200 million contribution by the PTA from its own funds, Rs. 0.558 million donation by the PTA employees in form of one-day salary and Rs. 0.516 million donation by Motorola Pakistan.

In addition to that, the PTA, in collaboration with cellular mobile industry, started 1199 SMS Service for the welfare of the IDPs. Through this service, subscribers of all the mobile operators could send an SMS to 1199 by writing "FUND". Each SMS was charged Rs. 10 (with tax exemption), and in this way, a donation of Rs. 5.1 million was collected, which was deposited to the Prime Minister's special fund for the affectees. People from all walks of life actively participated in this fund raising campaign contributing to this national cause through the SMS.

Dr. Mohammed Yaseen, Chairman PTA presented a cheque amounting Rs. 201 million to the Syed Yousuf Raza Gilani, Prime Minister of Pakistan for relief of victims of terrorism at PM House, Islamabad on August, 2009

Similarly, PTA, with the help of the cellular mobile industry, launched 1188 SMS service wherein the subscribers of all CMTOs could send an SMS to 1188 by writing "FUND". Each SMS was charged Rs.10. A sum of Rs.574,043 was collected and deposited to the Chief Minister Punjab's Special Fund for IDPs.

The PTA employees contributed their one-day salary to the relief fund for earthquake victims of Baluchistan to demonstrate solidarity with them in their hour of need. The amount was used to provide relief goods to the earthquake-hit areas of the province. The Chairman PTA also made an appeal to the telecom operators to generously donate for rehabilitation of earthquake victims. Furthermore, PTA directed the telecommunication operators to make their best endeavors to immediately restore telecommunication services in the calamity-hit areas of the province.

Earthquake Relief Cheque on behalf of PTA being presented to Governor Balochistan by Zonal Director PTA

The PTA conducted a study on Disaster Communication System with the objectives to assist Disaster Relief Managers by providing communication networks at a short notice and also to propose a plan. Identification of disaster, study of techniques and proposing a plan to cope-up with the situation were main features of the study. The study was completed and recommendations were made regarding national plan for disaster / emergency communications for early utilization of the resources. Under the the proposed plan, all the operators (public / private) will be required to maintain inventory to meet the disaster situation, functions of each entity will be predefined, a list of focal persons for each organization / operator will be maintained. NTC and SCO will be the central agencies for Pakistan and AJK respectively to maintaing inventory for disaster situation, and all private operators will maintain inventory for disaster communication at national, provincial and district headquarters levels. The plan is lying with MoIT for approval.

Focus Areas of Work

Keeping in view the present government's vision, the Authority brought a change into its approach while focusing on national security and the overall betterment of the people at large. The PTA kept on promoting local businesses to have more foreign investment and increase the sector's contribution to the national exchequer. This year, the Authority decided to work on the following four focus areas:

i) Consumer Protection
ii) Promotion of ICTs
iii) Promotion of Competition
iv) National Security

The details of hectic work done in the above-mentioned fields by the Authority are highlighted in the ensuing pages.

Consumer Protection

During the year 2008-09, the Authority contemplated upon the public Government's vision and felt the need to address Consumer Protection issues without making any compromise on the growth of the sector. The Authority initiated a comprehensive consultation process with the industry in order to come up with the benchmarks to ensure non-discriminatory provision of services, fair commercial practices and effective redressal mechanism for the telecom consumers. To manage consumer grievances, specific regulations were drafted and an apt complaint handling mechanism was designed, and implemented.

Establishment of Consumer Protection Directorate

As a guarantor of telecom consumer protection, the Authority believes that the issues pertaining to consumer interest and grievances should be tackled in a broader but more focused manner, and with this rationale a dedicated Consumer Protection Directorate (CPD) was established at PTA headquarters, Islamabad, in September 2008. The Directorate is solely aimed to focus on mechanisms both at the operators' as well as Regulator's end for ensuring effective redressal of consumers' complaints. The said directorate comprises of a Complaint Cell to which the consumers have access through Toll Free Number

(0800-55055), telephone (051-9225325), fax (0512878127), e-mail (complaint@pta.gov.pk), PTA website, post and in person visitation for lodging their complaints and getting the solution. Moreover, consumers can also go to the PTA zonal offices across the provincial capitals for redressal of their complaints. The PTA takes up all such complaints with the concerned operators for their solution. More than 80,000 individual consumer complaints have so far been received and redressed by the Authority since establishment of complaint mechanism in September, 2008.

Regulatory Intervention to Protect the Consumers

While building up the edifice of consumer protection, PTA issued Consumer Protection Regulations and Anti-SPAMs regulations to control obnoxious and unsolicited calls. It also issued subscribers verification regulations. Details of these regulations have been highlighted in ensuing pages.

Subscriber Verification Regulations

Draft Subscriber Verification Regulations have been prepared in order to eradicate the menace of illegally issued SIMs and misuse of consumers' CNICs. The Authority undertook comprehensive campaign for verification of user antecedent data and blocking of nearly 11.2 million unverified SIMs. In order to reiterate significance of the matter in the present security scenario, the Authority also show caused cellular mobile operators and held hearings with regard to ensuring that directions of the Regulator on the matter shall be strictly complied with, and that there is no room of compromise on this issue.

PTA is very proud to successfully establish the new user friendly system of SIM Activation – the said system provides no room for illegal sale of mobile services. These efforts from the Regulator shall go a long way towards legal and verifiable use of services in the country. For convenience of the telecom consumers, the PTA is also working on a project under which consumers will be able to know about the number of active subscriptions against their CNICs through text messaging to a short code (668), facilitated by the Regulator.

Consumer Protection Regulations, 2009

Consumer Protection Regulations 2009 were notified in March 2009 placing the telecom licensees under an obligation to establish comprehensive consumer complaints lodging and redressal mechanisms at their respective ends, besides ensuring fair commercial practices. Rationale behind formulation of the said Regulation was the need realized by the Regulator to revamp existing consumer complaint handling and the mechanism of redressal of grievances at the licensees' end to make it responsive, sensitive and answerable to the telecom consumers in the country. The said Regulations also place obligations upon the licensees to observe best and fair commercial practices. Main features of the said Regulations are listed below:

- Service Provision as per consumer choice, request & without discrimination

No service disruption, suspension or termination without (30 days) prior notice, communicating substantial reasons or as per well defined policies communicated to the consumer

No activation or deactivation of services / packages without user consent

Fair commercial practices / advertisement that should not be misleading, inadequate or unclear in terms & tariffs, clear & complete specification of tariff information, contains detailed billing information as per license conditions and gives publication of Code of Commercial Practice & Service Contract for the awareness of consumer.

Consumer Complaint Handling & Redressal Mechanism that covers categorization of complaints, Lodging of complaints with specified contact details, handling of complaints (Issuance of Complaint Number, timeline for redressal, escalation path info, Redressal measures communicated to complainant)

Confidentiality of consumer information to be maintained

Publication of consumer manual (90 days of notification)

The said Regulations shall go a long way in redressing consumer complaints in an efficient, cost effective and accountable manner.

Regulations on Measures Against SPAM, Unsolicited, Obnoxious and Fraudulent Communications 2009

The Regulator has observed over a year that more than 40% of the consumer complaints comprised of misuse of service and fake prize scams and that regulatory framework was required in order to establish technical support systems at the licensees' end and formulating redressal mechanism to protect the victims of such activities. The PTA remains in close contact with the Federal Investigation Agency's Cyber Crime Wing to facilitate the same. At the same time, hectic coordinated efforts are going on to install anti-SPAM filters in the telecom systems. Following are the main features of SPAM Regulations 2009:

- Anti-SPAM Filters having technical measures to control spamming to be taken by the telecom operators and guidelines for money / balance transfer in order to avoid credit loss of consumers.
- Fraudulent Communication including warning, blocking of number & Handset upon verification, Habitual shall be denied telecom facility in future, money recovery to be done through FIA's Cyber Crime Wing, Black list to be maintained of user antecedents of those involved in fraudulent activity
- Unsolicited communication including establishment of DO NOT CALL REGISTER, Registration of telemarketers, consent sought from consumers for receiving telemarketing / promotional communication.

Obnoxious communication including technically feasible features e.g. call barring facility to be made available for the consumers, Warning & Blocking of number upon verification and Black list to be maintained of user antecedents of those involved in obnoxious activity

Public/Consumer awareness with number of articles have been written in nationwide press for the awareness of the general consumers to beware of fraudulent prize scam schemes and not to fall in the trap of such unscrupulous elements.

Complaint Handling Mechanism

In collaboration with the telecom operators, the PTA overhauled their respective complaint lodging and redressal systems.

The modes of lodging complaints were expanded, besides having been made more efficient and consumer friendly. Dedicated focal teams were earmarked to cater to the consumer complaints. At a joint press conference of the Authority and the telecom operators on July 24, 2009, a mechanism of Complaint Lodging and Redressal of Grievances was launched. Based on the principles of accessibility, cost effectiveness and efficiency, the said system offers the telecom consumers the facility of speedy and accountable complaint handling on the operators' end. The telecom consumer complaints are made to the respective operators through call centers, telephone, fax, e-mail & web mail. If the complainants are not properly addressed with the measures taken by their respective service providers, it is lodged with the PTA on the specified contact details. In this case, the Authority contacts the relevant operator after thorough analysis of the complaint, issues complaint number and the complaint is redressed within 24 hours.

Dr. Mohammed Yaseen, Chairman PTA alongwith Syed Nasrul Karim Ghaznavi, Member (Finance) & Dr. Khawar Siddique Khokhar, Member (Technical) briefing media in Press Conference on the occasion of launch of Complaint Handling Machanisum

Consumer Awareness & PTA Media Campaign

The Authority strongly believes that consumer activism can be achieved through public awareness campaigns about their rights as well as knowledge of the contacts and procedures to lodge compl-aints and grievances. The same has been advertised nationwide by the Authority in collaboration with major stakeholders. Regulations issued by the Authority also place obligations on the other licensees to well publicize their respective modes of contacts for general public awareness. The regulator has directed the operators to carry out comprehensive media campaign on complaint handling and redressal of consumer grievances mechanism in line with the Consumer Protection Regulations 2009. The said campaign shall include all the contact details for lodging complaints.

Apart from the above, the PTA plans to hold country-wide Consumer Forums to get input from all stakeholders of the industry as well as consumers on the issues pertaining to the telecom sector and its services. The first forum was held in Karachi on in August 2009, which had attracted a large presence from the industry, renowned consumer groups, media and consumers. Such events would provide each other with an opportunity to share each other's vision, ideas and expertise that would ultimately lead to the sustained growth of the telecom sector. The PTA shall remain committed towards protecting consumer rights, and in this regard, suggestions and comments from media, consumer groups and general consumers are always welcomed.

Managing of Unsolicited SMS & Deceptive Advertisements

Unsolicited messages and obnoxious calls have added to the grievances of the subscribers. To curb this menace, the PTA instructed all the mobile companies to launch an awareness campaign warning those involved in such criminal activities.

Similarly, the Authority observed that some of the Cellular Mobile Operators (CMOs) were engaged in running advertisement

Dr. Muhammed Yaseen, Chairman PTA, Dr. Khawar Siddique Khokhar, Member (Technical) PTA, Mohtarma Fatima Surraya Bijya, Mujahid Bralvi and senior representatives of industry at PTA Consumer Forum, Karachi

campaigns which were misleading for the general public and deceptive in their contents. This unethical practice by the operators resulted into increased consumer complaints, besides raising of questions by some public representatives in the Parliament. In this regard, the PTA directed all the CMOs to adopt the ethical code of conduct whereby the advertisements aired / published by the operators should not be deceptive for the general public. As a result, the advertisements were corrected.

Complaints Analysis

During the reported period [2008-09], the Authority received a total of 13,325 complaints against all the operators. Being the largest segment for having maximum number of subscribers, the Mobile Cellular Services got registered the highest number of complaints; i.e. 7,479, followed by PTCL 5,288 and LDI and WLL services 405 respectively. This year, the Authority also received complaints against the Pakistan Mobile Database, a company which is responsible for Mobile Number Portability in Pakistan.

The maximum complaints [40%] were received about misuse of service - obnoxious & fraudulent calls / SMSs and illegal practices. After the SIM verification system in place, many complaints [13%] were made regarding transfer of connections ownership, issuance of SIMs, blocking of number / SIM without notification and non registration of SIMs.

This year again, service disruption remained one of the major complaints. There were almost 5% complaints related to the matters of billing, overcharging, unjustified deduction / tariffs and non-issuance of bills. Figure shows the number of complaints received against each mobile operator during 2008-09.

There was a significant portion of complaints against the incumbent PTCL. Quality of Service remained a major problem at PTCL's end, and about 73% complaints were received for poor quality and disruption / faults in service. There were 9% complaints regarding provision of service activation / restoration / closure / up-gradation, and 6% complaints for poor customer Services. In addition to that, there were complaints against obnoxious calls and value added services.

The Figure - 9 shows the rate of redressal, which is quite encouraging as it remained

Figure - 1
Operator Wise Summary of Consumer Complaints against CMOs 2009

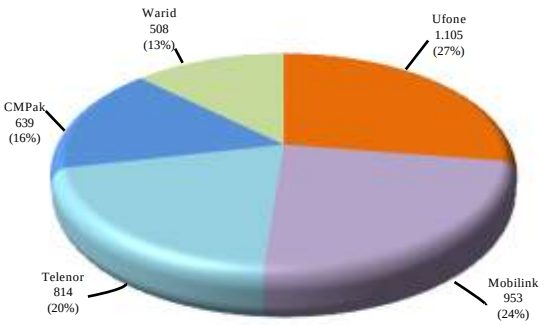
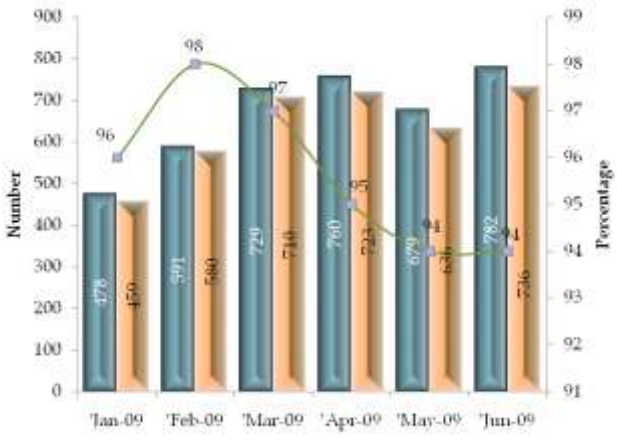


Figure - 2
Complaints Received and Resolved



around 95% during the last 6 months. This could not have been possible without the efforts of the Authority which went hand in hand with the operators.

Promoting ICTs

The second most important focus area of work for PTA was the promotion of ICTs in Pakistan wherein the Authority intended to devise an effective mechanism for extensive proliferation of broadband services in Pakistan and introduction of emerging technologies. In this regard, the Authority took a number of steps including establishment of regulatory platform for interaction between the government and the stakeholders to identify the focus areas and develop rules and guidelines for different ICT matters. Following is the detail of ICT initiatives taken by the Authority.

Fixed Broadband KPI's

As the Authority is working on broadband proliferation in the country, a balance has to be maintained between the quality and the quantity. The Authority, therefore, decided to have Key Performance Indicators (KPI's) for Fixed Broadband Services. In this regard, a study was conducted and a set of KPI's was developed for Pakistan. These KPI's have been much deliberated and discussed upon in a series of debates in the Authority. The document has now gone for public consultations before its finalization.

Dialogue Meeting on Broadband & Formation of Broadband Stakeholders Group

The PTA organized an Open Dialogue Session in Islamabad on 6th November, 2008 to debate issues related to broadband proliferation in the country. The meeting was presided over by Dr. Mohammed Yaseen, Chairman PTA and attended by some high-level representatives from the Ministry of Information Technology, Universal Service Fund, ICT R&D, Pakistan Software Export Board, PTA, Broadband Service Providers, Cellular Mobile Operators, Vendor, Consultants and Academia. Various issues including facilitation by the government and PTA, infrastructure related problems, taxation,

Chairman PTA Dr. Mohammed Yaseen Chairing a meeting of Expert Group Forum on Information Security Guidelines at PTA Headquarters, on November 25, 2008.

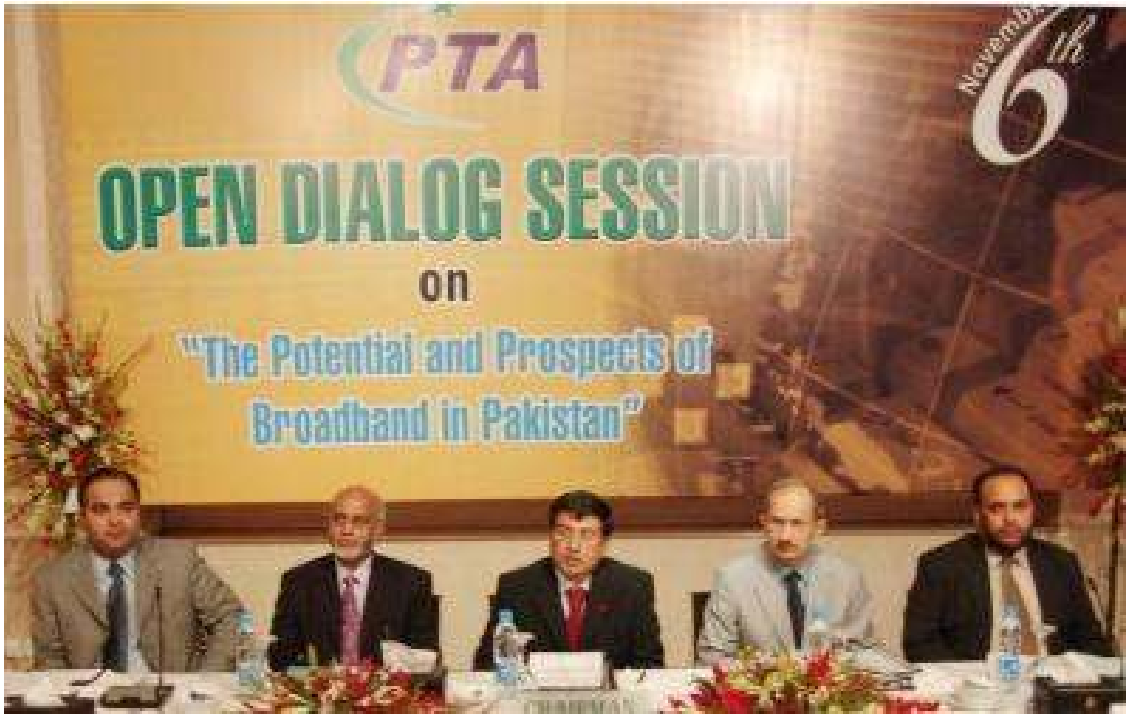
content development, creating enabling environment and utilization of USF for broadband proliferation etc were discussed.

The participants were briefed of the projects undertaken by the USF and PTA efforts for broadband proliferation. They included laying of optic fiber cable across the country and a pilot project launched in Faisalabad to connect schools, libraries and dispensaries etc. Some of the participants stressed that the government should offer incentives to ICT industry and play its role in creating an enabling environment by taking on board all the concerned ministries and departments. The participants suggested that focus should be made on rural areas, which direly need e-education, e-government and e-health etc. It was also pointed out that "access" is the real impediment in broadband proliferation; therefore, wireless technology is the best option for its development. In this regard, availability of more spectrum was also stressed.

In light of that debate, the PTA constituted Broadband Stakeholders Group with an objective to provide a neutral forum for organizations across the broadband value-chain to discuss principle issues related to broadband development.

Preparation of ICT Security Guidelines

Recognizing the need for secure networks, a focus group was formed to prepare the network security framework. Subsequent to that, it was realized that the guidelines on the subject need to be provided to the telecom sector, the government of Pakistan and the end users. After lengthy deliberations and discussions, the group drafted the security guidelines keeping in view the key matters. These guidelines have been circulated among the stakeholders concerned for their comments and feedback, and the same will be issued after incorporating comments of the stakeholders.



Dr. Mohammed Yaseen, Chairman PTA addressing Open Dialogue on "The Potential and Prospects of Broadband in Pakistan".

Expert Group Forum on ICT Security Framework

The PTA also organized an Expert Group Forum on "Information Security Guidelines for the Government of Pakistan" on 25th November 2008, aspiring to set up comprehensive, pragmatic and implementable security guidelines to be followed for ensuring that the country's national assets and information do not reach the unauthorized personnel. These guidelines would not only prevent information loss, but would also detect and identify the incidents as and when they happen. The Chairman PTA apprised the audience that the PTA intends to establish working coordination with ICT Industry in order to discuss and scrutinize potential security threats being faced by information and communication networks of the country. Apart from the above, the issues like Assessment of ICT assets, Impact of Distributed ICT assets environment, Security guidelines for physical access to assets, Backup Strategy Guidelines, Disaster Recovery Guidelines, Access Control Guidelines, Integration with ICT Infrastructure Security Guidelines, Security Training and Capacity Building of Personnel also came under discussion.

Transition of .pk Domain

Keeping in view the growing demand & awareness of internet in the country, it is realized that .pk domain should have a local infrastructural presence. In this regard, PTA had been engaged with PKNIC (present ccTLD operator for .pk), and as a result to this coordination, PKNIC has successfully implemented mirroring of .pk Domain Name Server (DNS) inside Pakistan.

Industry Broadband Issues & Interconnection Agreements

Internet Service Providers of Pakistan collectively approached the Authority for resolution of broadband issues and revision of DSL Interconnection Agreement, which was thought of a one-sided agreement. The Authority took cognizance of the issues and held several meetings with Stakeholders for resolution of various broadband issues including delay in provision of infrastructure, installation of fiber optic cable by DSL operators to PTCL co-locations, non-provision of SLA to DSL operators, refusal to implement DSL provisioning SOPs by PTCL field staff, revision of DSL Interconnect Agreement and higher tariff for IP bandwidth by PTCL.

The PTA started consultation process with DSL operators and PTCL for finalizations of these issues. Costing of broadband services was also carried out to analyze cost components which can be reduced in order to facilitate DSL operators for proliferation of broadband. After detailed consultations and deliberations, the following issues were resolved:

Approval of DSL Interconnect Agreement
IP bandwidth tariff offered by PTCL was reduced.
DSL operators were allowed to acquire bandwidth from a third party.
DSL operators were allowed to lay their own fiber optic cable on their co-locations.
Locked in the rates of leased media charges for a period of one year.

E-commerce Gateway in Pakistan

The PTA has also initiated a consultative process with players concerned in order to develop an E-commerce Gateway in Pakistan. The process has resulted into development of Pakistan's first ever E-commerce gateway, which is to be launched in due course.

Propagation of M-Commerce

Keeping in view immense growth in the mobile sector, the Authority is working with the Industry to introduce mobile-commerce applications in the country. In this regard, possible introduction of m-ticketing service by a leading International Airline of the country is under-way. Moreover, the Authority is also engaged with a number of stakeholders for introducing mobile banking services in the country.

Mobile-Based Information Systems

Today, mobile usage is growing exponentially in Pakistan, both in terms of number of users and the amount of activity. The PTA has started its work to utilize this immense growth for betterment of the society. For the purpose, an in-house SMS-based Educational Information system was developed, and successfully handed over to the Ministry of Education for necessary distribution among schools and colleges in the country. The primary theme is to equip schools with an interactive mobile application while broadcasting important information to students and their guardians on their mobile phones. The Authority has developed an advanced version of this application, targeting the agriculture sector of the country.

Mr. Naguibullah Malik, Secretary (IT&T), handing over the software application of "SMS-based Information System" for education institutions to Mr. Abdur Rauf, Secretary (Education). Dr. Mohammed Yaseen Chairman PTA and Dr. Khawar Siddique Khokhar, Member (Technical) PTA are also seen.

Indigenous Research

The PTA made various studies on emerging technologies and their introduction in Pakistan. The PTA conducted a detailed study on IPv6 wherein it presented a roadmap for the launch of IPv6 in the country. It has been pointed out that IPv4 addresses are getting exhausted, and after some time, no more IP addresses will be available for online applications without implementation of IPv6. The Authority has sent its recommendations to the Ministry of IT&T.

In consultation with the cellular operators, Ministry of IT&T and PTCL, the PTA prepared a research paper on E-commerce and mobile commerce in Pakistan. The industry was contacted to gather information about e-commerce and mobile commerce activities in the telecom sector.

In order to launch Satellite Broadband Services in Pakistan, a study was conducted on Satellite Broadband with a view to thoroughly analyze Pakistan's scenario taking into consideration the factors like geography, service demand, coverage, digital divide, world best practices etc. In this study, the Regulatory challenges in introduction of satellite broadband service have been identified, and recommendations have also been made to solve problems in the existing satellite regulatory framework.

Promoting Competition

Competition in an industry depicts the level of stability of that sector. Since the deregulation, Pakistan Telecom Authority has been undertaking every possible effort to promote competition in the sector., With passage of time, competition has matured in the local sector, and the Authority is now working towards ensuring the best competitive practices in the sector. Following are the few initiatives taken by the Authority in this regard;

PTCL and ISPs Sign Revenue Sharing Agreement

The PTA is making utmost efforts to remove bottlenecks in the growth of sector. The ISP (Internet Service Providers) industry was not making headway over the past few years and was facing difficulties in expanding its user-base in spite of low tariffs. In this regard, PTCL signed revenue sharing agreements with three major ISPs including Link dot Net, Sky Net and Comsats in January 2009. Under this agreement, ISPs will henceforth offer internet services to general public at zero tariffs on postpaid mechanism. The users will only be charged local call tariffs for 20 minutes pulse by PTCL, the revenue of which shall be shared between PTCL and ISPs. Internet is expected to grow further with such measures.

Directive for Advertisement of Government Taxes and Service Charges

The Authority has observed that the cellular subscribers, especially prepaid users, are not fully aware of applicability of the taxes resulting into consumer complaints regarding actual tariffs and unreasonable reduction in balance. The issue was also taken up in a meeting of National Assembly's Standing Committee on Information Technology wherein it was stressed that the telecom companies should clearly inform the consumers about the taxes. In the light of this observation, , the cellular mobile operators were advised to conspicuously mention applicability of government taxes and service charges in their advertisements.

PTA Directs Mobile Operators to Announce Helpline Charges Through IVR

The PTA has observed that most of the subscribers do not know the helpline charges, and operators also, sometimes, do not give 30-day advance notice to the subscribers for change in helpline tariff. Some of the operators are already announcing helpline charges through IVR for information of subscribers. In order to make the helpline charging transparent, the PTA has directed CMOs to mention helpline charges on their IVRs on a permanent basis and ensure compliance.

Analysis of LDI Operator's Bank Accounts

It came to the notice of the Authority LDI operators are not adhering to the Approved Settlement Rates (ASR) despite issuance of repeated directives. In order to ensure settlement of the international incoming telephony on ASR, all the operators have been directed to maintain separate bank accounts for international remittances as per Access Promotion Rules and Regulations, and provide bank statements to reconcile the rates and traffic.

Revision of Access Promotion Charges

The Authority conducts regular meetings with LDI and LL operators including PTCL in order to review the levels of ASR/APC and subsequent traffic trends in international call termination and grey traffic patterns. A meeting was held with the stakeholders on 17th June 2009, wherein the Authority noted a marginal raise in grey traffic since last increase in the APC. The Authority also took notice of the fact that hardly any money is being spent from the APC on increasing teledensity by LL operators. Thus, after due deliberations the Authority decided to reduce the APC to US$ 0.055 and Settlement rates to US$ 0.105. The Authority issued a determination on 19th June 2009, and these rates will be applicable w.e.f. 20th July 2009.

Review of Interconnection Guidelines 2004

The interconnection guidelines were issued by the PTA in 2004 at the time of liberalization of telecommunication market. However, keeping in view the considerable changes occurred in telecom networks / interconnection arrangements and emerging new technologies like NGN, it was deemed appropriate to review Interconnection Guidelines. In order to seek feedback from the industry, the operators were requested to give their comments / suggestions on Interconnection Guidelines. A few responses on Interconnection Guidelines were received, while comments from majority of operators are still awaited. Necessary amendments in the Interconnection Guidelines shall be made after receipt of comments from all the stakeholders.

SCO Reference Interconnect Offer (RIO)

After deregulation of telecommunication sector in AJ&K and NAs, the SCO being an SMP operator in fixed line was required to submit its Reference Interconnect Offer to the Authority for approval. The SCO submitted draft RIO to the PTA for approval in September 2008. The RIO was evaluated by the PTA in the light of consultations with stakeholders. After due deliberations on various clauses of the SCO RIO, it was approved by the Authority, and the approved RIO has been issued to the industry for implementation of interconnection in AJK and NAs.

Review of PTCL's RIO for Mobile Operators

The PTCL RIO for fixed line operators was approved by the Authority in May 2005. Several issues were underlined by the PTCL as well as the LL & LDI operators to improve the RIO concerned. Mobilink proposed some amendments in PTCL's RIO for Mobile operators. In this regard, all cellular mobile operators were requested to give their comments on the proposed modifications, along with any other changes need to be made in the PTCL RIO. The operators have submitted their comments, and the Authority has finalized PTCL RIO for Mobile Operators.

Review of PTCL Co-Location Charges

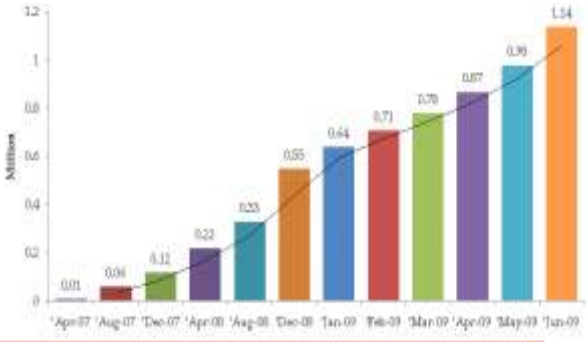
The PTCL approached the Authority for upward revision of its co-location facility charges as cost of property, fuel, electricity etc had increased considerably. The PTCL was advised to propose its new co-location charges to the Authority, which would be scrutinized and consulted with the industry before application. The PTCL-proposed co-location facilities charges were forwarded to the industry and feedback from all the stakeholders was received. The co-location charges had been revised keeping in view the current situation and the industry feedback.

Mobile Number Portability (MNP)

Pakistan is the first country in South Asia to implement Mobile Number Portability

(MNP) in March 2007 within a record time period of two years. Pakistan Mobile Number Portability Database (Guarantee) Limited (PMD) was established by the six cellular mobile operators to act as a centralized clearing house for Mobile Number Portability. The PTA closely monitors MNP progress and also complaints through PMD. The porting activity has seen consistent growth, with over 1.14 million subscribers having availed the facility by June 2009 since the implementation of MNP project. The Porting activity picked up pace in December 2008 when over 70% of the total porting took place after the December 2008.

Figure - 3
Mobile Number Portability



Framework for Local Number Portability

After the success of Mobile Number Portability (MNP) last year, the PTA planned to study launch of the same facility for the subscribers of fixed line/locall oop networks. Voice Tel-Tech (VTT) was given its consultancy, and the consultant delivered final presentation to the Authority and all PTA officials on December, 2008, which covered all the important issues/benefits and risk factors involved in the launch of LNP in Pakistan. The final report has been received wherein the consultant has favored the idea and given phase-wise implementation programme. It is expected that the subject will be seriously considered when "Telecom Policy - 2009" will come up for discussions and deliberations.

Development of Online Web Based Applications for Numbering & Type Approval

The PTA has already automated the process of Number allocation and Type Approval for precise handling of the Numbering and Type Approval cases received by the PTA. The automated software i.e. Online Web Based Applications has proved as convenient for applicants while bringing transparency and improvement in processing of the cases.

Type Approval of Telecom Equipment

Type approval granted by the PTA signifies that some particular telecommunication equipment is approved for sale, declared suitable for radio communication or for connecting a specific public telecommunication network in Pakistan. The categories of telecom equipment type approved from 1st July, 2008 to 30th June, 2009 are shown in the Table - 2.

Table - 1
Equipments Type Approved

S.No.	Name of Equipment	Quantity
1	Fixed Wireless Terminal	15
2	Wireless Radios	14
3	Wireless LAN Card	42
4	Modem	02
5	Fax Data Modem	02
6	WiFi Terminals	09
7	Video Teleconferencing Terminals	03
8	Bluetooth Module	02
9	WLAN Module	02
	Total	91

The PTA issued a public notice in national press warning all importers, vendors,

distributors, manufacturers, sellers and users to get type approval from PTA for devices like GSM Fixed Wireless Terminals, Fixed Cellular Terminals Gateways etc, and also Tellular devices before their use. It was warned that the use of such devices without PTA's approval was a serious offence for which illegal devices could be confiscated. A fine to the tune of Rs. 350 million could be imposed and responsible people could be arrested.

Surveys Conducted by the Authority

The Authority conducts survey on service quality of different services time to time on regular basis to check any violation of license conditions. Besides, surveys are held on demand and requirement. Following is a detail of surveys conducted during the reported period.

CMTOs Surveys

Quality of Service (QoS) Survey of Cellular Mobile Operators was conducted through NEMO TOOL by all the zones at Rawalpindi, Islamabad, Gilgit, Muzaffarabad, Mirpur, Peshawar, Abbottabad, Lahore, Faisalabad, Multan, Quetta, Sibbi , Karachi , Hyderabad and Sukkur. The parameters checked during the survey were Network Accessibility, Service Accessibility, Access Delay (Call Set Up Time), Retain ability (Call Dropping), Voice Quality and SMSs. Out of these parameters, some were found as improved while the others remained unchanged.

During the reported period, the PTA carried out a series of three surveys on pre-active SIMs sale at registered sale points. In each survey, a sample of around 20 – 100 pre-active SIMs, where available, was collected from different registered retailers. During the survey, a total of 17 cities were visited and 439 pre-actives SIMs were purchased. It was found that after the issuance of Enforcement Order to all the mobile companies and the raids conducted by the PTA field officers along with FIA, the situation considerably improved.

The PTA also conducted CMTOs Call Centers Survey in Lahore, Karachi and Rawalpindi to check /verify internal verification procedures of non-activated SIMs. The survey revealed that Mobile companies were adhering to PTA's SOP.

A joint survey by PTA and FAB was carried out to check the power level of BTSs transmitters and receivers and other parameters to ensure compliance of clause 10 (1) of the "Protection from Health Effects of Radio Base Station Antennas Regulations, 2008". The survey was conducted from 1st April, 2009 to 30th June, 2009. The results revealed that power level of all the BTSs surveyed was within the limits.

In order to gauge the Quality Of Service (QoS) being offered by cellular operators to Pakistanis travelling abroad, PTA conducted a limited QoS test (Phase-I) in 2006-07. Later in 2009 PTA initiated an in-depth survey with a reasonably good sample size (for the frequently visited countries) for billing error rate, voice quality, CLI display, call completion ratios, SMS delivery and corresponding delays and also on enhancing its KPIs. A final report containing the recommendation after discussion with CMTOs will be available in the last quarter of 2009.

Quality of Service Survey of ISPs

During the period under review Quality of Service Survey of ISPs was conducted by Zonal Offices in seventeen cities. The comparison of the results of ISP Survey 2007 and 2008 has been given in Table - 3. In this survey a significant improvement was observed in Quality of Service when compared to the last year.

Table - 2
ISP,QoS Results

Zones	Good (%)		Average (%)		Poor (%)	
	2007	2008	2007	2008	2007	2008
Lahore	40	76	40	15	20	9
Karachi	63	64	31	18	4.5	18
Rawalpindi	20	19	60	19	20	62
Peshawar	7.14	43	78	36	14	21
Quetta	100	100	0	0	0	0
AJ&K	-	0	-	100	-	0

Survey on Quality and Accuracy of PTCL Directory Services

The PTA conducted various surveys to check any violations in the license clauses by the operators during the report period. A survey on "Quality and Accuracy of PTCL Directory Services" was conducted so that the Authority could be appraised about the situation with appropriate recommendations. The survey was carried out in ten major and ten small cities. The survey results revealed that owing to centralized Call Center, the subscribers of local cities (being ignorant to Urdu language) could not get help. The PTCL, therefore, was directed to hire CSRs who speak local language i.e. Pashto etc. Moreover, PTCL was also asked to update its subscriber database for having complete information.

National Security

Telecom services have spread over all across the country. On one hand, this growth has brought in array of advantages becoming a growth engine for rest of the economy, while on the other, many unsocial activities cropped up in the due course. Consequently, the national security become vulnerable at times, posing threat to peace in the country. Being the regulator, the PTA has to look after all the aspects of the sector, ensuring national security. The poor law and order situation in the country pushed the regulator to take some major precautionary measures to assist the government in curbing unsocial activities and the security threats. The Authority thus took national security as central area of activity for the year 2009. Following are the initiatives taken by the Authority during the year.

Activation of New SIMs After Verification

The PTA has been taking concrete steps to get registered all cellular mobile users so that cellular mobile technology could not be misused. The Authority has been working in closely liaison with law enforcement agencies and cellular mobile operators. On January 31, 2009, the PTA introduced a new system of new SIM activation after verification of customers' antecedents. Since the day, non-active mobile SIMs were sold which were to be activated only after verification of consumer data from NADRA, subsequently bringing the sale of pre-activated SIMs to an end. Under this new system, a non-activated SIM would be sold to the consumer after checking his original

CNIC and filling of Cellular Service Agreement (CSA) form. The consumer would then call 789 from the same SIM and the Call Center representative would ask him few questions to verify the data. After the online verification from NADRA and if answers were found correct, the SIM would be activated. In case of incorrect answers, the consumer would contact NADRA Swift Center or Customer Services Center of the concerned mobile operator.

The PTA has been continuing efforts to stop functioning of unregistered SIMs under the directives of the Ministry of IT and Telecom and the guidelines given by Senate Standing Committees on Interior, IT and Cabinet. A Standard Operating Procedure (SOP) has been devised to verify SIMs from NADRA database, and the PTA checks violations in this regard . With these efforts, a total of 11.5 million connections have so far been blocked. The Authority continues

Dr. Mohammed Yaseen, Chairman PTA, visits Ufone's New Sale Activation 789 Contact Centre in Karachi on 6th February, 2009

Blocking of Unregistered SIMs

The PTA has been continuously monitoring sale of new SIMs. The PTA Zonal Offices located at Karachi, Lahore, Peshawar, Quetta, Rawalpindi and Muzaffarabad are checking authorized Customer Services Centers, Franchises and retailers of mobile operators to ensure that no SIM is sold and activated without adopting new procedure already in place since 1st February 2009.

verification of unregistered SIMs, and in this regard, a number of Franchisees and Retailers were inspected in different areas of the country and AJ&K. Besides, during the period under review, two nationwide joint surveys were conducted for sale of new connections. In the light of the survey results, Show Cause Notices were issued to all mobile companies on violation of the PTA's Standing Operation Procedure (SOP) on issuance of new Mobile SIMs / Connections.

Detection & Elimination of Grey Traffic

The PTA has been working hard to detect and apprehend grey traffic in the country, which is harming the national exchequer as well as healthy competition in the industry. In this connection, multifaceted approach has been adopted which involves automatic mitigation of unauthorized IP addresses, unearthing of setups/illegal gateway exchanges causing millions of rupees loss to government exchequer for consequent raids by PTA and detection of licensees involved in contraventions of their license conditions. During the last six months, 500+ IPs were blocked on daily basis, 5 cases of illegal exchanges were unearthed and detection of DID service.

Cross Border Interference

Since July 2006, Pakistan's monitoring agencies and GSM operators have been reporting a problem of interference and spill over signals into Pakistani territory from Afghanistan and India. The problem was conveyed to Afghanistan through appropriate channels. The Afghan authorities showed their resolve to eliminate the problem. As a result, a delegation headed by Chairman Afghanistan Telecom Regulatory Authority (ATRA) visited Pakistan Telecommunic-ation Authority (PTA) on 12th March 2009. During the meeting, the Chairman ATRA also raised the issue of interference signals emanating

Equipment confiscated during raid against illegal international gateway exchanges in residential areas of Islamabad and Karachi

Monitoring and Reconciliation of International Telephony Traffic (M&RITT)

PTA in collaboration with LDI industry, has formed International Traffic Reconciliation System to resolve disputes among LDI operators and also with other Access Providers. Simultaneously the system identifies undisclosed minutes. Vendors like Tekelec, Teralight and Nexus presented their solutions after which CRPL was finalized as vendor for mediation solution. The required SS7/IP probes have been installed at PTCL premises by NARUS, Tekelec and Nexus which serve as inputs to CRPL system.

from Pakistani side to Afghan territory. Both the Chairmen agreed that complete stoppage of interference and spill over signals across international borders on the either side would be ensured and relevant ITU/APT recommendations would be followed. For the purpose, an SOP was prepared and extended to the Afghan government for implementation.

The Pakistani operators and Frequency Allocation Board have been reporting interference and spill over signals into Pakistani territory from Indian side, all along the eastern border as well the Arabian Sea Coastline from Kashmir to Karachi. The matter was conveyed to India, which could not effectively address the issue due to absence of a mutually agreed SoP. Similar concerns were conveyed by the Indians to Pakistan, specifically in Kashmir area. On receipt of instructions from IT & Telecom Division a draft SoP was prepared and sent to Frequency Allocation Board for comments and finalization for its onward submission to IT & Telecom Division.

Other Regulatory Initiatives

During the year 2008-09, a number of other regulatory initiatives were taken for growth of telecom sector. They included preparation of different laws and regulations as well as research and consultation papers. Following is a brief detail in this respect.

Framework for Digital Push to Talk Services in Pakistan

The PTA initiated study of Trunk Radio Regime in order to incorporate Public Commercial Digital Push into Talk Services in Pakistan. The bands 845-851 MHz / 856-860 MHz were identified for trunk radio services in National Frequency Plan. The current regime and its spectrum charging were analyzed in the light of the world scenarios to cater needs of this service. The case studies of 14 countries across Asia-Pacific, Europe, the United States and Arab Regions indicated an impact of the regulatory reforms on push to talk service markets. Consultations with stakeholders have been completed on available technology options, interconnection, roaming, roll out obligations, services scope, tariff regulation, number of licenses to be issued, liberalization of the sector etc. The report would be finalized soon.

Guidelines for Use of ISM Band In Pakistan

The PTA initiated to formulate clear and transparent guidelines for the use of ISM bands in Pakistan. This task involved a detailed study of the best practices in the world regarding use of ISM bands. These guidelines were prepared in coherence with the technology neutral licensing regime of PTA that included both licensed and unlicensed use of the band. Initial Draft was circulated to both PTA and FAB for in-house comments. After receiving comments, the guidelines have now been published for public consumption.

Pakistan Maritime Regulatory Framework & Visiting Aircraft Regulations

The PTA initiated a study of Maritime communication systems and International Maritime Communications Regulatory

Framework for developing transparent regulatory framework and spectrum charging regime for maritime communication services in Pakistan. PTA took on board all relevant departments including Ministry of Ports & Shipping, Mercantile Marine Department, Marine Fisheries Department, Naval Head Quarters, Maritime Security Agency and Frequency Allocation Board while preparing this framework. The regulatory framework for Pakistan Maritime would be finalized shortly.

PTA also developed a draft of visiting aircraft regulations to regulate the frequency use by visiting Aircrafts and ships in Pakistan territorial air-space and waters respectively. At the moment, practice is that cases of radio equipment use on board the visiting Aircrafts are not processed through PTA whereas the applications for use of radio equipment on board visiting ships / vessels are processed and forwarded to FAB via PTA. Since, this is a long process that normally takes one to three months, by the time the approval is granted, the ships have already sailed off Pakistani coast. The regulations have been drafted to formalize the procedures for regulating the radio use on board the visiting Aircrafts and Ships.

SOP For Installation of Sub-Meters by Telecom Operators in PTCL's Co-location

The DSL operators approached the Authority complaining that the tariff charged for electricity by PTCL for their collocation spaces was higher than the actual rates of the electricity company. In order to resolve the issue, the PTCL was directed to allow installation of sub-meters by ISPs / OLOs in February 2009. However, the same was delayed and the Authority pursued the PTCL to prepare an SOP for approval of the Authority. Once the SOP was prepared and submitted by the PTCL, it was shared with the stakeholders and comments were received. These comments were again shared with the PTCL, and after mutual understanding by all parties, final draft of the said SOP was approved by the Authority, which was later circulated to all concerned.

Implementation of 7 to 8 Digit Fixed Number Migration Plan

The Pakistan Telecommunication Authority (PTA) has devised a comprehensive numbering plan to accommodate growing telephone users especially in the major cities of the country. As part of the plan, the fixed line numbers of the PTCL, the NTC as well as other Fixed Local Loop (FLL) and Wireless Local Loop (WLL) operators in Karachi and Lahore have successfully been changed from 7 digits to 8 digits. The digit "3" has been added to all the existing 7-digit telephone numbers of Karachi and Lahore except the numbers starting from "9", while the digit "9" has been added to all the existing numbers starting with "9". Both old and new numbers were dialable during Parallel Operation Phase (i.e. 1st July to 30th September 2009); however, the numbers in 8 digit format will only be dialable after expiry of the Parallel Operation Phase. During the Announcement Phase (1st Oct to 31st Dec 2009), an announcement will be made by the respective operators about the change in number format. The PTA and all other operators conducted successful tests on their systems for successful implementation of Parallel Operation Phase to make

sure that consumers do not get affected by the change.

The 7 to 8 Digits Fixed Number Migration Plan will be implemented in a phased manner all across the country. In Phase-1, FLL and WLL operators in Karachi and Lahore have migrated from 7 digits to 8 digits numbers. This would create capacity for current and future expansion as these two cities have reached a level where migration was essential to cater smooth growth in the subscriber base of various operators. In Phase-2 (after 1-2 years), the change would be made in other major cities, while in the Third Phase, the rest of the country would be shifted in 3-4 years.

Implementation of New Numbering Plan in AJK and NAs

In the interest of stakeholders and for convenience of the people, all fixed line and WLL numbers along with area codes have been changed from 10 digits to 11 digits. Areas codes in 15 districts of AJ&K and NAs have been changed into a new Area Code of 5-digit (including digit '0') for each district with 6-digit subscriber number. Now, the 11-digit dialing format is in use (i.e. 5-digit Area Code plus 6-digit subscriber number) for calls between AJ&K and NAs and vice versa. The same also applies for the calls made from other parts of the country to AJ&K and NAs. From 15th February to 15th May 2009, Parallel Operation of old and new numbers including area codes remained in use. After successful completion of Parallel Operation Phase, new 11 digit numbers dialing format was successfully implemented w.e.f. 16th May 2009 and now the caller / public is dialing only the new numbers along with new area codes.

During the Third Phase i.e. Announcement Phase (16th May to 14th August 2009) announcements were made by the respective operators to guide the subscribers about this change.

Atomic Clock & Timing Synchronization

PTA in collaboration with LDI industry has established the Monitoring & Reconciliation of international telephony traffic (M&RITT) project to monitor and block any illegal voice / IP traffic. It was felt that there needs to be a mechanism to synchronize the timing of system. In order to do so, PTA initiated this project and has been successful in achieving its major goal.

Rabta Ghar Project

Rabta Ghar project was initiated by the PTA for expansion of telephony and other communication facilities in the remote, rural, unserved and underserved areas of Pakistan. Genuine Intel Dealer (GID) was appointed as vendors to execute deployment of Rabta Ghar in the country. GIDs, started installation and commissioning of Rabta Ghar w.e.f 27th October 2007, and

Table - 3
Rabta Ghar

S. No	Province /Area	Deployed RGs
1	Punjab	82
2	Sindh	104
3	NWFP	86
4	Baluchistan	62
5	AJK & NA	15
	Total	349

completed on November 30, 2008. A total of 349 Rabta Ghar have been successfully deployed all across Pakistan. Every Rabta Ghar is capable to provide internet connection, Fax Machine, Wireless PCO, Scanning machine, photo copier and printer.

Consultation & Research Papers

A consultation paper on Rationalization of New Radio Frequency Spectrum Charging Mechanism has been prepared by the Authority and floated in the industry for feedback. The final mechanism would be implemented after the approvals from governing bodies.

In order to get an idea of the impact of telecom growth on the Economy, Business and Social Development in Pakistan, through and independent source a detailed study was conducted with a reasonable sample size to measure the impact. The survey included all telecom services. The survey studies & forecasts the impact of telecom services on all sectors of life like employment, business, economy and social setup etc. The final report is expected to be completed by September 2009.

For provision of high quality telecomm services to public, PTA plans to test GPRS-EDGE services. PTA developed GPRS and EDGE KPIs and have floated a consultation paper for industry consultation. PTA plans to complete the process and issue regulations by October / November time frame.

The Authority took initiative to prepare a consultation paper on the NGN interconnection and its charging methodology. The paper covers various technological and regulatory changes in interconnection arrangements and charging principles with introduction of NGNs. It will highlight challenges for the regulators and operators with changing telecommunication networks, and also provide their probable solutions for consultations. In order to assess real issues faced by international roaming users and to address their concerns, the PTA prepared a consultation paper on international roaming tariffs. The comments from industry were received. Dispute settlement is another area where a consultation paper has also been prepared by the PTA.

The Authority was receiving complaints from international roaming users on matters such as high international roaming tariffs, billing transparency, consumer awareness etc. In order to assess real issues faced by international roaming users and to address their concerns, the PTA prepared a consultation paper on international roaming tariffs. The comments from industry were received.

A research paper on dispute settlement mechanism was also prepared and circulated to all PTA officers for comments and suggestions. Also, a technical paper on Lawful Interception (LI) was prepared in order to streamline modalities and counter the issues arising out of this in the future. The paper has been approved by the Authority.

The PTA also prepared a Consultation Paper on “Interfacing IMEI Database with Centralized Equipment Identity Register (CEIR)”. In this consultation paper, the PTA proposed that the PMD setup might be utilized for establishing Centralized Equipment Identity Register (CEIR), which will further communicate with the individual

cellular mobile operators' EIR. The communication pattern will be similar to MNP data communication to provide real-time online barring capability for the stolen mobile handsets. For this purpose, the existing MNP database may be utilized by enabling and engaging the user-defined fields available un-used in the Number Portability Clearing House (NPC) database. Alternatively, a separate database running over the same hardware / software platform as enacted for MNP may be used to keep CEIR activities and its corresponding reporting mutually excluded from that of MNP.

The other model proposes that the allocation of IMEI numbers to the generic mobile handsets may be done at the operator level where all the operators will implement a software solution (outside the EIR DB) to generate and allocate the IMEI number and subsequently, allocate it to the connecting generic device. This information, then, will be populated in the white list of the operator EIR as well as updated in the central EIR. On reporting of a stolen handset, the information shall be communicated to the PMD CEIR, which shall immediately black list the handset and communicate the black list update to all participating network operators' EIRs.

In addition to above there are number of studies and consultation papers underway at the Authority which include following study on slow growth of wireless broadband, In house cabling consultancy and WiMAX infrastructure sharing

Chapter - 3

Sector Economy

Pakistan Economy

In fiscal year 2008-09, Pakitan's economy passed through a critical juncture of domestic volatile security situation and global financial crisis had adversely affected the macro economic conditions. The growth trend slowed down during the year, as the overall economic growth had been reported to be 2 percent, as against the target of 5.5 percent. This deceleration was mainly attributed to the poor performance of large scale manufacturing sector, growing negatively at 7.7 percent. However, a rebound in agriculture sector on the back of a bumper wheat crop helped maintaining the positive growth in the reported year. On macroeconomic front, the inflation continued to surge reaching at 20.8% in 2008-09 compared to 12% in 2007-08. The per capita real income rose by 0.3% in 2008-09, from US$ 1,042 in 2007-08 to US$ 1,046 in 2008-09. Global credit crunch resulted into shrinking of overseas demand and resultantly the country's exports contracted by nearly 5.9%, decreasing from US$ 20.4 billion in 2007-08 to US$ 19.2 billion in 2008-09. The imports declined by 10.4% in 2008-09, standing at US$ 31.7 billion as against US$ 35.5 billion in 2007-08. Lower imports during 2008-09 resulted into substantial fall in the reserves of oil & food items. The FBR [Federal Board of Revenue] failed to achieve tax revenue collection target of 10% of the GDP to 8.8%. Foreign Direct Investment [FDI] declined by 31.2% falling from US$ 5,410 million in the previous year to US$ 3,720 million in 2008-09[1].

State Bank of Pakistan has reported in September 2009 that inflation (YoY) has improved recently while the fiscal and real sector performance still remains tenuous. Moreover, the recent betterment in growth of some of the industrialized countries and the emerging markets may give impetus to the growth of Pakistan's economy the next year. The monetary assistance by donor agencies like IMF, the World Bank and the Friends of Democratic Pakistan are expected to help improve the economic condition in the coming years.

Telecom Economy

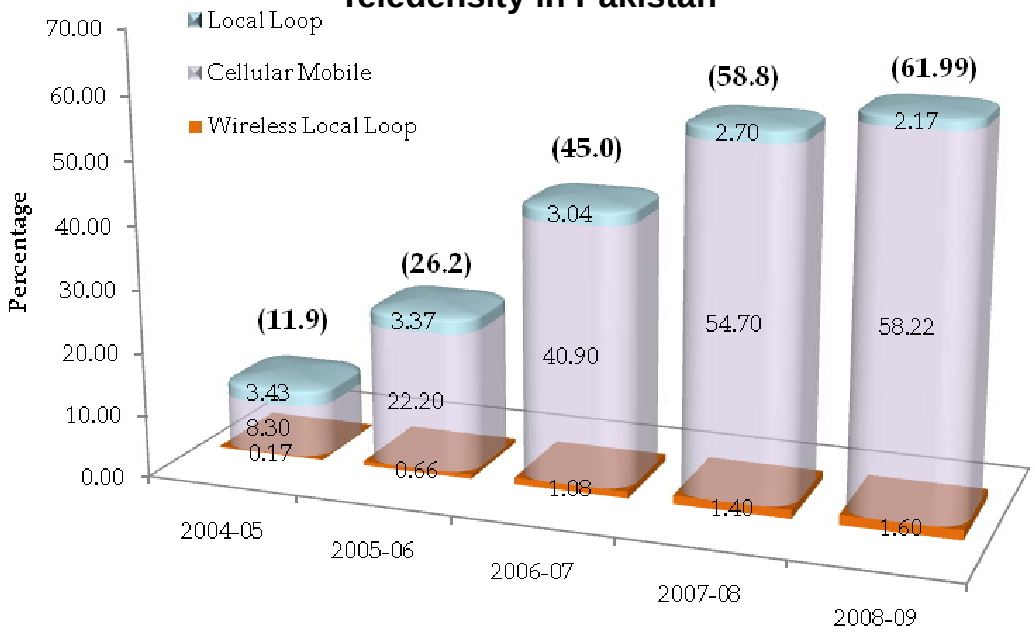
Despite slow down in economy, telecom sector continued to grow positively in terms of subscription, revenue and teledensity. However most of the operators took cost cutting measures including optimization of human resources, cut in employees' perks and freezing

[1]Statistics obtained from Ministry of Finance and State Bank of Pakistan

employment temporarily to avoid negative impact of economic slowdown on the sector. Teledensity of the country jumped to 62% in 2008-09 showing a growth of over 5% over the previous year. During the year 2008-09 the sector's financial health could not be improved in accordance with the expectations owing to heavy taxes and falling exchange rates, which placed unprecedented burden on the operators' import bills. Despite these difficulties, the sectors revenue grew by 19% in 2008-09 which pose confidence in Government and regulators' policies. Due to new emerging services, operators continued making investment in infrastructure expansion. Among cellular mobile operators, Ufone was the only operator reporting a profit while the rest landed with negative earnings. The leading mobile operator, Mobilink slipped from green to red in earnings because of the falling exchange rate and rapid drop in the subscribers' base.

A dismal situation in fixed line penetration is the major area of concern for the policy makers and the regulator in Pakistan. After issuing a number of licenses to the fixed line operators, the regulator believed that the market forces would play their due roll for its expansion, but unfortunately, this could not happen. Unlike the expectations, most of the fixed line operators could not roll out the infrastructure maintaining the incumbent operator still the dominant player with its old copper based infrastructure a main hurdle in the sector's growth. It was also expected that a rapid roll out by wireless technology (WLL) would compensate the declining fixed line penetration, which too did not happen due to lack of investment by WLL operators. Furthermore, the WLL operators like Wateen and Wi-tribe have smartly diverted their resources to Broadband expansion in 3.5 GHz and invested on new technology like WiMax. This too caused slow growth in the fixed line sector. Issues like Right of way and lack of unbundling also proved as major hurdles in the fixed line sector's growth. A huge investment is required to roll out new generation of fiber networks in Pakistan.

Figure - 4
Teledensity in Pakistan

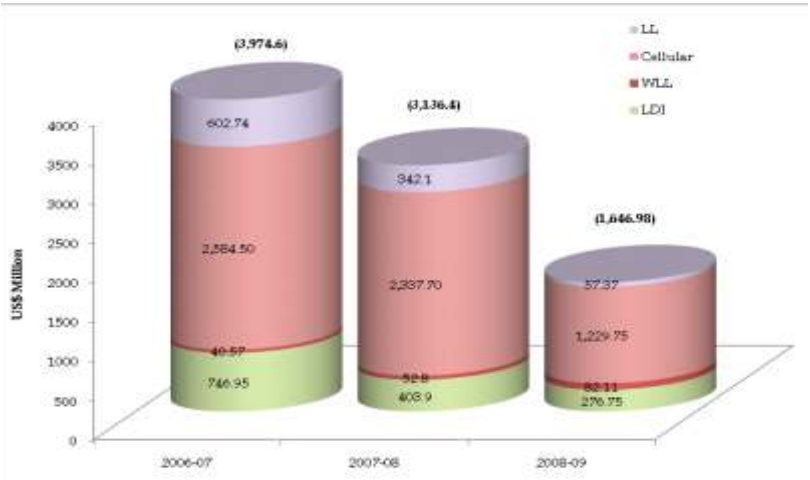


This gives a major opportunity to large scale investors to secure their investments in Pakistan in this segment of the industry.

Telecom Sector Investments

Owing to economic slowdown, saturation in the market and global financial crisis, the total investment in the telecom sector during 2008-09 reduced by nearly 47%. Despite the fact that the operators have speedily rolled out their infrastructure, reaching out to most of the population, there still remains huge areas like Braodband, WLL and manufacturing etc, where investment opportunities exist. During the current year, a total of US$ 1.6 billion worth of investment has been made by all the operators, of which the cellular mobile share is about 75%. The WLL has marginally increased investment from US$ 52.8 million in 2007-08 to US$ 82.11 million in 2008-09. However, the rest of all of the sectors have reduced the level of their investment.

Figure - 5
Telecom Investment



Foreign Direct Investment

On the conclusion of the World War-II, the cross border investment flows, FDI [Foreign Direct Investment], tremendously increased playing a pivotal role in development of the recipient countries. The Marshal Plan, particularly, is considered to be a good example in this regard. Since then, the developing countries took various initiatives to attract more and more foreign investment to boost their economic growth. Pakistan has also taken measures to secure more foreign investment in the country where it offered various incentives to foreign investors. At present, Pakistan has the most liberal FDI policy in the region, where 100% equity is allowed and investors can repatriate 100% of their profit. Owing to this liberal policy, Pakistan attracted significant foreign investment inflows during the previous years; however, this trend showed decline in 2008-09 where overall FDI declined by 31.2%. During this period, Pakistan attracted FDI worth US$ 3.7 billion altogether. During the last two years, inflows had crossed US$ 5 billion per year.

Pakistan's telecom sector remained the largest recipient of the FDI during the last few years capturing more than one fourth of total FDI. During the last 5 years, Pakistan attracted over US$ 19 billion FDI, of which 34% was in telecom sector. In the current year, the telecom sector received over US$ 815 million FDI, which is 22% of the total FDI in Pakistan.

Major countries which invested more than 70% in last 5 years in Pakistan's telecom sector included United Arab Emirates, United States of America, Norway and the Peoples Republic of China. The UAE emerges as the leading country investing over 36% of the total FDI in the telecom sector in the last 5 years. UAE invested in the companies like Wateen, Warid Telecom and PTCL. Etisalat, UAE based company, bought out 26% shares of the PTCL worth US$ 2.4 billion. The UAE has invested over US$2.3 billion in the telecom sector of Pakistan since 2004-05. China Mobile has its first overseas adventure in Pakistan cellular mobile sector, in addition to telecom manufacturing through companies like ZTE and others. Investment from Republic of China exceeded US$ 599 million in the telecom sector of Pakistan during the last 5 years. Telenor, a Norway based company, also brought about half a billion US dollars foreign investment into Pakistan during the last 5 years.

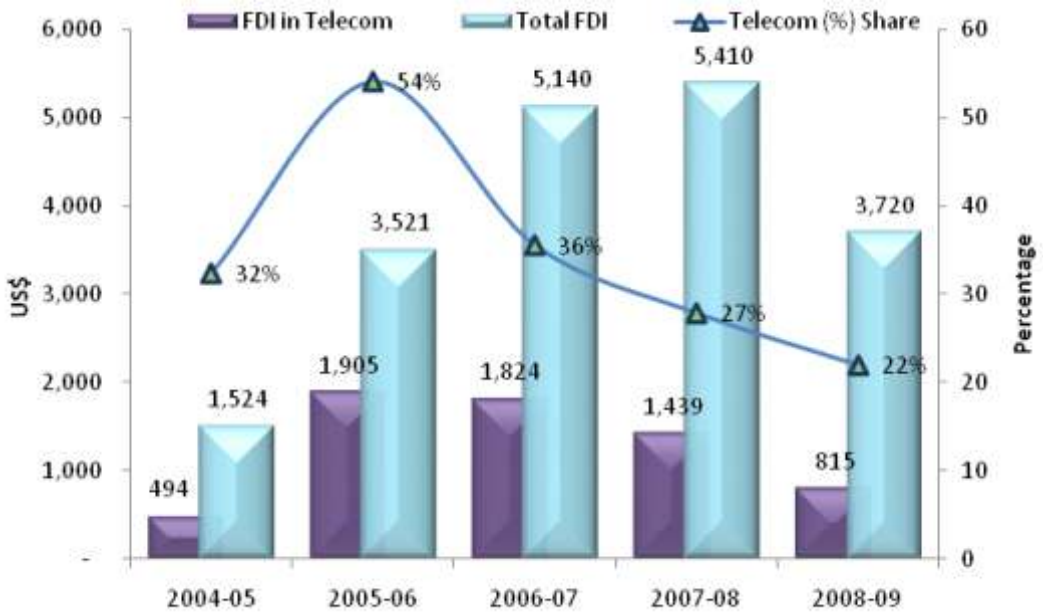
Table - 04
Sources of FDI in Pakistan
Telecom Sector

US$ Million

Country	FY05	FY06	FY07	FY08	FY09	Grand Total
UAE	311.96	1360.06	358.77	366.19	-54.27	2,342.70
U.S.A	82.44	58.81	208.92	446.17	157.43	953.8
Norway	30.61	245.27	24.68	270	99.25	669.8
China	0.02	0.04	706.17	0.06	-106.78	599.5
U.K	1.73	100.92	255.27	15.37	-9.63	363.7
Mauritius	0	59.4	59.4	49.24	140.39	308.4
Hong Kong	10.02	2.05	8	180	103.89	304
Malta	0	0	0	60	187	247
Singapore	0	0.06	0.23	0	210.6	210.9
Netherlands	10.88	31.28	42.28	25.37	-26.43	83.4
Germany	0.11	2.8	48.97	4.87	0.32	57.1
Luxembourg	15.5	14.57	10.07	-0.43	-0.26	39.5
Sweden	0.03	6.08	0	2.36	22.43	30.9
Malaysia	18.11	12.55	3.11	-1.82	-1.69	30.2
Egypt	0.13	3.86	0	7.83	14.29	26.1
Saudi Arabia	0.09	0.35	15.5	0.09	0.04	16.1
Ireland	0	0	0	1.58	3.75	5.3
Bermuda	4.49	0	0.8	0	0	5.3
Others	8.33	6.96	82.09	13.24	74.51	185.1
Total	494.4	1,905.10	1,824.30	1,440.10	814.9	6,478.70

Source. State Bank of Pakistan, 2009

Figure - 6
Foreign Direct Investment



Source: State Bank of Pakistan

Taxes

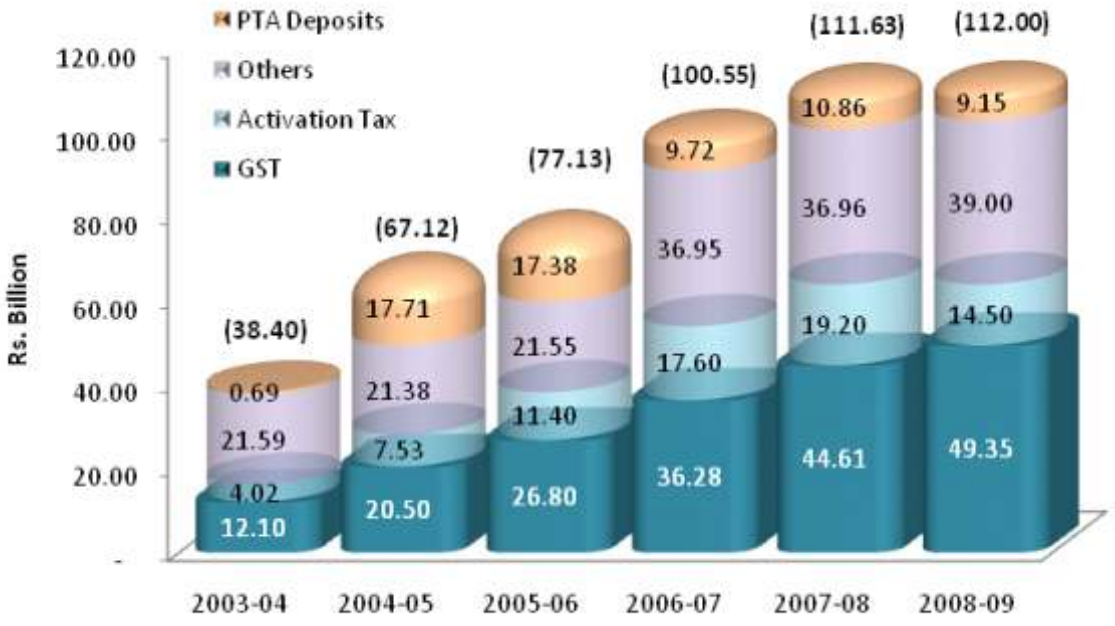
The telecom sector contributes 1-2% in the total GDP, making its share in total tax revenue as 6-7% per annum. During the year 2008-09, the sector continued to contribute handsome amount in national kitty through various taxes and regulatory charges. Telecom sectors' contribution to national exchequer rose to Rs. 112 billion in 2008-09 compared to Rs. 111 billion the previous year.

The sector has been overburdened with taxes by contributing over 31% of its revenue through GST and Withholding Tax. Resultantly little space has been left to spend on infrastructure expansion. Following major tax measures were introduced in the budget for the fiscal year 2008-09:

1. *GST/FED rate was revised from 15% to 21% for telecom sector while this raise was only 16% for rest of the economy*
2. *Import duty on mobile handsets was imposed @ Rs. 750 per mobile hand set(Rs. 500 custom duty and Rs. 250 Regulatory duty)*
3. *Activation Tax on cellular Mobile Sector continued @ Rs. 500/ per new connection*

The enhancement in taxes along with economic slowdown, had an adverse impact on telecom sector. PTA took cognizance of the situation and suggested to the tax authorities and the Prime Minister that Government of Pakistan should reduce taxes on the sector. Particularly it was emphasized that FED / GST that was raised from 15% to 21% for telecom sector needs to be reduced and take par with rest of the

Figure - 7
Telecom Contribution to Exchequer



Source: *Federal Board of Revenue and Pakistan Telecommunication Authority.*
Note: Note: *PTA's contributions comprise of all its receipts including Initial and Annual License Fee, Annual Spectrum Administrative Fee, USF and R&D Fund Contributions, Numbering Charges, License Application Fee, etc.*

economy i.e., 16%. Further it was apprised to the Government of Pakistan that imposition of Rs. 750 tax on import of mobile handsets has increased the mobile acquisition cost in Pakistan which needs to be reduced. Further it was suggested that Activation Tax @ Rs. 500, which is liable on every new connection, is a hurdle in the growth of the mobile sector and it should be abolished.

PTA's efforts, however, proved fruitful, as the Government provided the following relief in taxes to the operators in the budget 2009-10:

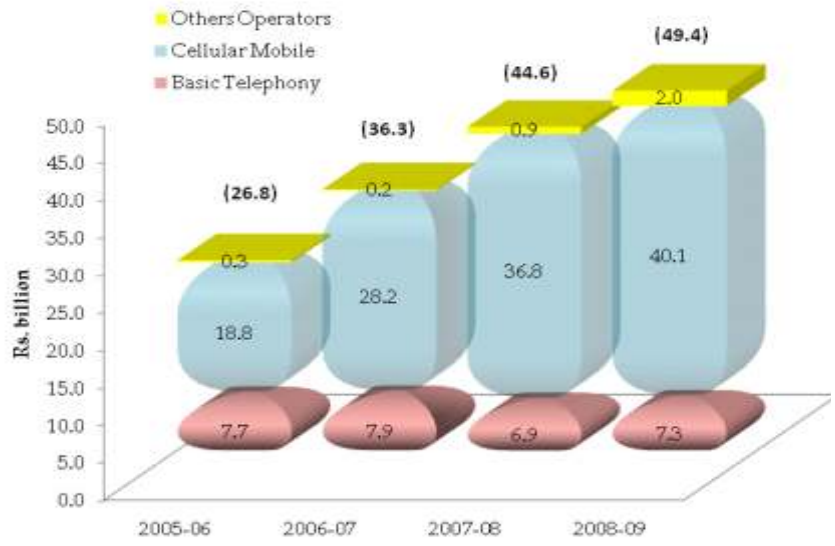
1. *GST /FED rate on telecom sector was brought down from 21% to 19.5%*
2. *Activation Tax rate was reduced from Rs. 500 to Rs. 250 per new connection*
3. *Custom duty on import of Mobile handset was decreased from Rs. 500 to Rs. 250 per set while the Regulatory duty on import of handsets @ Rs. 250 was withdrawn*
4. *Initially Rs. 0.20 tax per SMS was proposed, however it was later on abolished.*

The tax measures introduced in this budget were welcomed by the regulator as well as the operators as they would have far reaching impact on the sector. The FBR is expected to collect extra revenue from the sector during 2009-10.

GST is one of the main taxes collected from the telecom sector and cellular mobile leads in paying this tax, contributing nearly 82% of the total GST annually. The sector has contributed over Rs. 49 billion as GST in fiscal year 2008-09, which is 11% higher than the previous year. However, the rate of growth of FED / GST collection from telecom sector declined in 2008-09 compared to previous years due to high rates. There was only 9% increase in FED / GST collection from cellular mobile sector in 2008-09 compared to 30% growth of last year and 50% growth in the previous year.

Keeping view the difficulties being faced by the sector, the government has reduced the GST / FED rate from 21% to 19.5%, besides providing relief to cellular mobile operators in Activation Tax by 50% i.e. from Rs. 500 to Rs. 250 per new connection. This will certainly enable the sector to contribute more to GST collection in the next year.

Figure - 8
GST/FED Collected



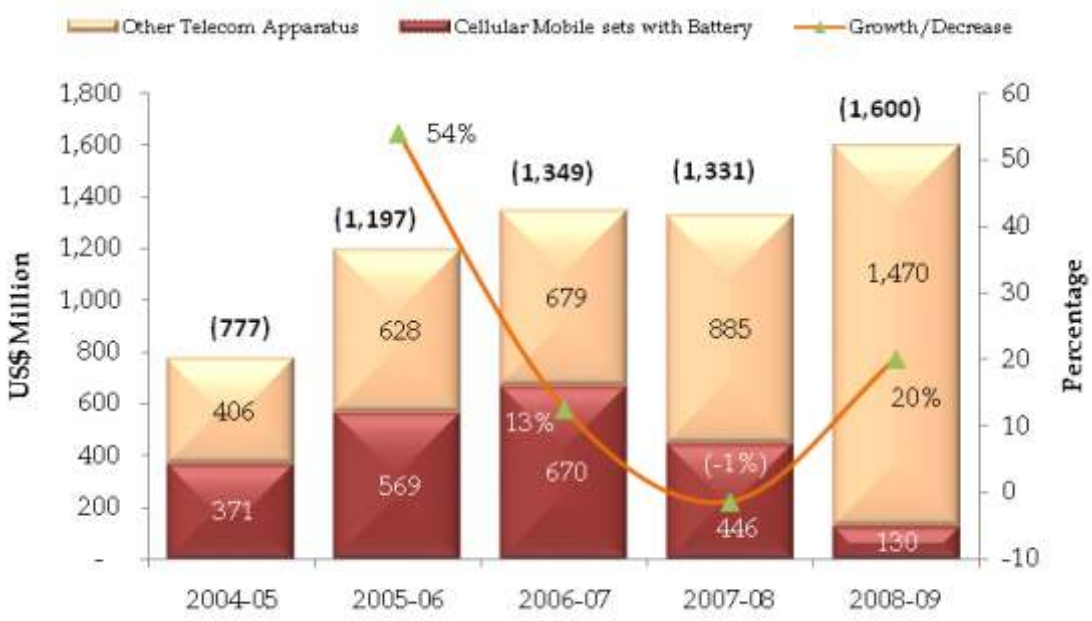
Note: Basic Telephone includes PTCL & NTC & Others includes all other telecom operators

Telecom Imports

The rising trade deficit (US$ 12 billion) and depleting Foreign Exchange Reserves forced the Government to take prudent measures to improve the Foreign Exchange Reserves and curtail the import bill, which swelled due to unprecedented high oil prices. To curtail the mobile handsets imports, the Government imposed custom duty and regulatory duty together @ Rs. 750 per mobile handset. Resultantly, the imports of cellular mobile handsets declined by 66% in 2008-09, falling from the previous year's US$ 446 million to only US$ 130 million. Although, the total telecom imports in the year 2008-09 grew by more than 20% reaching to US$ 1.7 billion in 2008-09 compared to 1.3 billion in 2007-08. This indicates that competitive environ-ment has forced all the operators to import machinery and equipment to expand their infrastructure.

In the fiscal year 2009-10, the government has extended support to mobile handsets imports while reducing the custom duty from Rs. 500 to Rs. 250 per mobile handset and abolishing the regulatory duty @ Rs. 250. This step is likely to give impetus to the mobile industry by ensuring provision of mobile handsets at cheap rates, besides checking smuggling of mobile handsets, which is inflicting a serious loss to the Government revenue.

Figure - 9
Telecom Imports



Telecom Revenues

The telecom sector revenue showed a 19.8% growth during 2008-09 compared to 18.2% in previous year. During the year 2008-09, the telecom sector generated revenue to the tune of Rs. 333.9 billion compared to the last year's Rs. 278.5 billion. The cellular mobile sector continued to be the leader in telecom revenue, whose share came out to be 64% in the total telecom revenues. The cellular mobile sector showed about 17% positive growth during the fiscal year 2008-09.

Conclusion

Despite slowdown in economy, telecom sector continued to grow in terms of revenues, subscription and teledensity. Teledensity of the country reached 62% while operators continued investing for infrastructure expansion. Telecom sector remained largest recipient of FDI where it attracted US$ 815 million FDI in 2008-09. Regulator kept vigilant to its duties to safeguard the consumers as well as investors in the sector.

Figure - 10
Telecom Revenues

Chapter - 4

Mobile Cellular Services

Market Overview

Pakistan mobile market hosts some of the world's largest and most experienced telecom companies including Orascom, Telenor (Norway), Warid Telecom (Abu Dhabi Group), China Mobile and Etisalat, a UAE based company. These companies have heavily invested in Pakistan to lay down the infrastructure and take mobile services to every nook and corner of the country. With the encouragement of Government of Pakistan and best efforts by the regulator as well as the determined mobile operators, the sector has recovered from slow growth of past few months. Nonetheless, there is escalation in mobile penetration up to 57.4%, as the total mobile subscribers have reached to 94.3 million, with more than 90% of the country having mobile service access.

The reported year [2008-09] did not come out to be an exciting one as the financial strength remained invariable with revenues growing only by 16% and investments dropped by 48%. The industry could not halt the falling ARPUs that are standing at US$ 2.5, showing a drop of 20% from that of the last year. Although companies like Telenor and Ufone kept on investing more than their competitors, but to keep ARPUs constant is still a challenge for all the operators. Out of all the 5 mobile operators, only Ufone registered profit of Rs. 1.7 billion during 2008-09, and the rest of the companies recorded financial burden due to heavy running expenses including power expenses, rupee depreciations and employees' emoluments etc. For the first time ever, job cuts had also been announced by the operators. The stakeholders [regulator, operators etc.], however, have taken several measures, which may help the sector regain health in the coming years. On a request by the PTA, the government, in the current budget, has provided tax relief to the sector where Activation tax has been reduced by 50% and import duty and regulatory charges on import of mobile handsets have been reduced by about 67% [For details see Chapter - 3]. Reduction in mobile termination rates by the regulator will also go a long way in improving the current economic situation of the industry. MNP, which was introduced by the regulator two years back, is also becoming popular as subscribers do not have to stay forcibly with one operator. The services like 667 through which subscribers can check connection against their name is another measure taken by the regulator to improve the sector.

The mobile operators including Mobilink, Telenor, Warid and Zong are also making efforts to provide their services in rural and interior areas of the NWFP and Balochistan. These companies are jointly working with Universal Service Fund for provision of telecom services

to the areas where telecom access is not yet available. The new mobile policy, which is expected to be made public in the current year, would also bring improvement to the telecom sector. The long-awaited 3G licensing may also be finalized this year, which is likely to prove a breather for the mobile subscribers.

As for competitive environment in the sector, there is intense competition among all 5 operators. Since the market shares of all the operators have marginal difference and the gap between the market leader (Mobilink) and the rest of the operators is rapidly narrowing, the companies are now getting into a price war, whereby undercutting each other for Voice and SMS services is resulting into higher financial burden on the companies. The operators have come to launch a range of value added services like Mobile banking, Mobile Internet, Music Library, Utility Bills Payment, Stock Market Updates, Voice Messaging, GPRS services, etc. that would help industry to improve ARPUs.

The regulator, operators and the Government, in their own respective spheres, have been taking care of the mobile subscribers in Pakistan. The steps taken by these three are bringing value added services, increased accessibility, better quality, lower tariffs and better value for money. PTA has estimated that cellular mobile subscribers would cross 102 million by 2011 in Pakistan.

Mobile Penetration

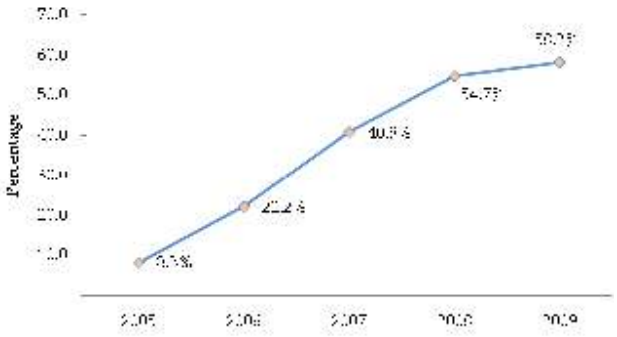
Cellular Mobile is the only segment that showed an encouraging growth pattern during a tough year [2008-09] for Pakistan telecom sector.

Mobile operators kept on expanding their service areas, and new subscribers also continued to join the networks. Today, the total mobile penetration stands at 58.2%, showing a growth of 6.4% this year. As the companies had been aggressively expanding their networks and offering attractive packages during the past two years, the average growth remained more than 50%. In the reported period, however, international financial turmoil and saturation in metropolitan areas caused less increase in penetration. Nevertheless, if the mobile penetration in Pakistan is compared to that of the regional countries including India, Sri Lanka and Bangladesh, Pakistan remains far ahead of them. Table - 5 shows a comparison of mobile penetration between Pakistan and regional countries during the past three years.]

Table - 5
Regional Countries Mobile Penetrations (2007-09)

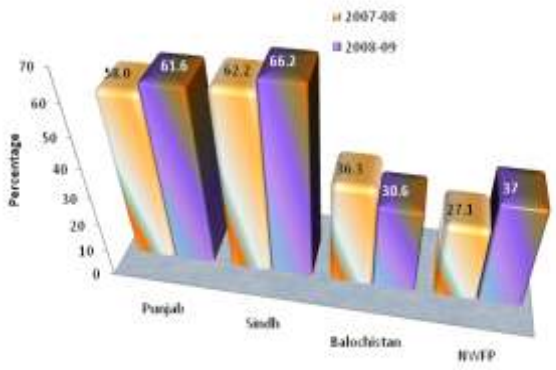
Countries	2006-07	2007-08	2008-09
Malaysia	-	87.8	100.8
Pakistan	40.1	55.6	58.2
Sir Lanka	21.5	-	55.24
India	11.3	20.7	37
Bangladesh	19.83	24.9	27.9
Nepal	5.26	-	15.4

Figure - 11
Cellular Teledensity in Pakistan



The mobile services remained more popular in Sindh and Punjab with almost 66% and 62% mobile penetration respectively. The NWFP has total penetration of 37%, while in Baloch-istan, the penetration remains 31%. During the year, the penetration in Punjab, Sindh and NWFP increased by 6%, 6.4% and 37% respectively, where-as Balochistan suffered a negative growth of 16% due to poor security situation and relatively lower buying power of the people. The security situation in the NWFP too remained worst during the reported year, but it was expansion in networks by the telecom operators that signif-icantly increased the penetration.

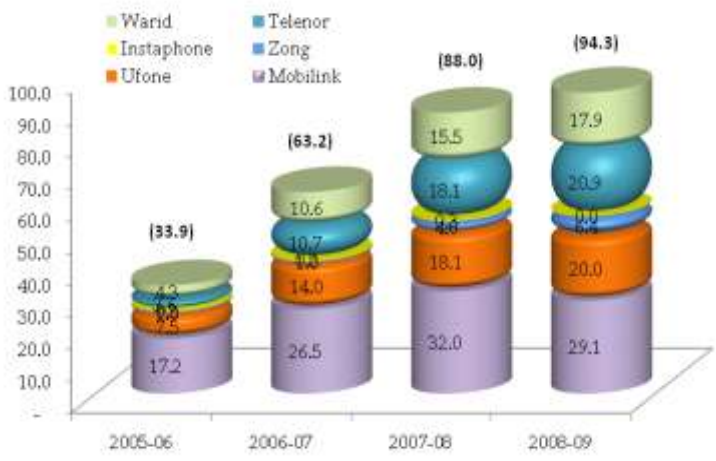
Figure - 12
Mobile Penetration by Province



Mobile Subscription

In 2008-09, the cellular mobile companies in Pakistan added over 6.3 million subscr-ibers, while the previous year, the addition was about 25 million, suggesting that the subscription grew by 7% this year, but it was over 39% in 2007-08. Saturation in the market, Economic slowdown and heavy taxes could be major reason for this slow growth which the added mobile acquisition costs.

Figure - 13
Cellular Subscribers by Company



Note: including AJK & NA

During the reported period, Mobilink continued to remain at top in the Pakistani mobile market with 29.14 million subscr-ibers. Followed by Mobilink, there were Telenor and Ufone competing fiercely for the 2nd position with 20.9 million and 20.0 million subscribers respectively. Both the companies registered a subscriber growth rate at 16% (Telenor) and 11% (Ufone) correspondingly; however the growth in subscribers of Telenor (69%) in the preceding year was much higher than that of Ufone (29%). Warid ended this year with a total subscriber base of 17.8 million,

indicating 15% growth. In order to make its place in an already heated market, Zong had been working very hard during the year and reported a subscriber base of 6.4 million showing a growth rate of 64% in 2008-09.

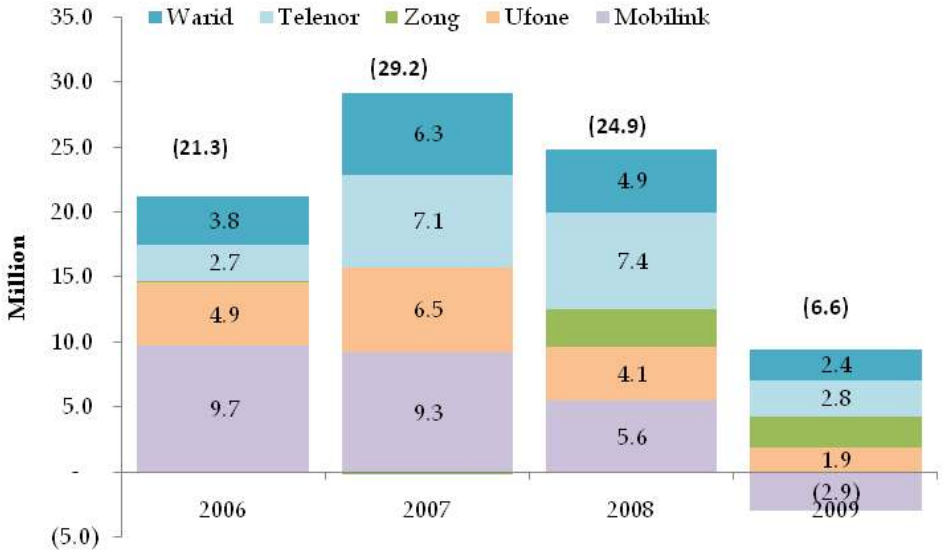
Postpaid Vs Prepaid

In 2008-09, the trend in subscription remained to be heavily tilted towards prepaid subscription, as there were only 2% postpaid subscribers against 98% prepaid subscribers. At present, there are more than 92 million prepaid subscribers and 2.3 million postpaid subscribers in the country. While analyzing the data, it was learnt that Mobilink has given maximum postpaid connections i.e. approximately 0.5 million, followed by Ufone having 0.4 million postpaid subscribers. As there is inherent economic and cultural setup in Pakistan, people prefer prepaid connection. However, postpaid connection can bring a lot of advantages to the operators in terms of fixed revenue stream, documented connections and better subscriber analysis. The only difficulty in a postpaid connection is that of bill payment. But even that is now taken care of with the innovative idea introduced by Zong, under which minutes are bought before use.

Net Addition

As for net additions in the subscriber base, the sector added more than 6 million subscribers during 2008-09. However, the leading mobile operator, Mobilink faced a set back and lost almost 3 million subscribers in 2008-09. The main contributor to this net increase was Telenor, which added about 2.8 million subscribers, while Zong and Warid added 2.4 million each during the last year. Ufone had a net addition of 1.9 million. However, during the past few years, Mobilink and Telenor had been adding more than 7 million subscribers as average to their networks.

Figure - 14
Cellular Subscribers Net Addition by Company



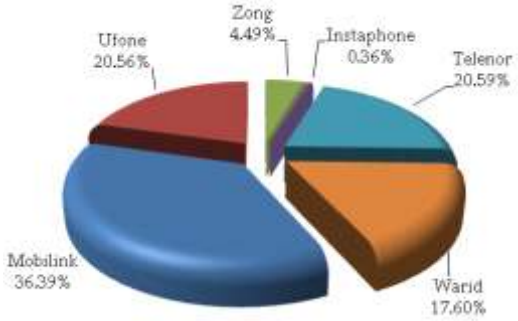
Market Share

In highly competitive sector, market share is termed to be a strong parameter to show degree of competitiveness in the sector. For a long time, Mobilink remained the market leader with a significant difference, both in terms of subscribers and revenues with rest of the operators. The PTA also declared Mobilink as an SMP operator in the mobile market. However, with new operators settling in and addition of ZONG in the local market has changed the market share structure, though Mobilink still holds highest share. Now subscribers have more choice, better options and attractive facilities like MNP. Thus, the companies are adding new subscribers, but at the same time they are also losing the existing subscribers in favor of other operators.

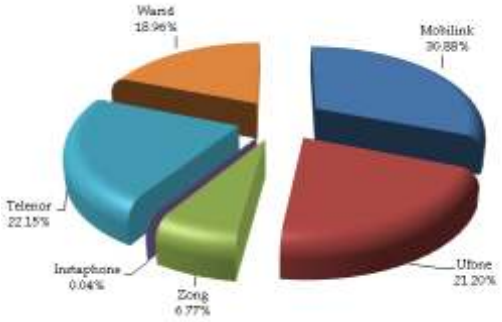
Figure-15 shows share comparison of each operator in terms of total subscribers during 2007-08 and 2008-09. Mobilink lost its share by 15% this year whereas the rest of the operators show increase in their market share. Telenor has the second highest share in the market (22.2%) in terms of subscribers followed by Ufone (21%) and Warid (19%).

Figure -15
Cellular Subscribers Market Share

2007-08



2008-09

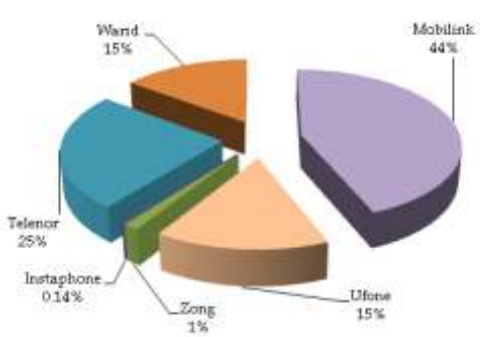


Analyzing the market share of each operator by revenue (Figure - 16), Mobilink remained the leader, again followed by Telenor and Ufone. During the reported year, all the companies lost their share in total revenue of the industry except Ufone and Zong as their shares appreciated from 15% to 19% and 1% to 4% respectively.

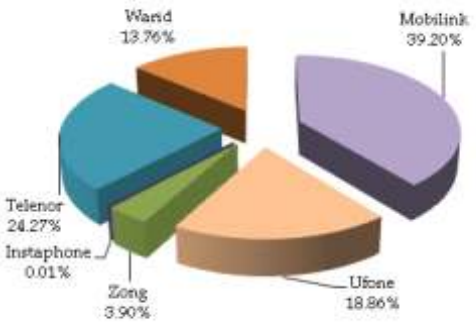
As for revenue, mobile cellular segment has

Figure - 16
Cellular Revenue Share by Company

2007-08



2008-09



Mobile Market Financials

Revenues

a major share of 64% in the total revenue of telecom industry. Today, the total revenue of mobile segment stands at Rs. 212 billion. Although there is an increase in the revenues by 16.6% this year; but the last year, the growth was over 40%. As far as financial health of the companies is concerned, it was noticed that only Ufone made profit of around Rs. 1.7 billion, and the rest of the companies faced losses. Double digit inflation and taxes could be major reason besides other factors mentioned earlier. Particularly the rising petroleum prices along with power shortage and high advertising costs put extra burden on operators expenses. Among the operators, Zong performed exceptionally well in terms of increase in revenue, where the company's revenue grew three times of its actual revenue of the last year. Ufone exhibited improved growth of 45% in its revenue. Warid, Telenor and Mobilink's increase in revenue remained slow and steady during the reported period. As for Ufone's financial health, the company seems to be in total control of its finances and it is managing its financial resources very prudently.

Investment

Pakistan has been an investors' heaven especially for telecom sector for a few years. The investor friendly environment makes the country home to world telecom giants like Orascom, Telenor, Warid Telecom (Abu Dhabi Group), Singtel and the latest addition of China Mobile. These companies had been investing heavily in rolling out their networks with a pace that more than 90% of Pakistan has been provided with telecom facility within just three years.

Although the reported year did not prove to be very exciting one for the operators, and the total investment decreased by 48% but the operators are taking it as a temporary setback. Even in such a discouraging situation, the companies like Zong and Ufone have increased their investment in the reported year. Zong plans to invest US$ 500 million more or so in the coming year to roll out the infrastructure all across the country. We hope that investment in the sector will further increase with the introduction of 3G. While looking at individual investments,

Table - 6
Cellular Mobile Revenues

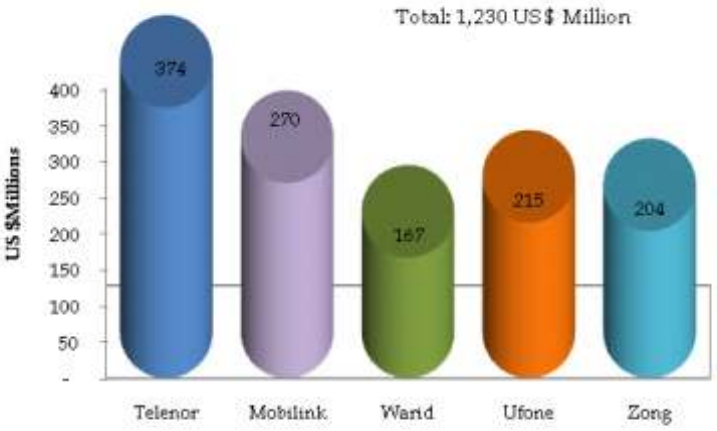
Company	2005-06	2006-07	2007-08	2008-09
Mobilink	54,065	64,654	79,936	83,271
Ufone	16,098	21,867	27,455	40,060
Zong	3,329	2,897	2,585	8,274
Instaphone	1,539	472	260	24
Telenor	6,338	22,837	45,081	51,561
Warid	8,527	20,405	26,805	29,233
Total	89,896	`133,132	182,122	212,423

Table - 7
Cellular Mobile Investment

	2006-07	2007-08	2008-09
Mobilink	590	919	270
Ufone	232	174	215
Instaphone	9	0	-
Zong	570	200	204
Telenor	762	565	374
Warid	422	480	167
Total	2,585	2,338	1,230

Mobilink has substantially cut down its investment to more than 70%, followed by Telenor and Warid reducing investments up to 33% and 65% respectively. The major contributor to the total investment made in the mobile segment turned out to be Telenor with a total of US$ 374 million.

Figure - 17
Cellular Mobile Investments



Average Revenue Per User

Until recently, the mobile operators in Pakistan enjoyed handsome ARPUs; however, for the last couple of years especially after the global trend, the domestic ARPUs have been falling sharply. Today, the industry's ARPU stands at 2.48 US$ per month. Majority of the prepaid connection holders are low-income users.

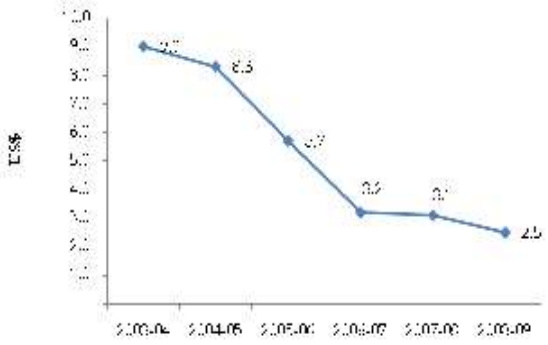
Table - 8
ARPUs by Company (2009)

	Voice ARPU	Data ARPU	Other ARPU	Total
Mobilink	2.85	0.20	-	3.04
Ufone	2.00	0.20	-	2.20
Instaphone	0.08	-	-	0.08
Zong	0.17	0.17	1.19	1.52
Telenor	2.14	0.15	0.51	2.80
Warid	1.41	0.17	0.25	1.83
Total	2.07	0.18	0.23	2.48

They tend to be heavy users of voice rather than data services, thus resulting into low ARPUs to the operators. As the operators have heavily invested on networks in Pakistan and higher voice usage is not sufficient for improving ARPUs, the operators have to focus more on value added services for better returns. Unfortunately, Pakistani mobile users generally use basic non-voice, SMS service, which is not a major revenue generation activity. With the introduction of more non-voice services like mobile banking, mobile music and culture- based services like Quran recitation, the ARPU can be increased. The non-voice ARPU would hopefully show positive signs in the future, which would help improve the industry's ARPU.

Mobilink has the highest ARPUs of US$ 3.04, followed by Telenor with US$ 2.85 and Ufone with US$ 2.20. As for Data ARPU, Mobilink and Ufone have maximum data ARPUs, whereas Warid and Zong stand at number two with US$ 0.17. These companies are believed to be providing more value added services and better SMS packages.

Figure - 18
Cellular Mobile Average Revenue per User



During the past two years, the industry ARPUs were stable; however, in 2009, they dropped from US$ 3.1 in 2008 to US$ 2.48, showing a decrease of 20%.

Taxes on Telecom Sector

Mobile cellular sector is a major contributor to the government's total tax collection from telecom sector. Over the past few years, this tax collection continuously increased. In 2008-09, however, the mobile sector contributed about Rs. 82 billion - around 73% of the total tax from telecom sector- showing an increase of 4%, but in the preceding year, the increase had been recorded as 25%. Taxes including GST and Withholding tax improved during the reported period, i.e. about 10% and 20% respectively, but a dip in Activation tax was witnessed where total activation tax collected remained Rs. 14 billion, as compared to the previous year's Rs. 19 billion, indicating a drop of 26%.

declining trend in tax collection growth and hot pursuit by the PTA, the Government reduced the Activation Tax from Rs. 500 to Rs. 250 per new connection, while FED / GST rates were brought down from 21% to 19.5% in the budget of 2009-10. The regulatory duty on mobile handsets imports has been reduced from Rs. 500 to Rs. 250 per mobile handset, while Regulatory duty on mobile handsets has been abolished. It is expected that tax collection will improve with such measures in coming years.

Network Coverage

Cell Sites

Intense competition, minimum tariffs and reduced investments by the operators could have resulted into less network expansion

Table - 9
Taxes by Cellular Mobile Industry

Rs. Million

	2004 - 05	2005 -06	2006 -07	2007 -08	2008 -09
GST	9,872	18,770	28,324	36,793	40,150
Activation	7,577	11,398	17,579	19,189	14,134
Withholding	4,470	8,584	17,438	23,386	28,002
Total	21,919	38,752	63,341	79,368	82,286

Ufone Activation Tax and Withholding Tax figures for Quarter ending June 2009, are estimated based on last three quarters statistics. Instaphone is not included

The decrease in activation tax collection is mainly attributed to saturation in market and slow increase in net addition of the subscriber base, [by 7%]. The imposition of Rs. 750 custom duty and regulatory duty on per mobile handset discouraged the mobile handsets imports and increased the mobile acquisition cost. Keeping in view the

in the country; however, contrary to that, all the operators continued to increase the number of cell sites and extend coverage across the country. Although there were some areas in the NWFP and Balochistan almost prohibited for the operators to install their BTS, but the companies quite courageously kept on increasing their cell

sites by sending their vendors to install BTS in high risk areas for the provision of telecom services to the locals of those areas. By the end of the reported year, there were 28,124 cell cites in the country, while the previous year, the number stood at 21,518, thus showing a growth of 31%. Mobilink has maximum cell sites (7,903), followed by Telenor having 6,088 cell sites all across the country. In a short span of time, Zong has erected 4,341 cell sites. With a strong encouragement by the PTA, the operators have now started sharing the cell sites, which helped the operators to install maximum cell sites during this period, ending up at 7,903 cell sites erected in a year's time, followed by Telenor (6,088) and Ufone (4,893).

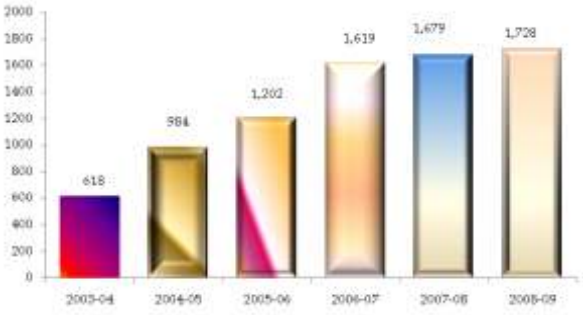
Table - 9
Cell Sites by Operator

	2006-07	2007-08	2008-09
Mobilink	5,522	7,339	7,903
Ufone	1,644	3,471	4,893
Instaphone	211	211	211
Zong	1,163	2,328	4,688
Telenor	3,255	5,017	6,088
Warid	1,930	3,152	4,341
Total	13,725	21,518	28,124

Franchises

To keep their presence in the local market, the companies kept on increasing the number their local franchises. By the year end 2008-09, there were 1,728 franchises of all the operators in the country, showing an increase of 3% from the last year. Since the launch of a new system of SIM verification, under which a SIM can be activated only through 789 facilities, the franchise expansion has slowed down. Mobilink has the largest franchise network with almost 429 franchises, followed by Ufone and Warid with 362 and 283 franchises respectively.

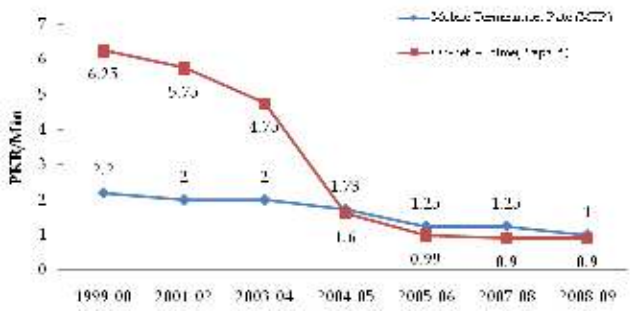
Figure - 19
Cellular Mobile Franchises



Mobile Tariff

De-regulation of the telecom sector brought about a sudden drop in tariffs as the intense competition from the new entrants (Telenor and Warid) forced the existing companies to reduce call charges. Thus, the decrease in Mobile Termination Rate (MTR) and on-net tariff has induced a cellular revolution in the country. The cellular companies are offering affordable and attractive packages on per second, thirty seconds and per minute basis to accommodate diverse needs of customers. In addition, a new concept of package-based talk-time and SMS bundles has been introduced, which allows a

Figure - 20
Cellular Mobile Tariffs



customer to buy a junk of airtime without using the conventional 'pay as u talk' methods. Apart from this, packages for different times of the day and night are being offered at discounted rates to improve the traffic volumes and revenue collections. Tariffs have declined to as low as Rs. 0.9 per minute in cellular mobile industry.

Conclusion

Pakistan's mobile cellular segment had been growing at a very fast pace; however, recently, the signs of slow down have indicated slow growth in subscriber base, penetration and revenues. The international research companies still consider Pakistan to be a lucrative market as there still remains a portion of unmet demand in certain areas. Sector has already shown signs of recovery.

Pakistan would hopefully cross the number of 102 million subscribers by the next two year. However, in order to address low ARPUs, the need to boost data usage has increased. The operators are putting in their best efforts to introduce data service, but the low local content availability and high low-income prepaid base is not allowing them to grow on data services. Hopefully, once 3G licensing is completed, the subscribers would be in better position to use enhanced data service on better speed, and the business community will be benefited largely from it.

Chapter - 5

Basic Services

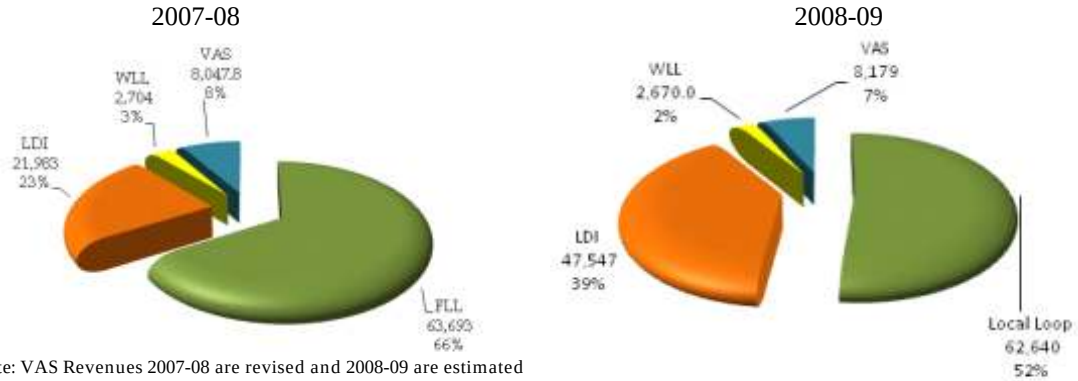
Overview

In 2003, Government of Pakistan deregulated telecom services and issued licenses for LL (Fixed and Wireless), LDI and VAS to a number of operators. As companies began to establish their networks across the country, cellular industry also took off at a fast pace, thus creating a fierce competition between the wired and the wireless services. The competitive environment ultimately facilitated the customers as tariffs lowered, quality of service improved and coverage areas widened. This began the era of growth in telecom services.

During 2008-09, basic services showed a healthy revenue growth rate of 26%, contributing Rs. 121 billion to the total telecom sector revenue which is around 36% of total telecom sector revenue. In 2008, this share was around 34%, thus showing a 6% increase. This growth is mainly attributed to growth in LDI segment of the telecom services, as Fixed Local Loop is grappling with inherent issues and WLL growth had not been very significant during the reported period as compared to the last year's growth patterns. Local Loop market has been going through tough times during the past few years due to number of issues including restructuring and revitalization of network. Although wireless local loop has been steadily growing over the years, fixed line services could not keep up with the increasing demands of quality and coverage. This poor performance by FLL has negated the positive effects of WLL growth in the overall Local Loop proliferation in the country.

Figure - 21 shows that Fixed Local Loop lost its stake in total basic services revenue by 14% this year, whereas LDI increased its share by 16%. Comparing to that of 2007-08, WLL market share slightly increased from 7% to 8%, while VAS decreased from 8% to 7%.

Figure - 21
Basic Services Revenue Share



Note: VAS Revenues 2007-08 are revised and 2008-09 are estimated

Decrease in VAS share in the total revenue of telecom services was primarily due to VAS facilities, now being offered by WLL and Mobile operators as well e.g. Internet.

PTCL still maintains its virtual monopoly in the fixed line sector despite introduction of many new FLL companies. Huge investments are underway for fiber deployment in rural areas of Pakistan.

In contrast, Wireless Local Loop (WLL) has been able to make its mark on the telecom industry by winning the customers' trust. Wireless service providers such as PTCL, Worldcall and Telecard have been able to penetrate into the market by offering viable business solutions in the form of PCOs. With a small investment and a suitable place, any common man could buy a wireless PCO and start business especially in rural areas where cellular revolution is yet to make a mark. Although WLL revenue share is the smallest in the basic services chart, it is a major contributor in the overall local loop subscriber base. With strong focus of companies on triple play services, the basic services will hopefully grow over time, especially in rural areas.

Long Distance & International (LDI) operators have been in quandary for the last few years due to high settlement rates and alarmingly high grey traffic. However, PTA took control of the situation initiating a number of steps in close coordination with LDI stakeholders. As a result, LDI sector experienced truly exceptional growth last year, as revenues increased, illegal traffic reduced and call rates improved. During 2008-09, revenue share of LDI in basic services jumped to 39% as compared to the last year's 23%. The project of Deployment of Monitoring & Reconciliation of International Telephony Traffic (M&RITT) has streamlined the traffic record, billing and detection / blocking of illegal IPs which had a huge influence in increasing the traffic volumes on LDI networks.

Fixed Local Loop

Fixed Local Loop is the one of the oldest means of communication in the country's telecom industry. Since Deregulation of telecom sector in 2003, a total of 84 licenses were issued to 37 operators for 14 telecom regions in Pakistan. It was expected that fixed line teledensity would increase, as PTCL would be forced to reduce the tariffs and improve its standards in lieu of intense competition in the market. However, this strategy could not mature due to delayed completion of roll out plans by the new entrants and enormous popularity of cellular and wireless sector. The Authority had been time to time pressing the new FLL licensees to roll out networks as per license requirements in the given period. It created a conducive environment for them to start services. However, after the elapse of over 5 years, the Authority reviewed the situation and issued show cause to 18 licensees for failing to complete the roll out obligations. After the hearings, the Authority cancelled / suspended 8 LL licenses, and extended the time limit of roll out for 10 other licensees on submission of valid reasons by them.

Subscriber Growth & Teledensity

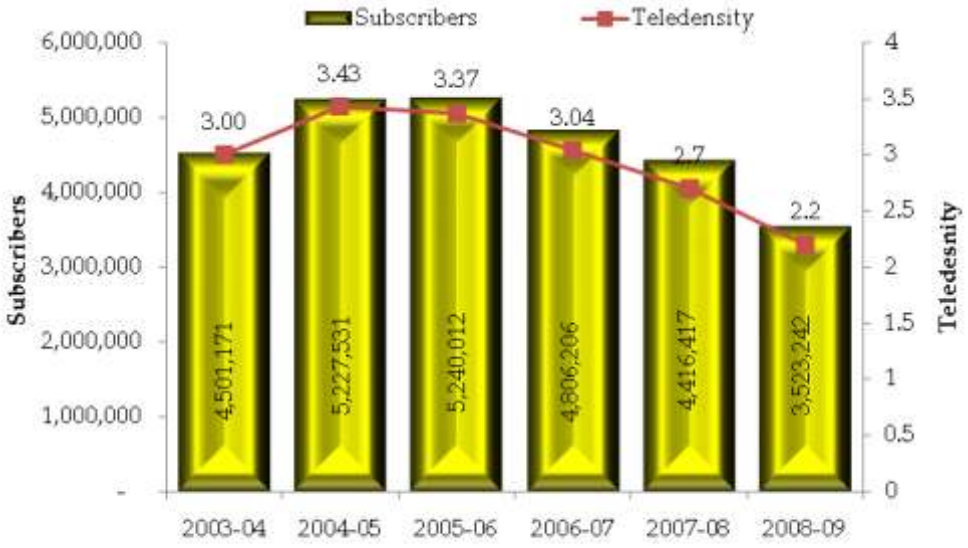
Fixed line services have been experiencing a declining trend world over and so is the case in Pakistan. In United States of America, telecom operators are witnessing

the decline in landlines at the rate of 70,000 per month. Analysts believe that currently about 25% of households in America rely entirely on mobile phones and this share could be doubled in next three years. Further it is estimated that if the decline of landline telephones in America continued at current rate, the last cord of fixed line phone will be cut sometime in 2025.

Pakistan is also witnessing a fast decline in fixed line subscription in last few years with the introduction of wireless based technologies in Pakistan which provide easy and cheap alternate of such services. Figure - 22 depicts the declining trend of fixed line services in Pakistan. In the current year, Pakistan lost over 893,175 subscribers reaching at 3.5 million at the end of June 2009 compared to 4.4 million subscribers of same period in last year. Fixed line subscribers decline by about 20% in the year 2008-09 while last year this loss was only 8%. It indicates that fixed line subscribers are clipping rapidly. The spillover effect of the loss in fixed line services could have negative pressure on the growth of DSL services in Pakistan which is a worrying point for regulator. More than 20% loss in fixed line phones also brought down the fixed line teledensity down to 2.2% from the last year's 2.7%. Although FLL segment of the industry has a huge infrastructure on its disposal yet the poor service quality offered by fixed line operator (mainly the incumbent) has forced the users to lose their trust in this media and to look around for cheaper alternates like cellular or WLL phones.

The incumbent holds the major chunk of fixed line services (96%) who is diverting its sources towards WLL networks and other services causing loss in fixed line in Pakistan. As mentioned earlier the new FLL operators could not make up loss of fixed line by the incumbent though some new FLL operators have initiated services in few metropolitan cities of Pakistan. Vastness of the country is another problem which makes fixed line networks expensive to run or improve.

Figure - 22
Fixed Line Subscribers & Teledensity

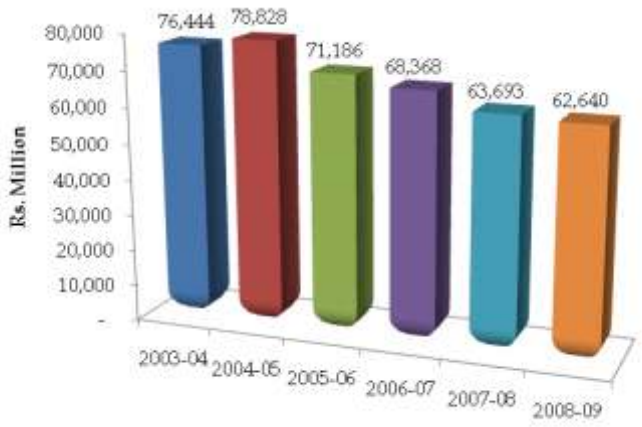


Financials

Despite sharp decrease in subscriber base, the fixed line sector's revenue remained steady as compared to the past few years. FLL industry reported a revenue loss of almost Rs. 1.1 billion last year, the least since 2004-05. This drop in revenue is mainly caused by the heavy loss incurred by the incumbent PTCL, which has overshadowed the increase in the total FLL revenue figure by other operators. FLL revenues have also been declining due to low investments by the operators.

Fixed local loop services have 19% share i.e. Rs. 62 billion, in overall telecom sector revenue in 2008-09. FLL contribution in revenue of basic services' has declined to 52% from 66% due to increasing revenue collections by LDI and VAS. This grave situation is being closely monitored by the PTA, and a number of initiatives like study on PTCL's performance in post privatization era and other regulatory measures are proving helpful to revive this important sector.

Figure - 23
Fixed Local Loop Revenues



Wireless Local Loop

Wireless local loop is an important part of Pakistan's telecom sector as it provides a feasible last mile solution for rural telephony due to relatively low cost of deployment and maintenance. Pakistan opened the WLL market in 2003 by awarding 93 licenses to 16 operators for 14 telecom regions across the country. The emergence of new operators has proved as an important factor development of WLL sector, as they are pushing the existing giants like PTCL, Worldcall and Telecard to improve their coverage and service standards. The falling quality of fixed line services is also paving the way for wireless solutions to capture the local loop market. Prepaid billing, SMS, wireless internet and variety of handsets are the main advantages of WLL companies as rural subscribers can enjoy these services as a viable alternative to fixed line services, which still lag behind in terms of rural penetration. Currently, 9 WLL operators are providing services to over 11,669 cities/towns/villages including AJK & NAs. WLL is a big hit, especially in rural areas where PCO is the easiest and cheapest way to start a business. Companies like PTCL, Telecard, Worldcall and PTCL have established their mark as major players in WLL market with Wateen, GreatBear, Link Direct and MyTel gearing up to stage a tough competition in the coming years. Wateen has launched its wireless business with strong marketing campaigns and attractive tariffs for tripleplay services.

Subscriber Growth & Teledensity

WLL industry has been growing at a rapid pace since its inception in 2004. During 2008-09, WLL subscriber tally reached 2.6 million from 2.2 million in the previous year. A total of 376,655 subscribers have been added by WLL operators showing a growth of 17%. Although the growth rate is less when compared to 32% in 2007-08, the performance of WLL has been convincing if factors like recession, cellular growth and security situation are considered.

WLL teledensity has also been steady last year where total WLL penetration level increased to 1.6% from 1.4% in 2007-08. Although WLL is ideal for coverage in far flung areas, slow roll out of services by operators in rural areas is diminishing the potential of wireless media.

PTCL is the leader of WLL market with 1.3 million subscribers. Although PTCL has added 117,259 subscribers with a growth rate of 10%, its share in the total WLL market has declined from 53% during 2007-08 to 50% this year. Telecard has shown laudable improvement by increasing its share from 21% to 24% during 2008-09. Worldcall slightly dropped its 22% market share of 2007-08 to 21% this year. Wateen improved its share as well ending at 3% this year from 1% during 2007-08. All other operators combine to form remaining 5% of the sector.

Network Growth

WLL operators have been expanding their network all across Pakistan mainly due to the success of WLL PCO's. Currently, there are 3,451 cell sites catering 2.6 million subscribers and covering almost 11,669 urban and rural areas. During 2008-09, a total of 544 cell sites added with a growth rate of 19%. Table – 11 shows the overall distribution of cell sites in Pakistan by all WLL operators. PTCL is the only operator, which provides the WLL facility all over Pakistan including AJK and NAs with 1,458 cell sites. PTCL provides its WLL services through brand name of "V-PTCL", which is a good alternative to PTCL landline service. Wateen holds the second spot with 971 cell sites, though it has a small share in WLL

Figure - 24
WLL Subscribers and Growth

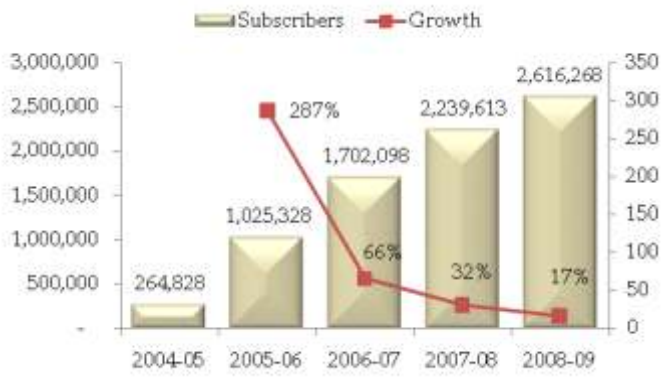


Table - 11
WLL Cell Sites June 09

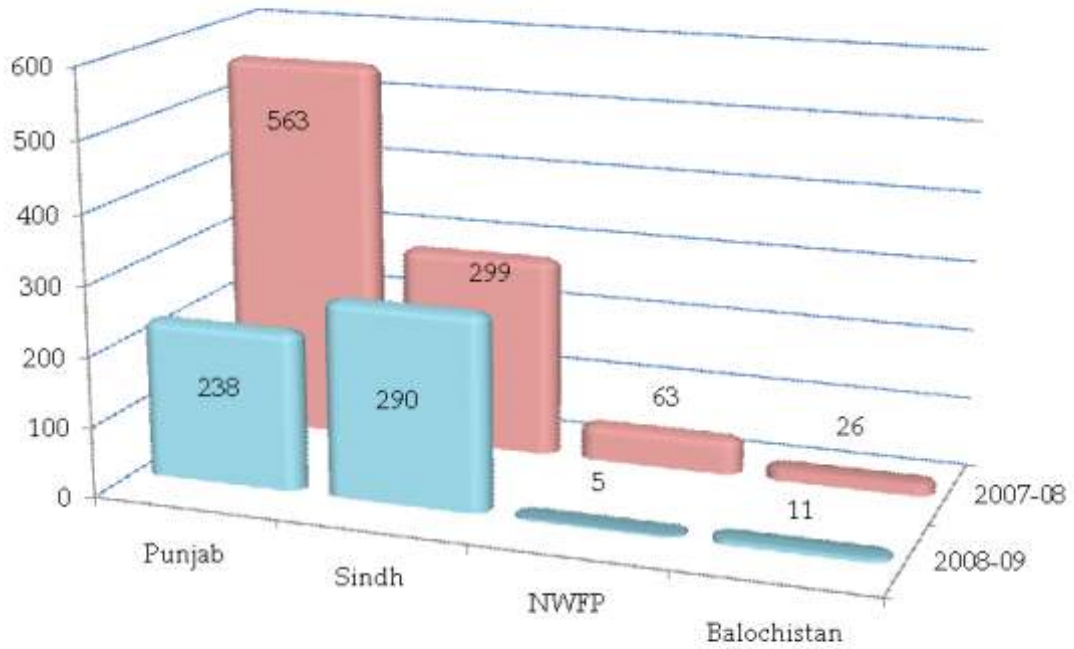
	Punjab	Sindh	NWFP	Balochistan	AJK	NA	Total
PTCL	808	329	222	89	7	3	1,458
Wateen	621	273	53	24			971
WorldCall	216	121	14				351
Link Direct	114	214	3	1			332
Telecard	152	120	14	9			295
Great Bear	42						42
Mytel				2			2
Total	1,953	1,057	306	125	7	3	3,451

market so far. Worldcall and Link Direct follow with 351 and 332 sites respectively. In terms of provincial network growth, figure – 25 depicts the comparison of number of cell sites added in all provinces in last two years. Punjab had been the leader in terms of cell sites addition in 2007-08 with 563 new cell sites but this year, Sindh holds the top spot with 290 new installations. Punjab being the most covered province is converging towards saturation; therefore, WLL operators have deployed only 238 new cell sites this year. NWFP and Balochistan could not acquire a substantial share of new cell sites due to ongoing military operation and precarious security situation, therefore during 2008-09, only 5 and 11 new cell sites have been installed in NWFP and Balochistan respectively as compared to 63 and 26 in 2007-08.

Long Distance & International (LDI)

LDI is an essential component of Pakistan's telecom structure as it has the responsibility of providing affordable and reliable media for worldwide telecom access. During the telecom sector's liberalization in Pakistan, 14 LDI operators were awarded licenses to carry international traffic to and from Pakistan. It was expected that LDI market would flourish because of a large number of Pakistani nationals working abroad, there would be a heavy traffic from the countries like Saudi Arabia, the UK, the USA, Europe and Middle East and the offshore IT business would also grow with availability of reliable media on cheap rates; however, high competition, deteriorating economic

Figure - 25
WLL Cell Sites



conditions and illegal traffic hampered the growth of this important sector. PTA took notice of the situation closely working with LDI operators to improve the scenario. The Authority launched "Monitoring and Reconciliation of International Telephony Traffic (M &RITT)" facility, which could automatically detect IP addresses involved in illegal termination and also block them. These initiatives combined with the PTA's successful raids against illegal operators all around Pakistan gave a new life to the LDI sector as revenues and traffic volumes reached a record high this year. Currently, there are 09 companies providing LDI services via 163 Points of Presence (POP's) all across Pakistan. The POP's have increased from 178 in the previous year to 189 for new installations of DVCom and expansions by Multinet, Wi-Tribe and 4B Gentle. Most of the companies have met the license condition of 14 POP's with Worldcall having 24 POP's.

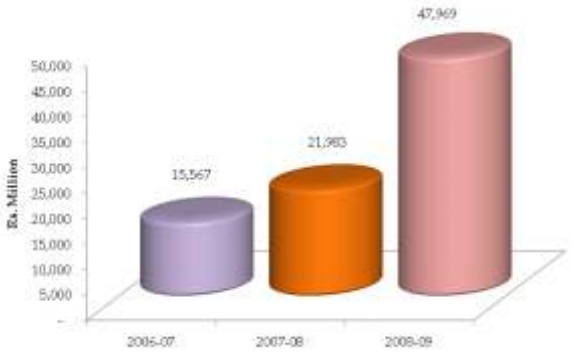
Figure - 26
Point of Presence by LDI Operators

*Note: CallMate POP's have been excluded due to termination of its license

During the year 2008-09, the LDI operators' revenues reached an all time high. The new LDI operators's revenues have reached Rs. 47.9 billion as compared to the previous year's Rs 21.9 billion, showing a remarkable growth of 119%. This remarkable increase is mainly attributed to reduction in gray trafficking due to the PTA's concerted efforts in deploying the monitoring facility along with Federal Intelligence Agency and Police. Figure – 27 depicts annual revenues of new LDI operators (other than PTCL) over the last few years.

The increasing trend of revenue growth finally reached its apex and consequently raised the share of LDI in basic services revenue. With net additions of almost Rs. 10 billion and Rs.6 billion respectively, Link Direct and Wateen were the leaders in terms of revenue growth. Worldcall and Telecard also reported extraordinary increase in revenue worth Rs.4 billion and Rs.2 billion net additions respectively. 4B Gentel and Wi-Tribe followed with an approximate revenue growth of Rs.1 billion each. Such an unprecedented growth in revenues is highly beneficial for LDI market as it attracts new investors and discourages illegal trafficking.

Figure - 27
Revenues by New LDI Operators



Traffic

The LDI operators carried a record amount of international traffic to and from Pakistan during 2008-09. Total international traffic (incoming and outgoing) reached 8.9 billion minutes in the year, which is 25% more than that of the last year.

International Outgoing traffic increased by 73% from last year and a total of 2.9 billion minutes were originated from local networks. All operational LDI companies showed positive growth in 2008-09. PTCL achieved a remarkable growth rate of 145% adding almost 600 million more minutes this year. Wi-Tribe, Wateen and 4BGentel indicated significant growth rates of 189%, 145% and 109% respectively. In terms of market share of new LDI operators in total international outgoing traffic, Wateen, LinkDirect, Wi-tribe and 4B Gentel were the major players with a combined share of 81%.

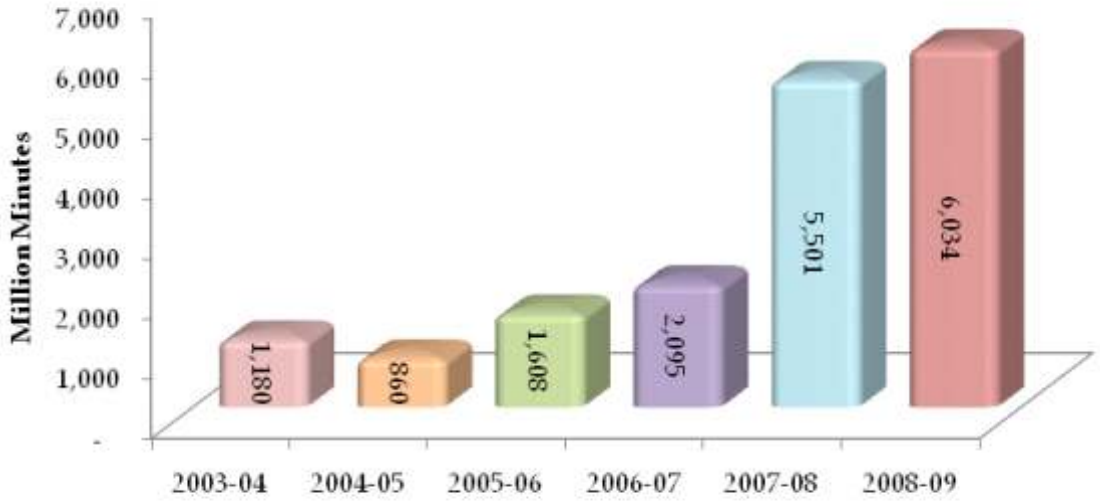
The incoming traffic to Pakistan stabilized due to massive crackdown against illegal operators across the country, and a steady rise is expected in the coming quarters in this regard. Figure–28 shows volume of total international incoming traffic terminated on fixed and mobile networks during 2008-09. Total international incoming traffic reached 6 billion minutes, as compared to 5.5 billion minutes in 2007-08. This shows growth of 9% in 2008-09,which is negligible when compared to 163% growth of 2007-08. Deployment of monitoring facility at PTA reduced the illegal traffic to a considerable extent this year but the high settlement rate balanced out the positive effects of reduction in gray traffic. Therefore, the overall incoming traffic volumes were kept at bay. PTCL leads the share in traffic by a clear margin in both mobile and fixed line termination of incoming traffic while World Call and Wateen proved to be leaders among new LDI operators. Telecard and Wi-Tribe are also emerging as important players in the total international incoming LDI market.

Figure - 28
International Outgoing Minutes by LDI Operators

Owing to relatively higher rate of call charges to Pakistan and low tariff offered by local companies for calls outside Pakistan, outgoing minutes tremendously increased. Attractive call packages offering low tariffs and longer talk times like PTCL's International Plus package coupled with PTA's helping hand took the LDI sector to a new height, and this trend is likely to continue in the days to come. One such example is PTA's improvement in settlement rates from $12.5 to US $10.5 cents per minute for calls to Pakistan, which will assist the incoming LDI traffic to a great extent.

Basic services have a huge role to play in Pakistan's telecom industry, as they form a one third of the total telecom revenue. In general, remarkable output of LDI has elevated the the sector's performance indicators in spite of dull performance by FLL and WLL services. The PTA has put in a lot of efforts to lend a helping hand to LDI sector by deploying monitoring facility and improving settlement rates. Similar concerted efforts are required to be taken to save the sinking ship of FLL, as importance of copper media cannot be ignored. For broadband proliferation, we cannot rely only on wireless networks, as fixed line sector remains an important tool in this regard. The PTCL has to perform the uphill task of reviving the sector by introducing revolutionary reforms on urgent basis and improving its infrastructure. Similarly, new LL operators have to increase investment levels especially in rural areas to inject some competition in the market.

Figure - 29
Total International Incoming Traffic



Chapter - 6

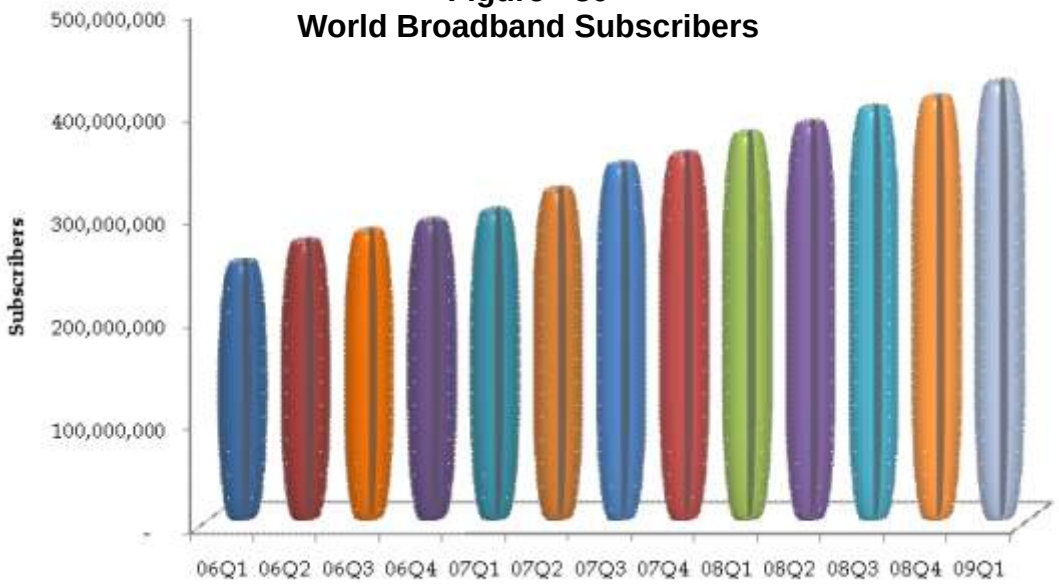
Broadband & Value Added Services

Global Overview

The advancements in telecommunication technologies have brought tremendous revolution in the conventional mechanism of information accessibility. Broadband has been one of the most penetrative and fastest growing phenomenon for information dissemination in recent times around the world. Latest wireless technologies like WiFi, WiMAX and EvDO, are catching up fast with the conventional wire line methods such as DSL and HFC primarily because they provide a competitive alternative to broadband wire line technologies in geographies that don't qualify for loop access. The inherent nature of wireless doesn't require wires or lines to accommodate the data / voice / video pipeline and can carry information across geographical areas that are prohibitive in terms of distance, cost, access, or time. Wireless technologies are no doubt emerging as excellent solutions for connecting distant and underserved areas. According to latest available statistics from Point Topic, there are 429.2 million broadband subscribers in the world as of March 2009 in comparison with 367.7 million in March 2008 which is a net addition of 61.5 Million subscribers with annual growth of 17%.

Figure - 32 shows broadband technology trends around the world. It is evident that DSL still maintains its lead in the technology share by 65% followed by Cable Modem (21%) and Fiber

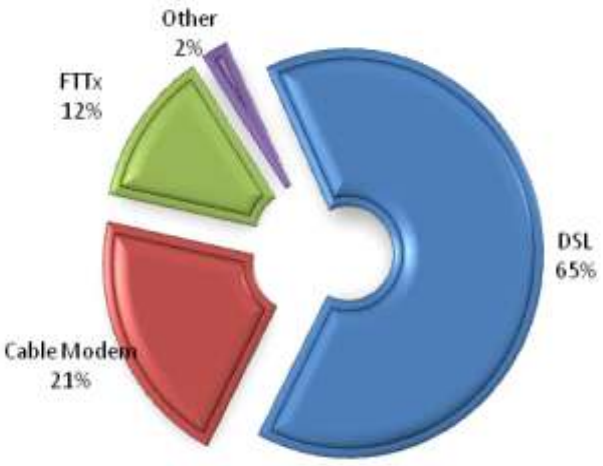
Figure - 30
World Broadband Subscribers



Source: Point Topic

(12%). However, operators around the world are also converging towards 'wireless' platforms like WiMAX as an efficient and robust alternative to fixed line technologies. A leading example of such trend is Pakistan where WiMAX has shown unprecedented growth in a short span of time.

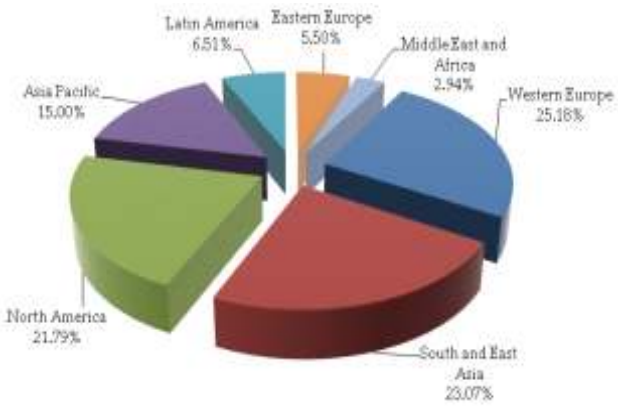
Figure - 31
World Broadband Subscribers Share by Technology (Till March 2009)



Source: Point Topic

Global leaders in the broadband market include China (88.08 million), USA (83.37 million), Japan (30.63 million), Germany (24.15 million) and South Korea (15.7 million). As highlighted in Figure - 32, regional broadband trends reveal that Western Europe has the highest share of subscribers with 25.18% followed closely by South and East Asia which stands at 23.07%. South East Asia is considered as most populous region of the world and at the same time according to Point Topic analysis, has the highest potential for future broadband growth as it has a major portion of population still not approached by the Broadband Stakeholders. It is estimated by Point Topic that global broadband subscribers will reach upto 695 million by the end of year 2013.

Figure - 32
World Broadband - Regional Subscribers Share (%) (Till March 2009)



Source: Point Topic

Broadband in Pakistan

Internet had been available in Pakistan for over a decade now mainly through dial up connections. With better awareness of keeping one's self “informed” of the happenings around the world, demand for speed and bandwidth kept on increasing day by day. Broadband made its entry in Pakistan during early 2000, followed by National Broadband Policy in 2004. PTA under its role of a regulator has been facilitating broadband entrant by devising 'lenient' license terms and conditions giving freedom to the operator in terms of selecting appropriate business model, technological choices and easy roll out plans. As a result, one could observe a rich market place both in terms of wired and wireless broadband technologies in Pakistan. These technologies are competing hard with each other to attain better market share. Though in parallel with global trends, DSL and Cable modem capture a prevailing market share,

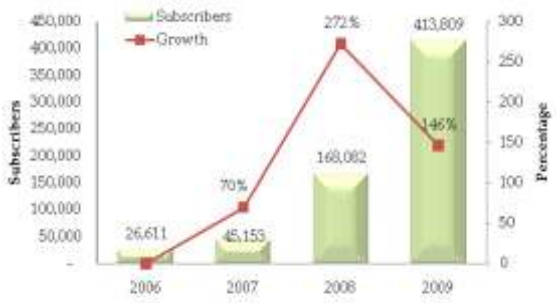
however, the recent growing trend of shifting to wireless solutions is paving way for a new dimension which will help in declining the dependency on wire line infrastructure. Analysts and telecom experts foresee that this healthy competition not only provides the operators with freedom of choice in terms of technology dependence but will also ultimately benefit the end users by bringing down the tariffs and improving the quality of broadband services in Pakistan.

Cost of service has been the biggest barrier to the growth of broadband service in Pakistan. With only a few broadband service providers in the country, competition level was low and tariffs were high. As PTA opened the arena for new entrants, market focus suddenly shifted to new technologies and lower tariffs. Once a forgotten entity, Pakistan suddenly rose to top 5 countries in the world in terms of subscriber growth during 2007-08[1]. PTA as a regulator is ensuring that this upward trend of growth continues by injecting positive reforms into the industry on periodic basis. Formation of Broadband Stakeholder Group (BSG) and active involvement in broadband policy review has strengthened the market. PTA also being a member of Universal Service Fund (USF) board is working closely with USF authorities to devise revolutionary projects for broadband development especially in rural areas. Board of Directors of USF, in the 13th Board Meeting, held on August 28, 2008, gave the approval to launch the programme 'Broadband in un-served urban areas of Pakistan'. Billions of rupees have been allocated for this particular programme which shall cover 6 telecom regions divided into two phases. Telecom regions of Faisalabad (pilot project), Hazara, Multan, Gujranwala, Central and Southern areas shall be provided with broadband connectivity for which PTCL, Wateen and Worldcall have been awarded contracts for provision of broadband in these remote areas. USF projects also include establishment of Educational and Community broadband centers in the project areas.

Broadband Growth

Pakistan has been experiencing astounding proliferation of broadband in the past two years. Broadband subscriber base grew by 146% adding 245,727 subscribers during 2008-09. There are currently 413,809 broadband subscribers in Pakistan as compared to 168,082 in June, 2008. PTCL, Wateen and WorldCall are major players in the Broadband market of Pakistan having a combined share of over 79%. PTCL leads the race by adding almost 148,000 DSL subscribers showing 248% growth rate in the previous year. Although Wateen added 46,804 subscribers in the previous year, its growth rate is almost similar to PTCL which proves the success of wireless broadband technologies. This growth trend depicts the

Figure - 33
Broadband Subscribers (June - 2009)



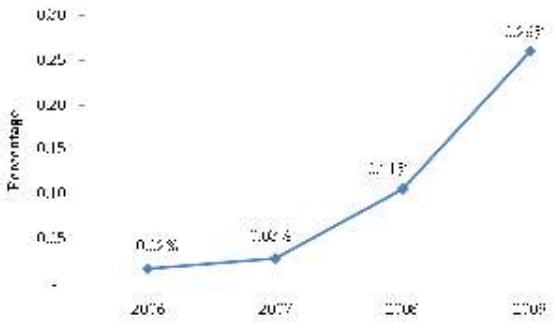
[1]PTA Annual Report 2008

fierce competition among the DSL and wireless technologies which is a healthy sign for broadband proliferation in the country. With the expansion of fixed line and wireless technologies, it is believed that the broadband penetration levels of Pakistan will increase over time as well. An estimate by Business Monitor International reveals that Pakistan's broadband subscribers will reach up to 21 million by end of 2013.

Broadband Penetration

Broadband is still an emerging technology rather than an established industry in Pakistan, therefore, its penetration level is very low. Currently, Pakistan stands at only 0.26 % in terms of broadband penetration. It may seem a negligible number but it is encouraging to see that the broadband adoption rate is rising exponentially. The reasons for low penetration include the focus of operators on big cities rather than rural areas, low literacy rate, lack of local content and applications and deteriorating standards of fixed line parameters. PTCL owns the biggest broadband coverage area with DSL available in more than 167 cities. Resultantly, PTCL has the highest share in broadband market. It is imperative from this example of PTCL that broadband penetration is directly related to the network expansion of broadband operators. The more the coverage, the higher the penetration level.

Figure - 34
Broadband Penetration



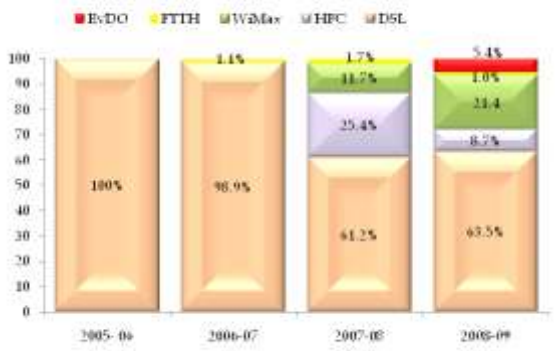
Source: Wateen & PTCL Student Package

Broadband companies are investing heavily in product marketing and promotional campaigns to attract more customers. Broadband connection charges for 1Mbps connection dropped below Rs. 1000 / - for the first time in history which is a great incentive for new customers. Mobilink has also started broadband services via its brand “Mobilink Infinity” in Karachi which has been an instant hit in the city. Emerging companies like Wi-Tribe are even offering free trial periods of up to seven days to catch the attention of potential customers. Intense competition in the market is also compelling the companies to broaden their scale of advertisement in print and electronic media and improve quality of service. Another benefit of this competition has been the reduction of Customer Premises Equipment (CPE) charges which shall be a huge factor in wireless broadband proliferation in Pakistan.

Broadband Technologies in Pakistan

Pakistan has been a lucrative market for broadband service providers owing to the huge potential it offers especially in the wireless broadband market. Figure – 35 shows a profound view of broadband technology evolution of Pakistan over the years. DSL ruled the broadband market of Pakistan since 2007 due to an established fixed line infrastructure by incumbent,

Figure - 35
Broadband Subscribers Share by Technology in Pakistan
(June - 2009)



PTCL. HFC and WiMAX broke the monopoly of DSL by getting a combined chunk of almost 37% in the market in 2007-08. The scenario changed again this year when WiMAX truly established itself as a viable wireless broadband solution and EvDO made a promising start in the market however, HFC has declined sharply due to introduction of new technologies. Detail of broadband technologies in Pakistan along with major operators is given in ensuing paragraphs:-

Digital Subscriber Line (DSL)

DSL is a family of technologies that provide digital data transmission over the wires of a local telephone network. It is a powerful tool for fast information transmission; however, its popularity is highly dependent on the quality of wire line infrastructure in the country. Poor QoS standards and customer services are hampering the growth of DSL and clearing the way for other technologies.

In accordance with the global trend, DSL leads the market share of Pakistan as well. Out of 413,809 total subscribers, DSL has a colossal 64% market share with 262,661 subscribers. The main reason for this enormous success rate is due to PTCL's domination in fixed line service. DSL technology has been offered by PTCL for a long time and more than 76% of DSL subscribers belong to PTCL. Link dot net and Worldcall are catching up by offering affordable tariffs and attractive packages.

Worldwide Interoperability for Microwave Access (WiMAX)

WiMAX is a telecommunications technology that provides wireless transmission of data using a variety of transmission modes, from point-to-multipoint links to portable and fully mobile internet access. The technology provides up to 3 Mbit/s broadband speeds without the need for cables. Pakistan holds the unique honor of having the first commercial roll out of WiMAX based network in the world by Wateen Telecom (Pvt) Ltd in December, 2007. Since its arrival, WiMAX technology has taken over the Pakistan market by storm and attracted almost 90,000 subscribers in a short span of time. The no-wire broadband solution is a huge incentive for customers as they can enjoy triple play services (CableTV, Voice and Data) without having to deal with three different companies. Mobilink Infinity has also started its service in Karachi using WiMAX offering voice and broadband solution in October 2008 and already established a 19,349 subscriber base. Most recently, Wi-Tribe has also commenced its services in Rawalpindi/Islamabad, Lahore and Karachi promoting its product via extensive media campaign and free trial periods.

Hybrid Fiber Coaxial (HFC)

HFC is a telecommunication technology being utilized mostly by CableTV providers. It allows optical fiber cable and coaxial cable to be used in different portions of a network to carry broadband content, such as video, data and voice. HFC share has been declining over the past years due to introduction of better technologies like WiMAX, EvDO, FTTx and no significant competition in the market. HFC holds a 9% share in the broadband market as compared to 25% in the 2007-08. Worldcall has been major the player in CableTV with almost 30,000 subscribers while Wateen also jumped in with its own HFC network and added 6,562 subscribers till June 2009.

Evolution-Data Optimized (EvDO)

EvDO is a telecommunication standard for the wireless transmission of data through radio signals, typically for broadband Internet access. EvDO is a relatively new technology which is showing a potential for becoming an instant hit as it has already gained a 5% share in the broadband market of Pakistan. Since its commencement, EvDO has been met with tremendous response by the broadband customers as it provides the ultimate facility of "Mobile Broadband" which means that you can be online anywhere at anytime even on the move.

Worldcall was the sole player in this technology providing wireless broadband access to the cities of Karachi, Lahore, Gujranwala and Sialkot. PTCL also launched its EvDO services in major cities around the country offering data rates up to 3.1Mbps. PTCL also guarantees an automatic switch over to its CDMA 1x network in case a subscriber enters a non-EvDO service area, thus keeping the promise of "always online" connection. With two big giants of the telecom industry providing the same technology solution, a fierce competition is expected which would eventually benefit the end customer.

FTTH (Fiber to the Home)

FTTH is a broadband technology that uses optical fiber to replace all or part of the usual metal local loop used for last mile telecommunications. FTTH is a high speed connection capable of carrying huge IP traffic volumes. NayaTel has been providing Triple play Services (Voice, Data, and Video) via FTTH technology to customers for a few years now mainly in Islamabad. With PTCL planning for GPON networks in Islamabad, FTTH is gearing up to become a major entity in the telecom structure of Pakistan.

Broadband Tariff Comparisons

Cost of service has been considered as a huge factor in the growth and success of any technological service. Broadband has not been an exception here and if we look into the past, primary reason behind a slothful growth in terms of broadband subscribers between 2002 – 2007 have been high tariffs. Adding more dilemma to this situation was low-competition which left the subscribers

with no choice but to pay extra if they wanted to enjoy broadband at home or business.

There had been substantial reduction in Broadband cost of service since 2007 onwards, after the incumbent jumped into the market followed by commencement of wireless broadband services by different operators. Therefore, with the introduction of new players in the market and growing demand of broadband connectivity, tariffs have been declining significantly over the past two years. DSL operators have been more inclined towards increasing the bandwidth rather than coming out with low price data limited packages. Although data volumes are unlimited in most of the packages, price still remains on the higher side which restricts a novice to broadband technology from "trying it out". If operators could come up with volume based-low cost packages, it would serve as an appetizer for new customers. Once they get addicted to the flavor of an "always on high speed broadband connection", they will yearn for more and automatically switch over to relatively high priced packages. Most companies segregate the DSL packages on basis of connectivity speed and vary the prices accordingly to cater for a more diverse range of customers. Most popular package of DSL i.e. 1 MB connection with unlimited data volume is being offered at almost the same price by main competitors like PTCL, Link dot Net, Micronet and Comsats.

Future of Broadband in Pakistan

Despite a very low penetration level of 0.26 %, future of broadband in Pakistan looks bright due to latest foray of local and foreign companies into the market, increase in technological choices for subscribers, steady decrease in service tariffs and general increase in Broadband awareness among the individuals and enterprises. PTA has been striving hard for broadband proliferation in the past few years by providing a conducive and level playing field for broadband companies. Soft license conditions and open market has been provided to companies for better marketing of their products. Formation of Broadband Stakeholder Group by PTA and effective involvement in broadband policy review are also helping the market. Moreover, PTA is in process of defining the KPI's for broadband QoS so that target penetration levels are met but not at the expense of quality of service. In this regard, continuation of industry, policy maker and regulator mutual coordination and collaboration is highly necessary for further growth as there is still a long way before Pakistan can achieve significant broadband penetration levels.

With broadband becoming a hit in metros, it is imperative for the local industry to produce local content and applications that would draw consumer interest and provide customer-centric online facilities. Developments in the field of e-commerce and online jobs can contribute extensively to the success of broadband. For example, if a customer can pay his bills or contact Government offices online, he would be more than happy to pay for a Rs. 1000 / -

broadband solution. Keeping this in view, there is a growing need of e-Government portals which will bring all the Government departments on one platform so that a citizen can contact the relevant authorities, download content/applications and monitor progress on his case.

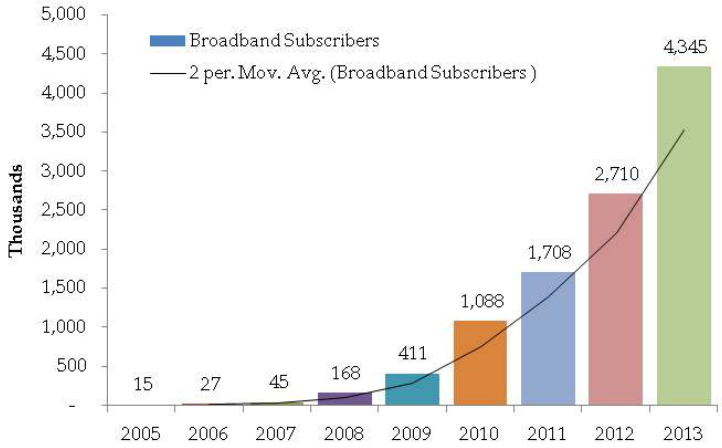
Universal Service Fund (USF) aims to provide broadband services to the far-flung areas of Pakistan through its magnum 'Broadband in un-served urban areas of Pakistan' project. USF Policy target to be achieved through this project is 1% broadband penetration at the end of the year 2010. This is an important step in broadband proliferation in rural areas and successful completion of this project shall give an instant boost to the already growing broadband market of Pakistan.

PTA has planned a broadband subscriber survey to analyze the ground situation regarding actual figures of broadband users and its main area of success. The aim of engaging the services of a consultancy firm is to come up with a current multiplier factor that can be used and applied to the number of connections in Pakistan to derive an exact number of people who have access to broadband internet and are regular users of this service. This survey will help in devising a strategy regarding technology selection and potential areas of focus for operators.

It is estimated that there are approximately 19 million internet users in the country. Dial up is still a popular medium for internet access and it is essential that companies must work on converting these dial up users into broadband subscribers by offering affordable and low cost packages. Currently, the market practice seems to be concentrated on enhancing existing bandwidth rather than lowering down the cost of the existing package e.g. PTCL increased the bandwidth from 512 Kbps to 1Mbps while the package price remained at Rs. 1199/-, a trend which was followed by other operators as well.

With massive media campaigns and advertisement initiatives adopted by Broadband service providers, people are becoming more and more conscious of broadband usage and benefits. The sharp rise in popularity of wireless broadband technologies and already stable wire line platforms, this upward trend of growth is expected to continue in times ahead. PTA estimates that by end of 2013, there will be 4.35 million broadband subscribers in Pakistan.

Figure - 36
PTA Broadband Estimates (000)



Value Added Services

Value added services have a considerable share in Pakistan's telecom sector. Under the new licensing regime, all value added services have been classified under the Class Value Added Services (CVAS) license category. The CVAS category includes licenses for card payphones, internet, vehicle tracking system, burglar alarm, video conferencing etc. The VAS holds a substantial share in revenue in the basic services sector due to increasing popularity of internet, usage of PCOs and VTS subscribers.

Card Payphones

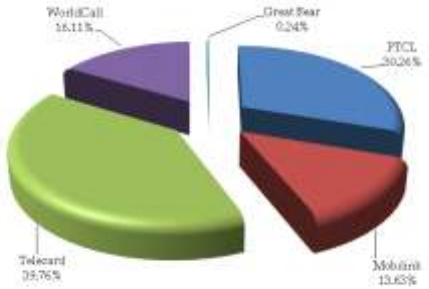
Card payphone service has been a part of Pakistan's telecom engine for decades. In its early days, the market was dominated by PTCL and Telecard,which provided prepaid card services to the people across Pakistan. With the advent of de-regulation in 2003, new CPP companies emerged opening the market for a tough competition. Hard competition coupled with remarkable growth of cellular industry translated into financial crippling of CPP companies, a situation which a lot of newcomers could not cope with. As a result, only a few big companies are dominating the CPP market these days.

Figure – 37 depicts topsy-turvy picture of CPP growth over the last few years in Pakistan. Currently, there are 405, 359 PCOs all over Pakistan, as compared to 449,121 during the last year. This shows a negative trend of 9.7%, first time in the CPP history of Pakistan. The main reason for this downfall is availability of affordable tariffs by cellular companies, low cost of mobile phones and cellular coverage across Pakistan.

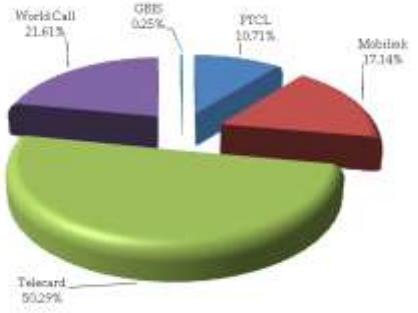
Figure - 37
PCOs and Growth

Figure - 38
PCO's Share by Company

2007-08



2008-09



In terms of market share, Telecard emerged as the leader with more than 50% share of PCOs up from 40% last year. Worldcall trailed with a 21.6% market share showing a net increase of almost 5% share as compared to the last year. Mobilink also increased its share by 4% standing at the third spot with 17.1% market share. PTCL was the only significant casualty in the sector for losing almost 20% of its market share from that of the last year.

VAS growth has also been stagnant as CPP companies are finding it hard to compete with cellular and other wireless technologies. CPPs' future lies with rural areas as they have a huge potential to offer in terms of small business opportunities.

Chapter - 7

Telecoms in AJK & NAs

Overview

Telecommunication Services in Azad Jammu & Kashmir and Northern Areas were launched in 1976 on the directives of the then Prime Minister, Zulfiqar Ali Bhutto. As the region had difficult terrain and extreme weather conditions, an army organization was considered to be a suitable company to efficiently operate there. Thus in July 1976, Special Communication Organization [SCO] was established to plan, develop and operate telecommunication network in AJK and NAs, and for about 24 years, the SCO has been providing telecom services to 3.5 million people of AJK and 1.5 million residents of NAs, thus covering a combined area of 158,289 Sq. kilometers.

Until the catastrophic earthquake of 2005, the SCO maintained its monopoly being the single largest telecommunication network provider in AJK as well as NAs, having extensive footprints of PSTN, GSM, CDMA and internet provision. However, later on, subsequent to the cabinet's decision for de-regulation of the sector in these areas in 2006, PTA issued licenses to certain cellular, FLL and WLL companies, hoping that the step would augment the government efforts to extend and access of affordable telecom services to the under served areas. Today, almost 82% of the area in AJK and NAs comprising 270 cities / towns and villages remains under the coverage of telecom service providers.

Regulatory Steps

WLL Frequency Auction in AJK & NA

PTA issued Wireless Local Loop (WLL) licenses for provision of cheap telecom services to maximum people in AJK and NAs. On November 28, 2008, WLL spectrum was auctioned for three telecom areas across AJK & NAs. In the bidding of spectrum in 3.5 GHz for Mirpur (TR-1), one block was taken by PTCL at the highest bid of Rs. 10 million, while other was withdrawn because there was no second bidder for the TR-1. For Muzaffarabad (TR-2), the PTCL offered the highest bid of Rs. 4 million followed by Wateen, which matched the price. For Northern Areas (TR-3), Wateen offered highest bid of Rs. 4 million, and the second block went to PTCL for the same price. In total, 26 million rupees would be collected from the auction of 5 WLL licenses in 3 regions.

Chairman PTA Dr. Mohammed Yaseen addressing the ceremony for Auction of WLL licenses for AJ&K and Northern Areas held on 28 November 2008. Member (Finance) PTA Syed Nasrul Karim A Ghaznavi also seen in the photo

Chairman PTA presided over the bidding while Syed Nasrul Karim A Ghaznavi, Member (Finance) was also present. The bidding was attended by representatives of telecom industry, investors, media men, telecom experts and professionals.

On the occasion, the Chairman PTA said that WLL was the wireless technology, which best suited to the environment in AJK and NAs, as the service had proved greatly useful in other parts of the country. He said that the people of low income groups particularly in rural areas would greatly benefit from the service. He expressed his gratitude to the telecom operators and the CEOs of telecom companies for taking keen interest in the bidding process, assuring them that the PTA would extend full cooperation to them in successful launching of their business.

Issuance of WLL Licenses for AJK & NAs

In lieu of the WLL frequency auction on 28th November, 2008, PTA awarded Wireless Local Loop (WLL) licenses to M/s PTCL and M/s Wateen for three regions of Azad Jammu and Kashmir (AJ&K) and Northern Areas (NAs) on June 3, 2009. The ceremony was presided over by Chairman PTA, Dr. Mohammed Yaseen while Member (Finance), Syed Nasrul Karim Ghaznavi, Member (Technical) Dr. Khawar Siddique Khokhar, senior officers of the Authority and representatives of PTCL and Wateen were also present.

The issuance of WLL licenses would augment the efforts of government to provide enhanced and affordable telecom services to the people of the AJK and NAs. This step is likely to capture huge investment in 3 Telecom Regions (TR) including Mirpur, Muzaffarabad and Northern Areas. WLL technology is best suits to the environments

in AJ&K and NAs as the service had proved very useful in other far-flung areas of the country. The people of low income groups in rural areas would greatly benefit from this service. PTA would extend full cooperation to the telecom operators in the successful operation of their business.

Provision of Telecom Services in Neelam Valley

To ensure access to the basic telecom services for the people of Neelam Valley, PTA has initiated the process of consultations with major operators of AJK and NA. Owing to difficult terrain and close proximity with the border, this area requires special efforts by the companies, and hopefully, telecom services will soon reach this farthest area of Pakistan as well.

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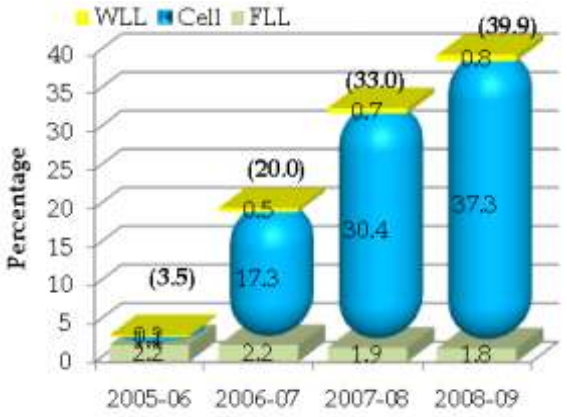
Teledensity

In AJK and NAs, teledensity remained considerably low uptill de-regulation of the services in 2007. With a teledensity of 3.2 percent in 2005-06, the region had been lagging far behind from the rest of the country in terms of telecommunication services. However, with the advent of cellular services in AJK and NAs, a rapid growth in teledensity was observed. At the end of fiscal year 2008-09, teledensity of the area stood at 39.9%. This shows a healthy growth rate of telecom services despite the fact that the new operators are still in their infancy. The cellular sector further

Figure - 39
Teledensity in AJK & NAs



Representatives of PTA, PTCL and Wateen are exchanging WLL license documents while Chairman PTA, Dr. Mohammed Yaseen, Member (Finance), Syed Nasrul Karim A Ghaznavi and Member (Technical), Dr. Khawar Siddique Khokhar are witnessing the event.

tightened its grip on the overall teledensity of AJK and NAs by showing 18% growth last year. The FLL further declined to 1.8% from the previous year's 1.9%, while the WLL penetration improved from 0.7% in 2008-09 to 0.8%. With the formal launch of the WLL services in November 2008, the new entrants are expected to bring healthy competition in the market, improving the FLL and WLL penetration levels to greater proportion.

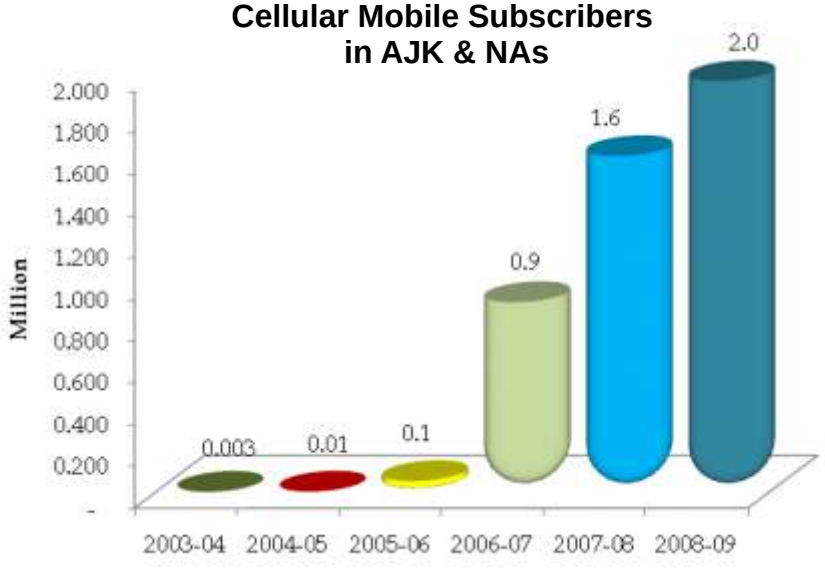
Cellular Subscribers' Growth

The cellular industry is the nucleus of AJK and NAs' telecom industry, as any rise or fall in its subscriber base leaves a huge impact on the telecom proliferation in the areas. The cellular industry has been growing at a remarkable pace since its launch, and by the end of June 2009, the total subscribers' number reached to 1.94 million.

A net addition of 360,273 subscribers yields a growth rate of 22% during 2008-09. This may seem lower than 76% growth in 2007-08, but it should be kept in mind that the total population of AJK and NAs is just 5 million. To cover 33% of population within two years is indeed an extraordinary effort by the cellular companies. In terms of growth rate, the SCO leads by a long margin from its competitors by achieving an astonishing 126% growth mark. Telenor follows it with a growth rate of 31%, while Warid and Ufone have almost similar figures of 12% and 11% respectively. Mobilink is the only casualty, reporting a decline of 18%. The main reason of this decline is the loss of subscribers in AJK as positive growth has been shown by Mobilink in NAs.

In terms of net addition of subscribers, Telenor leads with 166,546 new subscribers, closely followed by the SCO with 159,072 subscribers. Zong has also made a strong impression showing 94,872 subscribers, who had added since its launch. Warid and Ufone indicate slow growth with 23,876 and 17,420 net added subscribers during 2008-09. Conversely, Mobilink has lost 109,548 subscribers due to low investment, no significant expansion in network and aggressive marketing by other competitors.

Figure - 40
Cellular Mobile Subscribers in AJK & NAs

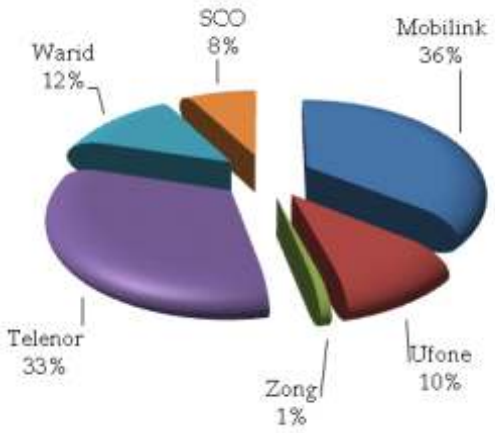


Market Share

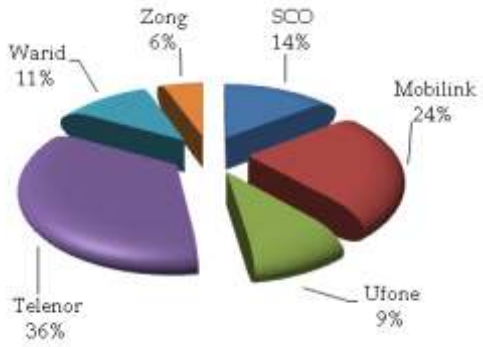
This year, Telenor has acquired the highest stake in the market with 36% share, displacing Mobilink from the top spot. Mobilink has lost 12% of its share from that of the last year, holding the second spot with 24% share. The SCO has shown excellent performance by increasing its stake from 8% in 2007-08 to 14% this year. Today, the company holds the second dominant share, i.e. 24%, which was 36% in 2007-08. Warid and Ufone have shown slightly decreasing trend, losing share by 1% each. They have respectively captured 11% and 9% share among the total subscribers of the region. This year, Zong is penetrating into the market aggressively with its share jumping from 3% to 6%. The SCO is also doing well from the previous reported year [2007-08]. During the current year, the company has shown addition of 5% in the share reaching to 14%. Warid and Ufone have lost 1% share each, holding 11% and 9% stake in the overall market. However, the new entrant, Zong has performed well by increasing its share from 1% in 2007-08 to 6% this year.

Figure - 41
Cellular Market Share in AJK & NAs

2007-08



2008-09



Geographical Coverage

Following the deregulation of cellular mobile sector in AJK and NAs in 2006, the industry has made a tremendous progress there. Today, the six mobile operators cover almost 82% population in over 270 cities / towns and villages in AJK and NAs. Of these destinations, 200 belong to AJK while the rest 70 are located in Northern Areas. Zong has invested heavily in cellular market, and thus, leads the coverage area strength by covering 246 cities / towns / villages. This is a remarkable achievement keeping in view the hard topography and testing weather conditions of the area.

Table - 12
Cities/Towns/Villages Covered by company in AJK & Nas (2008-09)

	AJK	NAs	Total
Mobilink	100	4	104
Ufone	57	14	71
Zong	200	46	246
Telenor	43	5	48
Warid	31	22	53
SCO	73	70	183

In a tough competitive environment, network expansion has been the focus of the operators. There are a total of 944 cell sites across AJK and NAs, up from 668 of the last year, showing a growth rate of almost 41%. There are 726 cell sites in AJK with net addition of 214 cell sites this year, while Northern Areas are covered by 218 cell sites with 64 new installations during the year 2008-09. Telenor has the highest number of towers in the area with 268 cell sites across AJK and NA. Mobilink and Zong follow with 226 and 201 cell sites respectively. This year Zong has added 246 new towers which is the highest number of towers installed among all operators.

Table - 13
Cell Sites by operator in AJK & NAs

Company	2007-08			2008-09		
	AJK	NAs	Total	AJK	NAs	Total
Mobilink	132	74	206	152	74	226
Ufone	38	9	47	72	17	89
Zong	53	0	53	156	45	201
Telenor	165	32	197	221	47	268
Warid	66	20	86	85	22	107
SCO	60	19	79	40	13	53
Total	514	154	668	726	218	944

The cellular operators are increasing the number of their franchises to facilitate the growing number of subscribers. Today, there are 68 franchises of all the operators across the region. Most of the franchises are located in AJK, and hopefully, the franchise concentration in Northern Areas will also increase with the growth in subscriber base.

Table - 14
Franchises by company in AJK & NAs (2008-09)

	AJK	NAs	Total
Mobilink	15	0	15
Ufone	7	2	9
Zong	7	2	9
Telenor	12	2	14
Warid	10	0	10
SCO	6	5	11
Total	57	11	68

SCO in AJK & NAs

The Special Communication Organization (SCO) is a telecommunication Organization providing a variety of services to the far flung areas of AJK and NAs of Pakistan. Furthermore, the SCO, which had been the leading telecom service provider in the region until recently, has been engaged in a lot of other developmental activities also for provisioning of latest services to the inhabitants of these two under developed areas of Pakistan. The services offered by the SCO include Landline (PSTN), Cellular (SCOM), Wireless Local Loop (CDMA), Internet (SNET), Prepaid Calling Cards and several other state-of-the-art services like Digital Cross Connect (DXX) to its domestic as well as commercial users. The SCO is also planning to lay optical fibre cable link for international connectivity between Pakistan and China.

WLL has emerged as a catalyst for growth in the local loop segment of AJK and NAs' telecommunication industry, as fixed line customer base shrinked amid issues of line/service quality. The SCO still enjoys monopoly over fixed line and Wireless Local Loop Services, though many other operators have got licenses under the the deregulation policy. FLL subscribers are continuously decreasing mainly due to popularity of WLL services. The SCO launched its cellular service with the brand name 'SCOM' in AJK in 2002 and NAs in August 2006. SCOM network is available in more than 183 cities/towns/ villages of AJK and NAs, having over 285,072 customers. The SCO's total customers including Cellular Mobile, Fixedline and

Wireless Local Loop Services have reached 418,444, and its total subscriber base grew by 58%.

The SCO also started to offer PCO service to the areas where complete telecom network deployment could not be made. But, the popularity of the PCO service was greatly hampered by the launch of cellular mobile and its rapid coverage of areas, bringing a considerable decline in it last year. However, during 2008-09, the PCO market started regaining momentum showing positive growth of 15%, as compared to a decline of 70% in 2007-08.

Table - 15
SCO Subscribers in AJK & NAs

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
FLL	75,369	92,257	104,240	121,381	101,168	92,536
WLL	2,413	2,558	10,001	27,648	37,619	40,836
Cell	3,000	5,032	53,000	104,041	126,000	285,072
Total	80,782	99,847	167,241	253,070	264,787	418,444

Table - 16
PCOs in AJK & NAs by SCO

	2006-07	2007-08	2008-09
Fixed	1,762	675	475
WLL	1,441	1,199	1,679
Total	3,203	1,874	2,154

Annexures

PAKISTAN TELECOMMUNICATION AUTHORITY
BALANCE SHEET
AS AT JUNE 30, 2009

	Note	2009 Rupees	2008 Rupees (Re-stated)
Total due to Government of Pakistan - Federal Consolidated Fund		**29,622,719,507**	39,467,731,969
Payments made to Government of Pakistan Federal Consolidated Fund - to date		**(41,051,058,869)**	(41,051,058,869)
Due from Government of Pakistan - Federal Consolidated Fund	4	**(11,428,339,362)**	(1,583,326,900)
Long Term Loan	5	**57,584,222**	44,624,352
Total payable against Initial License Fee- Pakistan		**90,261,223,242**	76,517,535,310
Less: Transferred to current portion - to date			
Amount transferred to current portion		**14,311,169,730**	8,638,124,730
Payments made to Public Account - to date		**(5,842,487,087)**	(5,019,568,230)
Net amount transferred to current liabilities		**8,468,682,643**	3,618,556,500
Provision for doubtful receivables of Initial License Fee		**(10,028,767,386)**	-
Long term payable against Initial License Fee - Pakistan	6	**71,763,773,213**	72,898,978,810
Total Payable to AJK & NAs		**2,004,544,652**	1,948,002,107
Less: Transferred to current portion - to date			
Amount transferred to current portion		**2,120,693,406**	1,859,966,835
Payments made to Governments of AJK & NAs - to date		**(1,469,954,194)**	(1,204,800,000)
Net amount transferred to current liabilities		**650,739,212**	655,166,835
Long term payable to AJK & NAs	7	**1,353,805,440**	1,292,835,272
Deferred Grant	8	**225,454,375**	151,115,287
Deferred Liabilities	9	**114,350,960**	89,731,307
Current Liabilities			
Payable against Initial License Fee - Pakistan	10	**8,468,682,643**	3,618,556,500
Payable to AJK and NAs	11	**650,739,212**	655,166,835
Payable to Public Account against USF, R&D, and APC for USF	12	**9,484,573,824**	1,945,756,493
Less: Receivable from operators against USF, R&D, and APC for USF	13	**(8,135,797,775)**	(1,544,007,054)
Net payable to Public Account against USF, R&D, and APC for USF		**1,348,776,049**	401,749,439
Taxation - net	14	**6,166,142,243**	-
Accrued and other liabilities	15	**15,838,456**	10,195,696
		16,650,178,603	4,685,668,470
		78,736,807,451	77,579,626,598
Contingencies and Commitments	16		

	Note	2009 Rupees	2008 Rupees (Re-stated)
Non-Current Assets			
Property, Plant and Equipment	17	**584,140,807**	520,873,597
Intangible	18	**3,402,516**	3,991,733
Long Term Investments	19	**20,000,000**	20,000,000
Initial License Fee Receivable	20	**59,382,060,000**	59,565,164,300
Long Term Advances to Employees	21	**36,641,121**	17,244,039
Current Assets			
Fee receivable	22	**14,543,855,334**	15,473,946,871
Taxation - net	14	**-**	199,144,194
Advances, deposits, prepayments and other receivables	23	**85,213,887**	98,184,584
Cash and Bank balances	24	**4,081,493,786**	1,681,077,280
		18,710,563,007	17,452,352,929
		78,736,807,451	77,579,626,598

The annexed notes 1 to 33 form an integral part of these financial statements.

Member (Finance) **Chairman**

PAKISTAN TELECOMMUNICATION AUTHORITY
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED JUNE 30, 2009

	Note	2009 Rupees	2008 Rupees (Re-stated)
Annual license fee	25	**2,203,927,241**	2,424,890,553
Administrative surcharge on funds collected for AJK and NA		**24,290,321**	33,232,775
Expenditure			
General and administrative expenses	26	**463,478,798**	445,428,048
Provision for doubtful receivable	27	**170,202,745**	-
Audit fee		**300,000**	135,000
Financial charges		**9,495,857**	4,931,894
		643,477,400	450,494,942
Amortization of deferred grant		**(23,107,690)**	(4,414,892)
Operating surplus		**1,607,847,852**	2,012,043,278
Other income	28	**120,344,809**	127,618,271
Surplus for the year		**1,728,192,661**	2,139,661,549
Less: Provision for taxation			
Current year	14	**(664,438,392)**	(804,609,898)
Prior periods'		**(10,630,457,579)**	-
		(11,294,895,971)	(804,609,898)
Net (deficit)/surplus for the year transferred to Federal Consolidated Fund		**(9,566,703,310)**	1,335,051,651

The annexed notes 1 to 33 form an integral part of these financial statements.

Member (Finance) **Chairman**

PAKISTAN TELECOMMUNICATION AUTHORITY
CASH FLOW STATEMENT
FOR THE YEAR ENDED JUNE 30, 2009

	Amounts in Pak Rupees	
	June 30, 2009	**June 30, 2008 (Re-stated)**
Cash flow from operating activities		
Receipts from Operators		
Received against initial license fee	5,951,321,360	4,163,813,745
Annual fee/other fee received	2,079,425,436	2,489,045,029
Receipts of USF, R&D and APC	947,026,610	449,130,832
Grant received during the year	102,114,782	150,688,371
	9,079,888,188	7,252,677,977
Payments		
Payments made to Public Account against Initial License Fee	(822,918,857)	(1,769,280,000)
Payments made to FCF	-	(5,000,000,000)
Payment made to AJK & NA Government	(265,154,194)	(1,204,800,000)
Payment to Public Account against USF,R&D and APC	-	(663,220,000)
Payments to Frequency Allocation Board	(278,309,152)	(279,293,816)
Payment to suppliers/expenses	(376,057,883)	(331,267,963)
	(1,742,440,086)	(9,247,861,779)
	7,337,448,102	(1,995,183,802)
Less:		
Income tax paid	(4,929,609,534)	(1,000,000,000)
Payment of gratuity and pension	(12,190,823)	(489,405)
Cash generated from/ (used in) operating activities	2,395,647,745	(2,995,673,207)
Cash from investing activities		
Purchase of intangible	(473,395)	(764,145)
Purchase of fixed assets	(123,951,062)	(175,434,052)
Proceeds from sale of fixed assets	4,868,296	152,565
Profit on bank deposits received	124,324,922	162,589,372
	4,768,761	(13,456,260)
Net increase/(decrease) in cash and cash equivalents during the year	2,400,416,506	(3,009,129,467)
Cash and cash equivalents at beginning of the year	1,681,077,280	4,690,206,747
Cash and cash equivalents at end of the year	**4,081,493,786**	**1,681,077,280**

The annexed notes 1 to 33 form an integral part of these financial statements.

Member (Finance) **Chairman**

Annex - 2

Pakistan's Comparative Performance of Key Economic Indicators

		Unit	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
I.	Real Sector							
	Real GDP Growth	%	7.5	9.0	5.8	6.8	4.1	2.0
	Agriculture	%	2.3	6.5	6.3	3.7	1.1	4.7
	Large Scale Manuf.	%	18.1	19.9	8.3	8.6	4.8	-7.7
	Investment	% of GDP	16.6	19.1	22.1	22.5	22.0	19.7
	National Savings	% of GDP	17.9	17.5	18.2	17.4	13.5	14.3
	Inflation	%	4.6	9.3	7.9	7.8	12.0	20.8
	- Food Inflation		6.0	12.5	6.9	10.3	17.6	23.7
	- Non-Food Inflation		3.6	7.1	8.6	6.0	7.9	18.4
	- Core Inflation		3.7	7.6	7.1	5.5	8.2	17.6
II.	Fiscal Sector							
	Revenue Collection (CBR)	Billion Rs	518.8	591	713	846.0	1,008.1	1,152.4
	Fiscal Deficit	% of GDP	2.9	3.3	4.2	4.3	7.6	5.2
	Public Debt	% of GDP	67.1	62.2	57.2	55.5	57.8	58.3
	- of which foreign currency Denominated	% of GDP	32.0	29.4	26.8	25.5	26.6	28.7
	Debt Servicing	% of Total Revenue	31.1	30.4	28.6	30.0	37.6	39.8
III.	External Sector							
	Exports (f.o.b)	Billion $	12.4	14.5	16.5	17.3	20.4	18.9
	Imports (f.o.b)	Billion $	13.7	19.0	25.0	27.0	35.5	30.9
	Trade Deficit	Billion $	-1.3	-4.5	-8.4	-9.7	-15.0	-12
	Remittances	Billion $	3.8	4.2	4.6	5.5	6.4	7.8
	Current Account Balance	% of GDP	1.4	-1.6	-3.9	-5.0	-8.4	-5.3
		Billion $	1.31	-1.77	-5.0	-7.0	-13.7	-8.5
	Total Foreign Investment	Million $	921.7	1,676.6	4,485.5	8,428.3	5,429.1	3,212.6
	Foreign Direct Investment	Million $	949.4	1,524	3,521	5,140	5,410	3,7210
	External Debt and Forex Liabilities	Billion $	35.3	35.8	37.3	40.2	46.2	52.8
	External Debt and Liabilities	% of Forex Earnings	164.9	137.2	121.6	124.1	123.9	148.9
	Exchange Rate (EOP)	Rs Per dollar	58.53	60.44	60.63	61.12	68.16	80.4
	Foreign Exchange Reserves	Billion $	12.3	12.6	12.8	15.7	11.6	11.3
IV.	Monetary & Capital Market							
	Weighted Avg. Lending Rate	%	5.05	8.2	10.2	10.6	11.5	14.3
	Credit to Private Sector	Rs. Billion	325.0	390.3	401.8	356.7	408.4	18.9
	Stock Market (KSE Index)	1991=100	5,279	7,450	9,989	13,772	12,289	7,162
	Market Capitalization	Rs. Billion	1,357.5	2,036.7	2,766.4	3,980.8	3,777.7	2,120
	Market Capitalization	$ Billion	23.4	34.3	45.7	65.3	55.2	31.4

Source: Ministry of Finance, Government of Pakistan

Annex - 3

Summary of Consumer Complaints Received Against PTCL

Nature of Complaints	Total	% of Consumer Complaints
Quality of Service- Disruption / Faults in service	3,793	73
Poor customer Services-Redressal of grievances	311	6
Provision of Service- Activation / Restoration / Closure / Up gradation	483	9
Matters related to billing, overcharging, unjustified deduction / tariffs, Non issuance of bills	303	6
Misuse of Service-Obnoxious & Fraudulent calls / SMSs	216	4
Value added Services / Packages-GPRS, Easy load ,BF, prepaid card	123	2
Miscellaneous Issues	20	0
Financial Compensation- on account of any specified nature of complaint	18	0
TOTAL	5,288	100

Annex - 4

Summary Of Consumer Compliant Received against CMTOs
July 2008 & June 2009

Nature of Complaints	Total	% Consumers Complaints
Misuse of Service -Obnoxious & Fraudulent calls / SMSs	3660	45
Illegal Practices-Transfer of connections / Ownership, Issue of SIMs, Blocking of number / SIM without notification etc, Non registration of SIMs	948	13
Quality of Service- Disruption / Faults in service	665	9
Matters related to billing, overcharging, unjustified deduction / tariffs, Non issuance of bills	584	8
Verification Issues-User information / illegal use of CNIC / Issuance of Multiple SIMs on same CNIC / change of numbers / names	361	5
Poor Customer Services-Redressal of grievances	396	5
Mobile Number Portability	416	6
Provision of Service-Activation / Restoration / Closure / Up gradation	351	5
Value added Services / Packages-GPRS, Easy load ,BF, prepaid card	225	3
Financial Compensation- on account of any specified nature of complaint	87	1
Misleading statements, advertisement, hiding facts about service and tariffs etc	44	1
Non Provision of Service in an area / Coverage issues	13	0
Miscellaneous Issues	23	0
Issue related to Operators Infrastructure	6	0
TOTAL	7479	100

Annex - 5

Telecom Revenues by Service

Rs. Million

	2006-07	2007-08	2008-09
Cellular	133,131.9	182,081.2	212,423
Local Loop	68,368.2	63,693.1	62,640
LDI	15,567.4	21,982.6	47,969
WLL	2,644.9	2,704.0	2,670
VAS (Estimated)	15,901.1	8,048	8,179
Total	235,613.4	278,508.6	333,882

Note: 2007-09 revenues are revised and 2008-09 are estimated

Annex - 6

Cellular Mobile Subscribers

	2005	2006	2007	2008	2009
Mobilink	7,469,085	17,205,555	26,162,289	32,032,363	29,136,839
Ufone	2,579,103	7,487,005	14,015,060	18,100,440	20,004,707
Zong	924,486	1,040,503	1,024,563	3,950,758	6,386,571
Instaphone	454,147	360,140	333,081	321,134	34,048
Telenor	835,727	3,573,660	10,701,333	18,125,189	20,893,129
Warid	508,655	4,297,547	10,620,386	15,489,858	17,886,736
Total	12,771,203	33,964,410	62,856,712	88,019,742	94,342,030

Annex - 7

Cellular Mobile ARPU / Month (US$)

	Mobilink	Ufone	Instaphone	Zong	Telenor	Warid	Total
2006-07	3.80	2.80	2.10	3.30	4.00	2.50	3.20
2007-08	3.50	2.10	0.90	1.60	3.90	2.70	3.10
2008-09	3.04	2.20	0.08	1.52	2.80	1.83	2.48

Annex - 8

Cellular Mobile Investment

US$ Million

	2006-07	2007-08	2008-09
Mobilink	590	919	270
Ufone	232	174	215
Instaphone	9	0	-
Zong	570	200	204
Telenor	762	565	374
Warid	422	480	167
Total	2,585	2,338	1,230

Annex - 9

Local Loop Subscribers

	2004-05	2005-06	2006-07	2007-08	2008-09
PTCL	5,190,899	5,128,442	4,676,204	4,273,548	3,375,103
NTC	81,027	92,163	99,665	103,991	104,538
WorlCall	4,100	9,135	10,748	11,502	18,850
Brain	1,520	5,880	6,089	7,376	12,234
Uninon Comm.		200	2,500	3,500	8,817
Nayatel			11,000	16,500	3,700
Total	5,277,546	5,235,820	4,806,206	4,416,417	3,523,242

Annex - 10

WLL Cell Sites 2008-09

	Punjab	Sindh	NWFP	Balochistan	AJK	NA	Total
PTCL	808	329	222	89	7	3	1,458
WorldCall	216	121	14				351
Telecard	152	120	14	9			295
Great Bear	42						42
Wateen	621	273	53	24			971
Mytel				2			2
Link Direct	114	214	3	1			332
Total	1,953	1,057	306	125	7	3	3,451

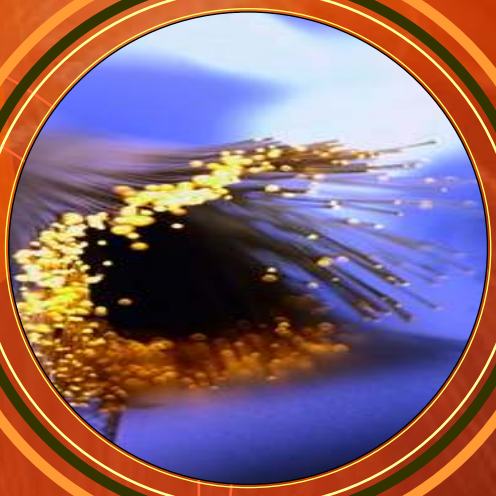
Annex - 11

Cellular Subscribers in AJK& Nas
2008-09

	AJK	NA	Total
SCO	193,613	91,459	285,072
Mobilink	405,962	68,185	474,147
Ufone	179,395	1,858	181,253
Zong	109,222	150	109,372
Telenor	587,100	112,500	699,600
Warid	224,298		224,298
Total	1,699,590	274,152	1,973,742

PTA

Annual Report 2009



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