

ANNUAL REPORT 2014



Annual Report 2014

A photograph showing a pair of hands holding a smartphone. The background is a soft-focus, warm-toned outdoor scene with sunlight filtering through trees.

“Create a fair regulatory regime to promote investment, encourage competition, protect consumer interest and ensure high quality ICT services”

Pakistan Telecommunication Authority



Annual Report 2014

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Abbreviations

AJ&K	Azad Jammu and Kashmir
ALF	Annual License Fee
APC	Access Promotion Contribution
ARPU	Average Revenue Per User
ASR	Approved Settlement Rate
BTS	Base Transceiver Station
BVS	Biometric Verification System
CMO	Cellular Mobile Operator
CM Pak	China Mobile Pakistan
CNIC	Computerized National Identity Card
CPE	Customer Premises Equipment
CSC	Customer Service Center
CVAS	Class Value Added Services
DSL	Digital Subscriber Line
EVDO	Evolution-Data Optimized
FAB	Frequency Allocation Board
FBR	Federal Board of Revenue
FDMA	FATA Disaster Management Authority
FIA	Federal Investigation Agency
FDI	Foreign Direct Investment
FED	Federal Excise Duty
FLL	Fixed Local Loop
FTTH	Fiber-to-the-Home
FY	Fiscal Year
GB	Gilgit Bultistan
GDP	Gross Domestic Product
GST	General Sales Tax
GVA	Gross Value Added
HFC	Hybrid Fibre-coaxial
ICH	International Clearing House
ICT	Information & Communication Technologies
IDP	Internally Displaced Person
IM	Information Memorandum
IMEI	International Mobile Equipment Identity
IN	Intelligent Network
Ipv6	Internet Protocol version 6
ISP	Internet Service Provider
ITU	International Telecommunication Union

KPIs	Key Performance Indicators
KPK	Khyber Pakhtunkhwa
LDI	Long Distance & International
LEA	Law Enforcement Agency
LIBOR	London Interbank Offered Rate
LL	Local Loop
LTE	Long-term Evolution
M&RITT	Monitoring and Reconciliation of International Telephone Traffic
MCS	Military College of Signals
MHZ	Mega Hertz
MNP	Mobile Number Portability
MoU	Memorandum of Understanding
NADRA	National Database and Registration Authority
NGMS	Next Generation Mobile Services
PCO	Public Call Office
PKR	Pakistan Rupee
PMCL	Pakistan Mobile Communication Limited (Mobilink)
PTCL	Pakistan Telecommunication Company Limited
PPRA	Public Procurement Regulatory Authority
PTML	Pakistan Telecommunication Mobile Limited (Ufone)
QoS	Quality of Service
SBP	State Bank of Pakistan
SCO	Special Communications Organization
SIM	Subscriber Identity Module
SMRA	Simultaneous Multiple Round Ascending
SMS	Short Messaging Service
SOP	Standard Operating Procedure
USF	Universal Service Fund
VAS	Value Added Services
WiMAX	Worldwide Interoperability for Microwave Access
WCDMA	Wideband Code Division Multiple Access
WHT	Withholding Tax
WLL	Wireless Local Loop

The Authority



Dr. Syed Ismail Shah
Chairman



Mr. Tariq Sultan
Member
(Finance)



Mr. Abdul Samad
Member
(Compliance & Enforcement)



Chairman's Message

It is my great pleasure to present the Annual Report of Pakistan Telecommunication Authority (PTA) for the fiscal year 2013-14 (FY2014). This report provides a review of the regulatory duties performed by the Authority and development in the telecom sector of Pakistan in a concise and complete manner.

During FY2014, the Authority was entrusted primarily with the task of introduction of long awaited Next General Mobile Services (NGMS) in Pakistan under the patronage of the Government of Pakistan. The aim of the spectrum auction for NGMS (3G and 4G) was two-folds; to make available the latest technologies to the people of Pakistan and to optimize the revenues from the auction. The Authority successfully concluded auction for 3G and 4G cellular mobile licenses in April, 2014 in a most transparent manner. The target of US\$ 1.2 billion set for this auction in the federal budget 2013-14 was successfully achieved with an added advantage of availability of spectrum for 4G services in the country. 3G services are now commercially available in all the major cities of Pakistan, and more cities will be added in coming months. Most recently, Pakistan has also become league member of the club for the commercial availability of 4G services in the country. I encourage all the stakeholders to come forward to take the benefits of 3G and 4G services to the people of Pakistan in a most productive manner and contribute to the socio-economic uplift in the country.

There are many other challenges ahead in the sector that we are taking up with the same spirit as we did in case of successful introduction of NGMS. We have to ensure fair competition, protection of consumers' interests and continued availability of advanced telecom services. I believe an active and successful engagement of stakeholders with PTA is vital to resolve all outstanding industry issues. Broadband services delivery platforms also require more focus by the relevant stakeholders for transmission through satellite, fibre optic and sub-marine channels.

Overall, FY2014 has been a successful year for the telecom industry as the teledensity touched 80%, telecom investment crossed US\$ 1,816 million including US\$ 903 million FDI inflows on account of 3G & 4G license auction and technology deployment, telecom revenue touched Rs. 465.5 billion and broadband penetration crossed 2% mark. This report contains discussion of all these major industry indicators and regulatory measures during the year. I hope you will find the report as an informative document on Pakistan's telecom industry.



Syed Ismail Shah Ph.D
Chairman, PTA

Executive Summary

PTA has been entrusted with the responsibility to govern the development of telecom sector in Pakistan keeping in view the consumer interest while providing a level playing field for all the market players. PTA strives to maintain a balance between smooth provision of latest telecom technologies, protecting telecom consumer interests and facilitating fair business concerns of the investors. During the year under review, telecom sector of Pakistan achieved new heights of success with the launch of Next Generation Mobile Services (NGMS) which was pending since last six years.

On 23rd April 2014, PTA carried out successful spectrum auction for NGMS (3G/4G) licenses in accordance with the Policy guidelines of the Government of Pakistan. CM Pak Ltd. (Zong) emerged as the winner of both 3G and 4G spectrum while PMCL (Mobilink), PTML (Ufone) and Telenor were declared winners of 3G spectrum. The NGMS spectrum auction not only enabled Pakistan to stand tall among the regional countries in terms of technological advancement but also generated hefty revenue of over US\$ 1.224 billion for the Government of Pakistan. Following the test trials, the Honorable Prime Minister of Pakistan, Mian Mohammad Nawaz Sharif awarded NGMS licenses to Zong, Ufone, Mobilink and Telenor in a ceremony held on 22nd May, 2014. Commercial launch of NGMS services has also been rolled out by licensees and it is expected that high speed data services will bring a whole new dimension to the telecom sector of Pakistan.

PTA has also taken several measures to streamline the SIM sale process and implemented Biometric Verification System (BVS) at sales channels of Cellular Mobile Operators (CMOs) which is a landmark achievement in this regard. PTA has carried out ten surveys in different cities of Pakistan to monitor the compliance of the Authority's instructions for SIMs sale. The telecom sector has also been at the forefront to help the Internally Displaced Persons (IDPs). In this regard, monetary help is being provided to them using mobile banking. In order to provide maximum facilitation to IDPs, Chairman PTA visited the Bannu Camp to monitor the distribution of money through SIMs of Zong and NADRA registration. On the regulatory front, PTA prepared the vision 2025 document that highlights key areas of public policy and regulatory interests focused on the development of society and consumer. PTA took aggressive measures to curb the grey telephony by launching an extensive media campaign, blocking suspected SIMs complemented with raids at the illegal call termination centers. PTA also established a dedicated web blocking cell to analyze citizen complaints. To keep a check on the influx of sub-standard mobile handsets, PTA has re-started the Type Approval of mobile phones.

To gauge the Quality of service, PTA carried out a joint QoS survey with CMOs in major cities of Pakistan and gave directions for improvement to CMOs after analysis of results. In addition, PTA encourages tower sharing among telecom operators and the tenancy ratio now stands at 1.3 at the end of designated period of three years. In order to develop skills and improve knowledge of PTA officials, training was held at PTA headquarters regarding monitoring of 3G/4G QoS. Continuing the tradition of developing strong linkages with the academia, students of Military College of Signals (MCS) visited PTA Headquarters, Islamabad where Chairman PTA briefed them about the latest developments in the telecom industry.

Pakistan economy achieved a respectable growth of 4.1% during FY2014 with per capita income at US\$ 1,386. Teledensity reached 79.8% at the end of FY2014 as compared to 75.2% last year with cellular sector as the main contributor. Telecom sector revenues for the FY2014 are estimated to be Rs. 465 billion while the sector contributed an all time high of Rs. 243.84 billion to the National kitty this year. PTA has also collected Rs. 105 billion as fees from all licensees during the period from 1st July, 2013 to 30th June, 2014. Telecom investment reached US\$ 1.8 billion during FY2014 out of which telecom FDI was US\$ 903 million during the year as a result of auction of NGMS licenses and network upgradation by the operators.

Telecom sector continued to grow despite slow growth in other sectors of the economy. Mobile penetration has reached 76.6% with 139.9 million subscribers at the end of June 2014. CMOs managed to add 11.04 million new subscribers with 9.1% growth during FY2014. Mobilink leads the market with 27.7% subscriber share followed by Telenor (26.1%), Zong (19.4%), Ufone (17.4%) and Warid (9.3%). Cellular cell sites have increased to 37,576 covering more than 92% of the land area of Pakistan. National traffic from cellular to cellular mobile networks has increased by 40% while 301.7 billion SMS were exchanged over cellular networks during FY2014.

Local loop sector growth remained on the low side as the total teledensity of fixed and wireless local loop services reached 3.1% at the end of FY2014 as compared to 3.6% at the end of FY2013. Local loop subscriber base stands at 5.71 million as the net decline of 0.42 million subscribers is mainly because of the drop in Telecard's subscriber base. LDI services could not manage to improve the total international traffic (incoming and outgoing) as it dropped by 39% to reach 8.7 billion during FY2014.

Broadband subscriber base increased by 39% to reach 3.79 million at the end of FY2014 and broadband penetration improved to 2.07% as compared to 1.52% last year. PTCL leads the broadband market with 80% of the subscriber base and continues to lead the net additions as well.

Wireless technologies (EvDO and WiMax) dominated the overall technology trends with 63.1% of subscriber base as opposed to 36.9% of fixed line. However, the scenario will change with the deployment of Wideband Code Division Multiple Access (WCDMA) and Long-Term Evolution (LTE) technologies.

PTA remained vigilant in handling consumer complaints of telecom services through its automated complaint management system, helplines, Consumers Protection Department and Zonal Offices. During FY2014, PTA registered a total of 36,092 complaints against all telecom operators and successfully resolved 98% of the received complaints. Misuse of service in the cellular segment and fault in PTCL's services were the main areas of concern for telecom consumers. PTA is also devising Tariff Regulations to provide a degree of pricing flexibility and stability while protecting consumers' interests and taking into account the cost of service provision.

Chapter 1

ON THE
REGULATORY
FRONT



1

On The Regulatory Front

The Telecommunication (Re-Organization) Act 1996 empowers PTA to regulate the telecom sector of Pakistan. PTA has always kept consumer interest and technology advancement at the highest priority while performing its regulatory duties. Undoubtedly, the most remarkable achievement of PTA in recent times is the successful, transparent and open auction of the spectrum for Next Generation Mobile Services (NGMS). PTA had been striving hard to carry out this auction to launch NGMS in the country and with enabling patronage of the current democratic Government of Pakistan this milestone in telecom history of Pakistan has been achieved. PTA also remained engaged in other important activities such as deployment of biometric verification system to streamline the SIM sale procedure, devising the Vision 2025 for telecom sector, improving the efforts to curb illegal telephony, settlement of international call rates, protecting consumers from unauthorized call rate changes and monitoring the quality of service of telecom operators. PTA also stepped forward to actively expedite the distribution of aid among the Internally Displaced Persons (IDPs) via mobile SIMs in collaboration with National Database Registration Authority (NADRA) and FATA Disaster Management Authority (FDMA).

The Era of Next Generation Mobile Services (NGMS)

Global technological developments of the past two decades have made 'effective communication' the nucleus of a country's economic and social prosperity. High speed connectivity and on-the-go internet availability is becoming a basic need of the common people. Rapid deployment, adoption and success of NGMS around the globe is an evidence that data is now the order of today in the cellular mobile sector. Pakistan had been striving to launch the NGMS and the combined efforts of PTA, MoIT and Government of Pakistan proved fruitful this year. PTA concluded a successful spectrum auction for 3G/4G Licenses on 23rd April 2014 and commercial services have been rolled out by the spectrum winning operators in major cities of Pakistan. Following is a brief timeline of events that led to the launch of NGMS in Pakistan.



Policy Directive

The Government issued a Policy Directive on 7th October 2013 for the auction of spectrum standardized for 3G and 4G mobile cellular technologies termed as 'Spectrum Auction for Next Generation Mobile Services'. An Advisory Committee headed by the Finance Minister was also approved by the Prime Minister to examine and finalize the Policy Directive and oversee the auction process.

Hiring of Consultants

As per the Policy Directive dated 7th October 2013, PTA started the process for hiring of reputed international consultants to design and manage the auction process. After meeting all the procedural requirements and Public Procurement Regulatory Authority (PPRA) rules, 'Value Partners Management Consulting Limited' was selected on 23rd November 2013 from among five shortlisted applicants. The contract with the Consulting firm was signed on 19th December 2013.



Spectrum included in the NGMS License Auction

Spectrum designated to be auctioned initially for deployment of NGMS in Pakistan was in the 2100 MHz band. Later, 1800 MHz band and 850 MHz band was also included. The 850 MHz band was to be offered only to new entrant.

Auction Process

The Consultant carried out the market study and spectrum valuation, and prepared the Information Memorandum (IM) for the NGMS spectrum auction. The Consultant also prepared the draft license template and the Auction Methodology.



The base price for 10 MHz in 2100 MHz band was US\$ 295 million and for 10 MHz in 1800 MHz band was US\$ 210 million. A successful bidder may opt for 100% payment of the winning price as a one time upfront amount within 30 days of the Auction or pay 50% payment of the winning price within 30 days of the Auction and the remaining 50% of the winning price is payable in 5 years in 5 equal annual installments with mark up at the rate of one year LIBOR rate + 3%. The licenses were to be issued for a term of 15 years through a two stage auction process designed by the Consultant. The spectrum award in the 1800 MHz band was subject to winning at least 10 MHz in the 2100 MHz band.

a. Prequalification Stage including a Sealed Bid Offer

In the prequalification stage, applicants were required to provide information as per the application form provided in the IM. Each Applicant was also required to submit along with their application an irrevocable Sealed-bid offer for the maximum amount of spectrum in the 2100 MHz and 1800 MHz that it would like to bid for in the auction. It was required that the sealed-bid offer must comprise of at least 2x10 MHz of spectrum in the 2100 MHz band. Applicants were also required to submit a Pre-bid Deposit at this stage for 15% of the total value of the sealed-bid offer.



As per the IM, prospective applicants could submit application form and sealed-bid offer with pre-bid deposits by 4 pm on 14th April 2014. The information submitted by applicants was assessed by PTA and those considered suitable for participation and who submitted the correct pre-bid deposit were informed within a week that they have qualified for the auction stage.

Following bidders submitted applications and pre-bid deposits

Table 1 : NGMS Bidders

Applicant	Interest in 2100 MHz (2x30 MHz to be auctioned)	Interest in 1800 MHz (2x20 MHz to be auctioned)
Zong	2x10 MHz	2x10 MHz
Mobilink	2x10 MHz	-
Ufone	2x15 MHz	2x10 MHz
Telenor	2x10 MHz	-
Total Demand	2x45 MHz	2x20 MHz
Total Supply	2x30 Mhz	2x20 MHz

b. Auction Stage:

As the demand was greater than the supply in the 2100 MHz band, the Simultaneous Multiple Round Ascending (SMRA) auction was scheduled to be held on 23rd April 2014. SMRA is the most preferred auctioning mechanism and is widely used in modern day auctions worldwide. It is also preferred over the traditional open out cry auctioning model as SMRA allows both the auctioneer and the bidder the flexibility to simultaneously bid on lots of their choice, privacy and time to make educated decisions during the auction.

Some of the recent auctions conducted in United States, Sweden, Norway, Hong Kong and Canada were all SMRA based auctions. SMRA auction features are:

- All lots are auctioned simultaneously over a series of rounds.
- In each round, bids are submitted on individual lots at the announced prices.
- At the end of each round, a standing high bidder is identified for each lot.
- The standing high bidder is committed to the lot and cannot withdraw.
- The standing high bidder is released from its commitment when it is outbid by another bidder.
- When a lot receives at least one bid, the price for the lot increases in the next round.

Auction Day: 23rd April 2014

The auction was carried out electronically over the internet allowing bidders to participate and bid from their respective locations. The auction was also covered by print and electronic media and a full day auction event was convened by PTA at Marriott Hotel, Islamabad to give an opportunity to the media representatives from various stakeholders and government departments to witness and experience the auction proceedings first hand. The auction lasted eight rounds and upon conclusion of each round, its results were published on PTA's website.



The final outcome of the auction is as under:

Table 2 : NGMS Auction Results

Applicant	Winner in 2100 MHz Band	Winner in 1800 MHz Band
Zong	2x10 MHz (US\$ 306,920,000)	2x10 MHz (US\$ 210,000,000)
Mobilink	2x10 MHz (US\$ 300,900,000)	-
Ufone	2x5 MHz (US\$ 147,500,000)	-
Telenor	2x5 MHz (US\$ 147,500,000)	-
Total	US\$ 902,820,000	US\$210,000,000

Thus the auction produced a total of US\$ 1,112,820,000.

In addition the operators had to pay Advance Tax @10% of the total Auction Winning Price to FBR under Section 236-A of the Income Tax Ordinance, 2001, which amounts to US\$111,282,000. Hence the total revenue to the Government of Pakistan from this auction would be US\$1,224,102,000.



Two companies Zong and Mobilink opted to pay 100% of the Auction Winning Price upfront, while the remaining two companies Telenor and Ufone opted to pay 50% upfront and the remaining 50% in installments as allowed by the government. The amounts received from the winning CMOs and deposited in the Federal Consolidated Funds are as given in Table 3.

Table 3 : NGMS Auction Contribution to National Exchequer

Name of Operator	Amount in US\$
Zong	516,920,000
Mobilink	300,900,000
Telenor	73,750,000
Ufone	73,750,000
Total	965,320,000

All the CMOs were very excited to complete the requirements of the auction process and be the first one to get the license and launch the service or at least claim to be the first achieving a major step to further build their goodwill among their subscribers.

The amounts that will be paid by the two operators (who paid 50% upfront) in the next 5 years is:



Table 4 : NGMS Auction Remaining Amount Payable

Telenor	73,750,000 + Markup @ LIBOR + 3% p.a.
PTML	73,750,000 + Markup @ LIBOR + 3% p.a.
Total	147,500,000+ Markup @ LIBOR + 3% p.a.

The unsold spectrum of 10 MHz in 1800 MHz band priced at US\$ 210 million and 7.38 MHz spectrum in 850 MHz band priced at US\$291 million also have a total value of US\$ 501 million at base price. As per Government s Policy Directive dated 17th March 2014, no further related auction will be carried out for another 18 months from the date of the auction. However, for any spectrum remaining unsold in the auction of spectrum for NGMS in April, 2014, PTA retains the right to hold or dispose of the same as deemed appropriate.

NGMS License Signing Ceremony

The Honorable Prime Minister of Pakistan, Mian Mohammad Nawaz Sharif awarded NGMS licenses to Zong, Mobilink, Ufone and Telenor in a ceremony held on 22nd May, 2014 at Serena Hotel, Islamabad. Mr. Ishaq Dar Finance Minister, Mrs. Anusha Rehman State Minister for IT and Telecom, Dr. Ismail Shah Chairman PTA, CEOs of Zong, Mobilink, Ufone and Telenor were present at the auspicious occasion. Zong was awarded both the 3G and 4G licenses whereas Mobilink, Telenor and Ufone were awarded 3G licenses only.



Commercial Launch of NGMS

The winning bidders rapidly rolled out NGMS soon after the test trials were completed in the major cities of Pakistan. Currently, all four cellular mobile operators have launched commercial services of 3G at lucrative packages for both prepaid and postpaid customers. Ufone started its 3G services on 24th May, 2014, followed by Telenor on 30th May, 2014. Zong announced the commercial launch of its 3G services on 12th June, 2014 while Mobilink rolled out its 3G offers on 18th July, 2014. Zong announced the commercial launch of its 4G services on 27th September, 2014.

Expected Benefits of 3G/4G Spectrum Auction

Auction of NGMS licenses has brought the country at par with the rest of the world which will not only be beneficial for the country's telecom sector but is also going to spur significant economic growth and will also usher a new wave of prosperity for the nation.

There is an empirically established link between better connectivity and GDP growth. World Bank studies indicate that 10%age point increase in high-speed internet connections boosts annual Gross Domestic Product (GDP) growth by 1.38% point. Application of these estimates to Pakistan shows that introduction of much awaited 3G broadband services for mobile users will raise economic output of Pakistan by 1.1% of GDP resulting in increase of 1.6 to 2.4% in employment.

Availability of both 2100 MHz and 1800 MHz bands allows at least one telecom operator the flexibility to deploy both 3G and 4G networks and offer the most advanced mobile services to its customers. For the consumer, availability of high speed mobile broadband services in both urban and rural areas will encourage a more connected community and promote e-commerce related activities. Launch of faster mobile broadband services via 3G/4G technology nationwide will also offer great dividends such as GDP growth, job creation and innovative e-services including e-education, e-medicine and e-governance to facilitate population in rural and remote areas of Pakistan. With the auction of spectrum in both 2100 MHz band and 1800 MHz band, both 3G and 4G services are now be available in Pakistan, which has brought Pakistan at par with the countries having these services.

Streamlining the SIM Sale

Unprecedented growth in the cellular mobile sector has brought a multitude of benefits to the country. However, some mischievous elements use the cellular platform to carry out terrorist/anti-state activities as well. In this regard, Law

Enforcement Agencies (LEAs) and various Courts of Law have been stressing the need for rationalization of the SIM sales procedure. PTA has undertaken various initiatives in collaboration with CMOs to deal with the issue effectively. Some of the steps taken by PTA in collaboration with CMOs and LEAs are: -

Biometric Verification System for SIM Sale

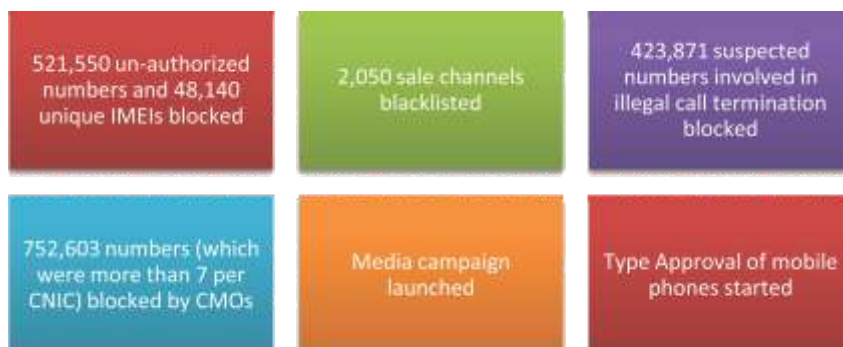
Implementation of Biometric Verification System (BVS) at the sales channels of CMOs is a significant landmark, wherein SIMs are sold and activated only after online verification of the purchaser's finger prints from NADRA. It is expected that the use of BVS at SIM sales channels of CMOs will eliminate any leakages in the authentication procedure and bring down the issuance of SIMs without proper antecedents by a considerable margin thereby reducing the use of illegal SIMs in terrorist activities. The implementation was carried out in a phased manner starting from Customer Service Centers (CSCs) and Franchisees, which was completed by 20th December 2013 and subsequently the retail outlets by 31st July 2014. After successful implementation of BVS, mobile phone SIMs are being issued and activated after online verification of purchasers' thumb/finger impression from NADRA thereby ensuring registration of SIMs against credentials of authentic/legitimate subscribers.

Monitoring Of Sales Channels of CMOs and WLL Operators

In order to ensure the compliance of the Authority's instructions for SIM sale, 10 surveys were carried out by PTA from January to June, 2014 during which 246 sales channels were identified violating PTA's SOPs and were penalized.

Constitution of Task Force to Curtail Bulk SIM Activations without Proper Antecedents till Deployment of BVS.

With a view to curtail activation of SIMs without proper antecedents till the deployment of biometric verification system, a Task Force was constituted by the Honorable Supreme Court of Pakistan comprising of members from LEAs, FBR, CMOs and PTA. The Task Force held two meetings and finalized certain recommendations for restricting illegal activation of SIMs till complete implementation of Biometric Verification System. Progress made so far in implementing the recommendations is as under:



Minister of State for Information Technology Visits PTA

Minister of State for Information Technology, Ms. Anusha Rahman visited PTA Headquarters on 2nd January, 2014 along with Federal Secretary for MoIT, Mr. Akhlaq Ahmad Tarar and senior officers of MoIT. Chairman PTA, Dr. Syed Ismail Shah, Member (Finance) Mr. Tariq Sultan and senior PTA officers were also present on this occasion.



Chairman PTA gave detailed presentation about web analysis of obnoxious content and the challenges being faced in this regard. The Minister visited PTA's Complaint Management Centre to see the Complaint Management System and assured full support of MoIT to PTA for its regulatory initiatives. The Minister emphasized on the need for a more effective complaint handling system particularly to address the need of proactive search of objectionable content and handling grey traffic related issues.

Chairman PTA Monitors Relief Operation for IDPs

Chairman PTA Dr. Syed Ismail Shah along with Chairman NADRA Mr. Imtiaz Tajwar visited Internally Displaced Persons (IDPs) camps in Bannu on 18th July, 2014. Senior officers of PTA, NADRA and cellular operator Zong accompanied them in order to supplement Government's efforts in smooth distribution of aid to the IDPs. The Government announced financial relief as compensation to IDPs to be disbursed through mobile phone SIM cards. For this purpose, Zong collaborated with FATA Disaster Management Authority (FDMA) to offer free SIMs to IDPs for distribution of aid in a transparent manner. In order to streamline the process of distribution of Zong SIMs among the IDPs, PTA earlier sent a team to IDP Centers in Bannu and adjoining areas. The PTA team conducted a comprehensive survey of these Centers and

conveyed their findings to Zong for improvement. As a follow up, Chairman PTA visited the Bannu Camp to monitor the distribution of money through SIMs of Zong and NADRA registration. Chairman PTA directed the officials of Zong to further improve their system and increase SIM distribution points for the facilitation of people in the camps.

Vision 2025

The Vision 2025 document highlights key areas of public policy and regulatory interests focused on the development of society and consumers. According to Vision 2025, the aim shall be to achieve full potential in terms of sector growth, good return for industry, provision of innovative, affordable and quality telecom services to unserved areas on equitable basis as well as safeguarding consumers' interests. In order to achieve this, PTA has outlined following key areas to be focused upon in future:

- Smarter Communities
- Enabling Technologies
- Supportive Regulation

PTA believes that smarter communities with connected people and devices are the future of communication, for which enabling technologies must be encouraged, with supportive regulations playing the role of a catalyst.

Efforts to Curb Grey/ Illegal Voice Termination

Grey telephony causes heavy revenue loss to the National Exchequer by bypassing the legal gateways to avoid applicable taxes, Access Promotion Contribution and/or other regulatory dues. PTA has been making every effort to curb the grey/illegal traffic termination since long and had already taken a number of significant steps to prevent Government losses through this menace. As per Standard Operating Procedure (SOP), PTA identifies irregular traffic patterns through analysis of heavy callers' data and monitoring of voice traffic and shares the results with Federal Investigation Agency (FIA) for subsequent raid/legal action. PTA also took the following actions to intensify its efforts against grey telephony:

Media Campaign, Call Centre Set up

PTA established a dedicated 24/7 call centre to receive and process complaints against suspected grey traffic activity, made to PTA by the general public through Toll Free Number (080055055), Telephone (0519207059), Fax (0512878127), E-mail (complaint@pta.gov.pk) and dedicated short code 8866. It was advertised in the leading print and electronic media that if a person receives a call from abroad and local number is displayed on his/her mobile phone, that number may be immediately reported to PTA. A total of 157,900 complaints have been received by the Authority from October,

2013 till 05th May 2014. The received complaints are deeply scrutinized to identify unusual call patterns and the suspected SIM connections.

Raids against Illegal Exchanges

PTA and FIA jointly conducted a total of 62 raids across the country during FY2014 which resulted in arrests of 52 persons besides confiscation of 327 Illegal Gateway equipments in different cities of Pakistan. Furthermore, a joint raid with FIA has been conducted against LDI licensee Wise Communication (Pvt.) Ltd. involved in bringing international traffic illegally in addition to International Clearing House (ICH) arrangement. Two persons were arrested along with confiscation of equipment used in this activity.

SIM Blocking

In addition, mobile numbers involved in illegal call termination (Grey Traffic) are being identified and blocked through various means including heavy caller data, call centre reporting etc. Consequently, a total of 539,024 SIMs have been blocked during the period under review.

Type Approval of Mobile Phones

The infiltration of sub-standard mobile phones, having no IMEI number, duplicate IMEI number or fake IMEI number has been a major problem for the LEAs since these handsets can also be used in criminal activities without being traced. Section 29 of the Act mandates PTA to type approve the terminal equipment to be connected directly or indirectly to the public switched network. The same regime was applicable on mobile phone handsets till 2002 when a MoIT Directive set aside the type approval of handsets. However, in pursuance to the Supreme Court Order dated 28th November 2013, PTA has started the Type Approval of mobile phone handsets. In this regard, PTA has prepared a SOP and published advertisements for type approval of mobile phones in the leading newspapers.

Furthermore, an extensive media campaign has also been launched by PTA for awareness of general public to avoid use of non standard handsets i.e. without genuine IMEI and PTA's Type approval. Customers have been warned that the use of non standard mobile handsets may lead to legal implications, if misused.

Issuance/Renewal of Licenses

As per the Act, PTA is responsible to issue licenses to the existing and new operators under various categories from time to time. In this regard, following new licenses have been issued/renewed to various operators in different service categories:

- An LDI license was issued to CM Pak LDI Ltd. on 19th December, 2013.
- An Infrastructure license was given to Trans World Infrastructure Services (Pvt.) Ltd. on 4th November, 2013.
- Mobile Cellular License of Pakistan Telecommunication Mobile Ltd. (Ufone) was renewed for a period of fifteen years on 8th April, 2014.



Quality of Service (QoS) of Cellular Mobile Services

PTA has been entrusted with the responsibility to ensure the provision of high quality telecom services to the people of Pakistan. To monitor the performance standards of the mobile industry, CMOs are required to carry out quality of service analysis of their respective networks on quarterly basis and submit detailed reports to PTA, in compliance to their license terms and conditions. PTA carried out a Drive Test (DT)/Joint Survey with CMOs from 1st February to 15th April, 2014.

Table 5 : Key Performance Indicators

Cities/KPIs	Voice KPIs					SMS KPIs	
	Network Accessibility >99%	Grade of Service ≤ 2 %	Call Connection Time < 5 Sec	Call Completion Ratio > 98 %	Call Quality (MOS) >3	Service Accessibility > 99%	End to End Delivery ≤ 12 sec
Mobilink	100%	0.70%	6.67	98.56%	3.04	99.57%	9.56
Ufone	99.93%	1.45%	6.28	98.72%	3.12	98.92%	8.96
Telenor Pakistan	100%	1.11%	6.41	98.26%	2.84	98.95%	8.53
Warid Telecom	100%	1.02%	6.17	99.40%	3.19	96.97%	14.67
Zong	100%	0.63%	5.99	97.93%	2.93	99.57%	11.18
SCO (SCom)	100%	22.51%	8.36	88.13%	2.43	89.83%	8.58

The survey was carried out in ten major cities of Pakistan and AJ&K (Karachi, Hyderabad, Lahore, Rawalpindi, Islamabad, Jehlum, Peshawar, Mardan, Quetta and Muzaffarabad) to verify the survey compliance of “Cellular Mobile Network Regulation 2011”. The countrywide results of Quality of Service (QoS) Survey against Key Performance Indicators (KPIs) of each operator are given in table-5.

The overall survey results were found to be satisfactory. However, the shortcomings were communicated to the CMOs for immediate remedial actions.

Infrastructure Sharing

Base Transceiver Station (BTS) is a telecommunication equipment, commonly referred to as 'Tower', which connects the mobile/handheld device of a user to the mobile wireless network of the concerned operator. To reduce the clustering and cost of tower deployment and encourage the sharing of infrastructure among the operators, PTA issued an SOP in September 2010 for tower sharing to mobile and WLL operators with a target to achieve a tenancy ratio of 1.5 in three years' time. At the end of this period, an overall tenancy ratio of 1.3 has been achieved by the operators (which means that on every 100 towers, 130 BTS antennas have been installed).

Revenue Generated by PTA

PTA has been mandated by the Act to collect fees from the licensees including Initial License Fee, Annual License Fee, spectrum charges, Late Payment Additional Fee and penalties etc, and to bill the operators for their contributions towards Universal Service Fund and ICT R&D Fund etc. PTA has collected Rs. 105 billion as fees from all licensees during the period from 1st July, 2013 to 30th June, 2014. PTA also collected US\$ 965,320,000 from the winning operators of NGMS spectrum auction in April, 2014. The remaining amount of US\$ 147,500,000 plus markup @ LIBOR+3% per annum will be paid by the operators in equal annual installments in the next five years. The receipt of this revenue has been one of the major fiscal highlights of the FY2014.

Imposition of Call Setup Charges by CMOs

CMOs jointly imposed uniform call set-up fee / charges @ "Rs.0.10+tax per call" in the last week of December 2013. The said charge was in addition to the normal tariffs being charged by the CMOs and the same was reported in the media. PTA took cognizance of the issue and a Directive was issued to all CMOs requiring them to withdraw the said charge in light of Section 4(1)(m) and 6(e) of the Act read with regulation 15(10) of the Telecom Consumers' Protection (TCP) Regulations, 2009. Furthermore, CMOs were directed to furnish compliance report along with reasons and justifications for increase / levy of the said charge. An industry meeting was called by the regulator to discuss the issue in detail and inform the operators about the complaints/ concerns of the subscribers and other stakeholders on the imposition of call setup charges. The operators were asked to reconsider their decision in response to which they requested the Authority to give some time to them to amicably resolve the issue. The case is under process and different options are being weighed before finalization of the issue.

3G /4G QoS Monitoring & Benchmarking Training

PTA organized a two days training in collaboration with NEMO Anite (Finland based Company) at PTA headquarters from 26th to 27th June 2014. The training aimed at imparting knowledge and skills to PTA officials so that they can effectively monitor the



QoS parameters in 3G/4G environment. The NEMO Invex (Tool Model) enables outdoor drive test measurements and benchmarking to ensure QoS of the Cellular networks. Earlier in 2006, PTA procured NEMO outdoor equipment to measure the QoS of GSM mobile networks. Now, Anite has provided an upgrade of its NEMO QoS Monitoring Platform to PTA for 3G/4G. On this occasion, Chairman PTA, Dr. Ismail Shah, thanked Saybi Anite for provisioning of an upgraded model to PTA. He further stated that this solution will enable PTA to monitor licensed QoS Key Performance Indicators (KPIs) of 3G/4G networks in the country to ensure that quality standards are met and users get the services at anticipated quality standards.

Connecting with Academia

PTA has always been proactive in establishing strong linkages with Academia to promote mutual research and cooperation. Previously, a number of MoUs had been



signed with leading universities of Pakistan in this regard. Continuing the tradition, students of Military College of Signals (MCS) visited PTA Headquarters, Islamabad on 09th May, 2014. Chairman PTA, Dr. Syed Ismail Shah and senior officers of PTA welcomed the guests and informed them about working and role of PTA. Chairman PTA spoke about the latest developments in the telecom industry especially the recent 3G/4G spectrum auction. He further added that education sector has also shown tremendous growth in terms of adding up an increased number of educational and professional institutions, development of faculty and students' enrolments whereas growth in research on IT & telecom in Pakistan has not been proportionate, therefore, research on forthcoming regulatory issues and challenges and, transfer of new technologies is likely to assist the regulator and the policy makers.

Chapter 2

TELECOM
SECTOR
ECONOMY



Pakistan Economy during FY2014¹

Pakistan achieved a reasonable growth of 4.1% during FY2014 after witnessing a slow growth period during the previous four years. The revival of growth has been possible with the successful implementation of economic agenda set for the uplift in economic activities: stabilization of foreign exchange reserves and exchange rate, better energy supply to industrial sector, successful auction of 3G and 4G licenses, and launch of Euro Bond. During FY2014, the industrial sector expanded by 5.84% against the growth of 1.37% in last year, while agriculture grew by 2.12% and services sector by 4.08%, however, growth in these two sectors was slower than last year. The per capita income of Pakistan has reached at US\$ 1,386, registering a growth of 3.5% compared to a growth of 1.44% in last year.

The real economic activity has started to show signs of revival in FY2014; however, continuation of the current growth momentum depends on the recovery of agricultural production during FY2015 in the aftermath of devastating floods in September 2014. Growth in Large Scale Manufacturing (LSM) may remain slow mainly due to continued energy shortages, reduced production capacity of independent power plants and low supply of gas to fertilizer plants. During FY2014, the external balance of payment position of Pakistan remained dominated by healthy remittances of US\$ 15.8 billion from overseas Pakistanis while showing slower growth in export, imports and Foreign Direct Investment (FDI). Trade deficit reached US\$ 16.6 billion during FY2014 as the exports and imports remained at US\$ 25.2 billion and US\$ 41.8 billion respectively. Gross foreign exchange reserves were US\$ 10.5 billion at the end of August 2014 compared to US\$ 6.0 billion a year earlier.

¹ Source of information in this section is 'Pakistan Economic Survey 2013-2014, Finance Division, Islamabad and 'Monetary Policy Statement, September 2014', State Bank of Pakistan.

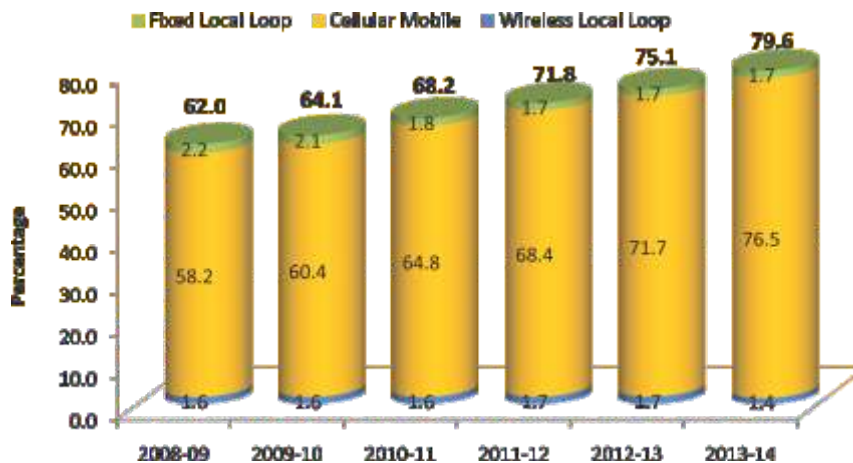
Total FDI inflows in the country increased during FY2014 to US\$ 1,483 million compared to US\$ 1,258 million in last year. On account of the auction of Spectrum for Next Generation Mobile Services (NGMS) including 3G and 4G and deployment of advanced telecom networks, telecom sector attracted FDI inflows of US\$ 903 million resulting in a significant contribution of 34.2% in the total FDI flows in the country during the year.

During FY2014, telecom sector of Pakistan witnessed revitalization with the advent of 3G/4G services and related activities. All the major indicators showed positive growth: teledensity increased to 79.8%, telecom investment crossed US\$ 1,816 million including US\$ 903 million FDI inflows, telecom revenue touched an estimated Rs. 465 billion and broadband penetration crossed 2% mark. It is expected that introduction of next generation telecom services in the country will further boost the growth of telecom sector in Pakistan.

Teledensity

At the end of FY2014, total teledensity in the country reached 79.6%, registering a healthy annual growth of 5.8% compared to a slower growth of 4.9% in FY2013. Cellular mobile segment was the main contributor towards overall growth in teledensity as Wireless Local Loop (WLL) segment continued with its declining trend and Fixed Local Loop (FLL) teledensity showed slight improvement during the year. Cellular mobile penetration has reached 76.5% with its increasing share of 96.1% in total teledensity. Due to negative growth of WLL segment in recent years, the combined teledensity of FLL and WLL has declined to only 3.1% at the end of FY2014 compared to 3.8% at the end of FY2009.

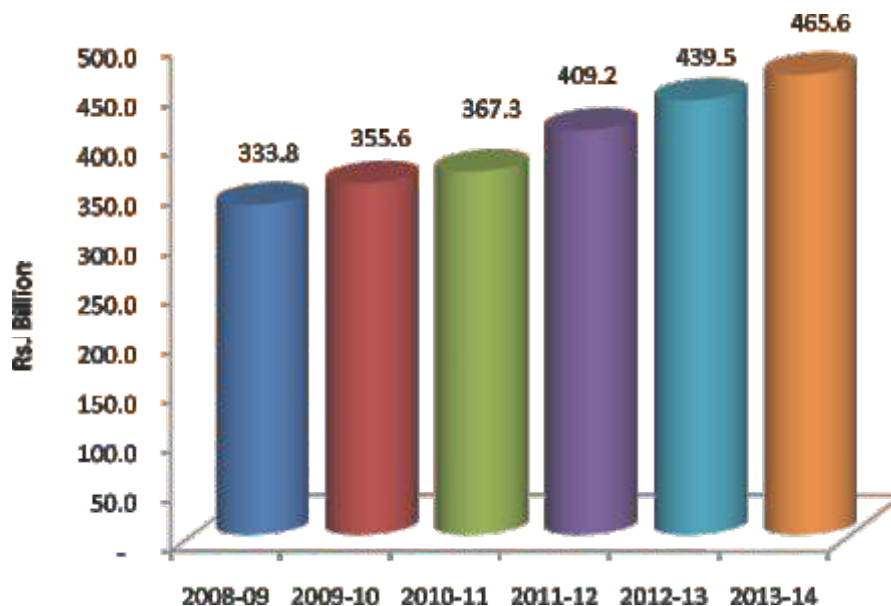
Figure 1 : Teledensity



Telecom Revenues

Annual revenues from telecom sector reached to an estimated Rs. 465 billion during FY2014, up from Rs. 440 billion last year, and registering an annual growth of 5.6%. Annual revenue growth of 5.6% during FY2014 has been slower than the growth of 7.4% in FY2013. The cellular mobile segment has the largest share (69.7%) of total telecom revenues, followed by Local Loop (18.9%) and LDI (8.7%). Over the years, cellular mobile's share in total revenues has increased from 63.6% in FY2009 to the current level of 69.7%; comparatively, LDI segment's share has declined to 8.7% from 14.4% in FY2009 due to low international traffic. Telecom operators are continuously striving for new avenues of revenue growth by introducing innovative packages and value added services according to consumer demands, market trends and advancement in technology/solutions. Therefore, despite slow economic growth and low purchasing power of vast majority of population, revenues of telecom sector are registering positive growth, albeit high revenue growth has not been witnessed over the last few years.

Figure 2 : Telecom Revenues

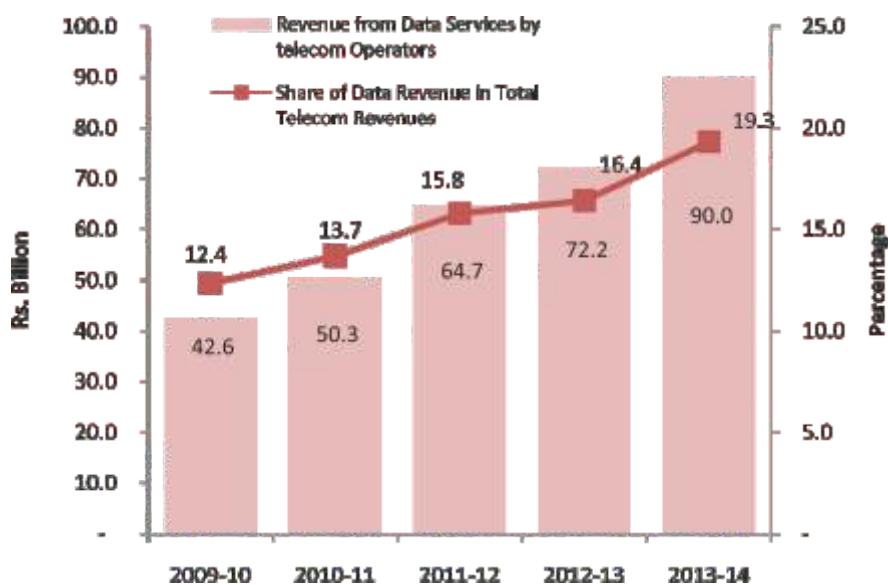


Note: Revenues for PTCL, Teletcard, Witribe, Worldcall, Wateen and CVAS licenses for FY2014 are estimated.

Revenues of telecom operators can be divided into voice and data. During FY2014 data revenues of telecom sector were Rs. 90 billion, registering a growth of 24.6%, which is more than double the growth of 11.66% during FY2013. In particular, data revenues of cellular mobile segment have shown a growth of 47.4%, reaching Rs. 47 billion during FY2014. This is a healthy sign in the wake of 3G/4G services in the country

and shows that the use of internet and data services on the cellular mobile has been increasing. CMOs will also have more sustainable revenue streams in future. Overall, the share of data revenues in total telecom revenues has increased to 19.3% during FY2014 compared to 16.4% last year. Similarly, cellular data revenue share has also increased to 10.1% from 7.3%. The data revenue trends are expected to take further momentum in coming years with an increasing use of smart phones, iPads and laptops in the society and an uptake of Over the Top (OTT) services, replacing traditional voice communication.

Figure 3 : Data Revenues of Telecom Sector



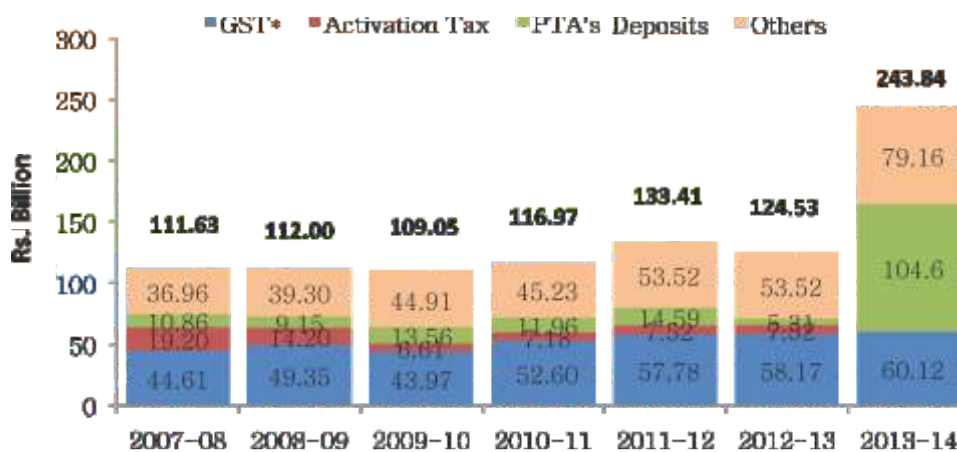
Note: Estimated data Revenues of LL and LDI

Telecom Contribution to National Exchequer

Telecom sector is a significant source of revenue generation for the national exchequer. During the last three years, telecom sector was contributing an average of Rs. 124.8 billion annually to the national exchequer in terms of taxes, regulatory fees, initial and annual license fees, activation tax, and other charges. During FY2014, telecom sector has contributed an all time high Rs. 243.8 billion, registering a growth of 95.8% over the last year. This jump in contribution is due to auction of 3G and 4G cellular mobile licenses in April 2014. PTA has deposited to the Government Rs. 96.5 billion out of the total value of US\$ 1.11 billion of the NGMS spectrum auction and the remaining amount of US\$ 147.5 million along with markup @ LIBOR+3% per annum will be paid by the operators in equal annual installments in the next five years.

Effective from 1st July, 2014, Federal Government has reduced GST/FED on telecom services from 19.5% to 18.5% and Withholding Tax (WHT) from 15% to 14%. This tax reduction is applicable to Islamabad, Balochistan, FATA, AJK and Gilgit Baltistan regions. The provincial tax departments of Punjab, Sindh and Khyber Pakhtunkhwa did not reduce taxes. Telecom sector is subject to higher GST and WHT rates compared to average GST of about 16% and 10% WHT in other sectors. Telecom sector of Pakistan is considered amongst the highly taxed sectors in comparable countries. Rationalization of taxes on telecom services can positively contribute to the telecom sector growth and contribution in the economy.

Figure 4 : Telecom Sector Contribution to National Exchequer



* GST and other taxes for 2013-14 are estimates.

Source: Federal Board of Revenue and Pakistan Telecommunication Authority.

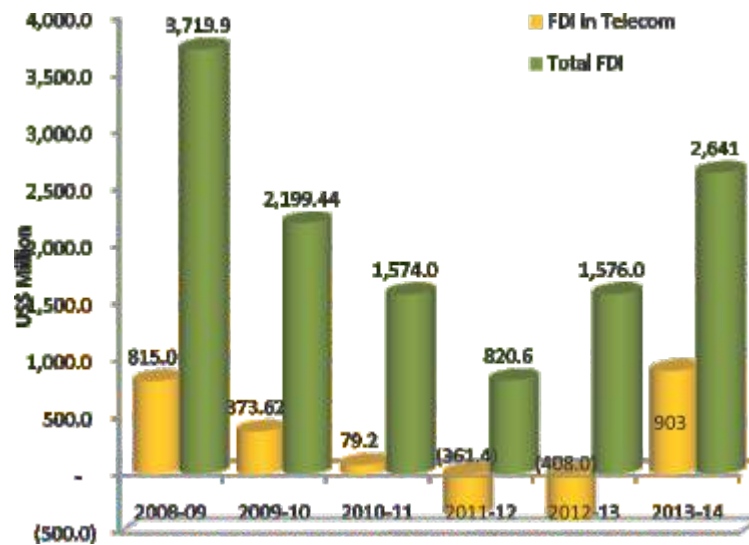
Note: PTA's contributions comprise of all its receipts including Initial and Annual License Fees, Annual Radio Frequency Spectrum Fee, Annual Spectrum Administrative Fee, USF and R&D Fund Contributions, APC for USF, Numbering Charges, License Application Fee, etc.

Others include custom duties, WHT and other taxes.

Telecom Investment

The Government liberalised investment policies allowing foreign investors in the telecommunications sector to own all the shares in a company and repatriate all of the profit. Such policies have attracted significant FDI. During FY2014, cellular mobile operators have invested US\$ 1,789.7 million on account of acquiring 3G and 4G spectrum and deployment of advanced telecommunication networks.

Figure 5: Foreign Direct Investment



Source: State Bank of Pakistan

The overall telecom investment reached US\$1,815 million in FY2014; an almost three times increase from the level of US\$600 million last year. Almost half of telecom investment was in the form of FDI i.e. telecom sector attracted over US\$903 million of FDI in FY2014, 34.2% of the total FDI received by Pakistan in that period.

PTA auctioned spectrum in April 2014 for 3G and 4G cellular mobile services from which significant further FDI was received. The auction concluded with a total value of US\$ 1.11 billion. By the end of FY2014, US\$ 965 million of the auction proceeds have been paid by the operators with the balance of US \$147.5 million plus markup @LIBOR+3% per annum receivable in five equal annual installments in the next five years.

Table 6 : Telecom Investment

	US\$ (Million)					
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Cellular	1,229.75	908.8	358.6	211.8	570.4	1,789.7
LDI	276.75	183.1	108.7	16.2	1.9	1.8
LL	57.37	22.5	18.2	5.0	16.1	14.2
WLL	82.11	23.0	7.6	7.3	11.9	10.0
Total	1,645.98	1,137.51	493.25	240.3	600.3	1,815.6

Note: 2012-13 figures are revised
PTCL, Telecard, Witribe and Worldcall are for three quarters of FY2014. Wateen figures not received.

Telecom Imports

During FY2014, both operators as well as cellular mobile customers prepared themselves for 3G and 4G services in the country. Operators upgraded their telecom networks and systems, and subscribers opted to shift to smart phones to enjoy 3G/4G services. Resultantly, FY2014 witnessed record imports of US\$ 544 million of cellular mobile handsets and US\$ 682 million worth of telecom equipment, registering growth of 20.7% and 30.3% respectively.

Table 7 : Telecom Imports

	US\$ (Million)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cellular Mobile sets with Battery	169.23	218.2	465.3	450.6	544.0
Other Telecom Apparatus	556.45	548.1	488.7	523.4	681.9
Total Telecom Imports	725.68	766.3	954.05	974.0	1,225.9
Source: State Bank of Pakistan					
Note: Imports for the FY2013 are revised.					

Overall, the telecom imports crossed the mark of US\$ 1.23 billion, of which 44.4% is for the imports of consumer items i.e. cellular mobile handsets. With an increasing annual trade deficit amounting to US\$ 16 billion and a pressure on foreign exchange reserves, Pakistan needs to develop local industry for telecom equipments and handsets with the cooperation of regional partners engaged in telecom manufacturing. Ministry of IT and PTA have been encouraging new and existing investors in Pakistan and abroad to move forward for such ventures.

Chapter 3

CELLULAR
MOBILE



3

Cellular mobile sector of Pakistan acts as the backbone of the telecom sector in terms of coverage, subscribers, financials and services. Deregulation of the cellular sector in 2004 gave a whole new dimension to the mobile services with the introduction of two new players. Since then, cellular sector has seen many highs. However, the Telecom World is evolving fast and new technological developments take place rapidly. Two such developments were introduction of high speed mobile internet through 3rd Generation (3G) and the 4th Generation (4G) mobile services in which Pakistan had lagged behind, due to which the mobile cellular segment was gradually precipitating to a stagnation point. To reinvigorate the cellular mobile segment of Pakistan, PTA provided the perfect catalyst by auctioning the spectrum for the Next Generation Mobile Services (NGMS) in April, 2014. The advent of 3G/4G services in Pakistan has opened new avenues of telecom activities that the operators can utilize to provide innovative services, attract customers, generate revenues and stabilize their market position.

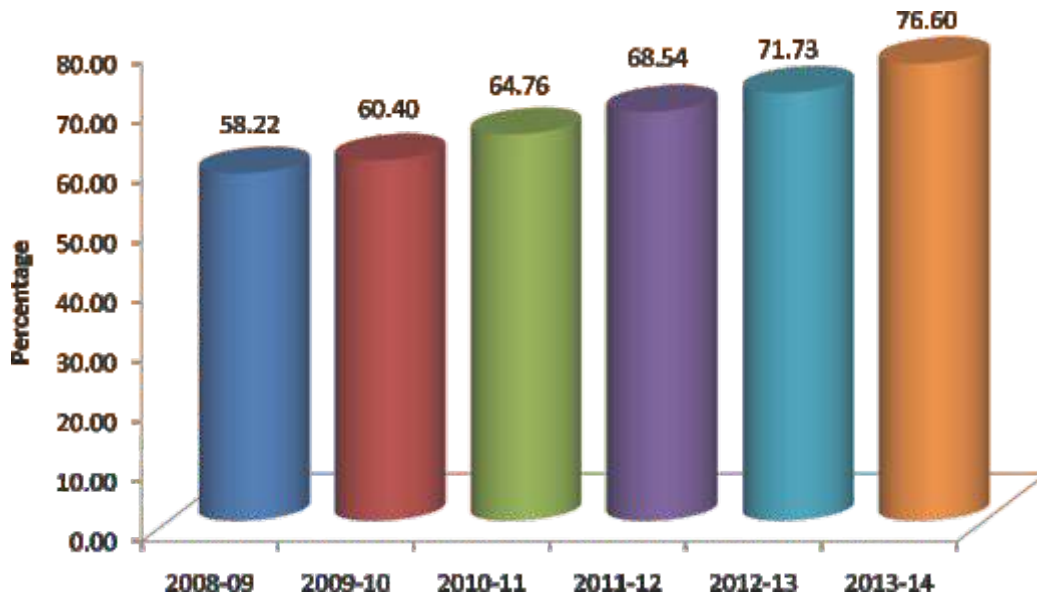
During the FY2014, significantly improvements in major statistics of the cellular sector have been observed. Cellular teledensity improved to 76.6% by the end of June 2014, as compared to 71.7% as of June 2013 - highest increase in the last six years. Cellular subscribers reached 139.9 million by end of FY2014, growing by 9.1% as compared to 128.25 million at the end of June 2013. Mobilink remains to be the market leader in terms of subscribers and cell sites while Zong emerged to be the fastest growing operator again this year. Average outgoing minutes per subscriber per month have increased while average SMS per subscriber per month dropped slightly due to increased use of social media applications via internet on smart phones, iPads and laptops.

Mobile Penetration

Penetration is considered to be the foremost numeric indicator of the telecom proliferation in a country. As the number of subscriptions increases, the penetration

level also rises keeping population constant, providing a swift insight into the status of telecom services in the country. Pakistan's mobile penetration has been growing at an astounding pace immediately after the de-regulation of the sector in 2004. However, saturation factor came into play over the last few years and the penetration growth started slowing down. Currently, mobile penetration has reached 76.6% at the end of FY2014 as compared to 71.73% in FY2013. The penetration increase in the FY2014 is the highest in the last six years indicating a new stir in the market with the successful launch of NGMS in the country. The cellular mobile operators also kept on offering new and innovative packages to attract customers while complying with PTA's SOP for SIM verification.

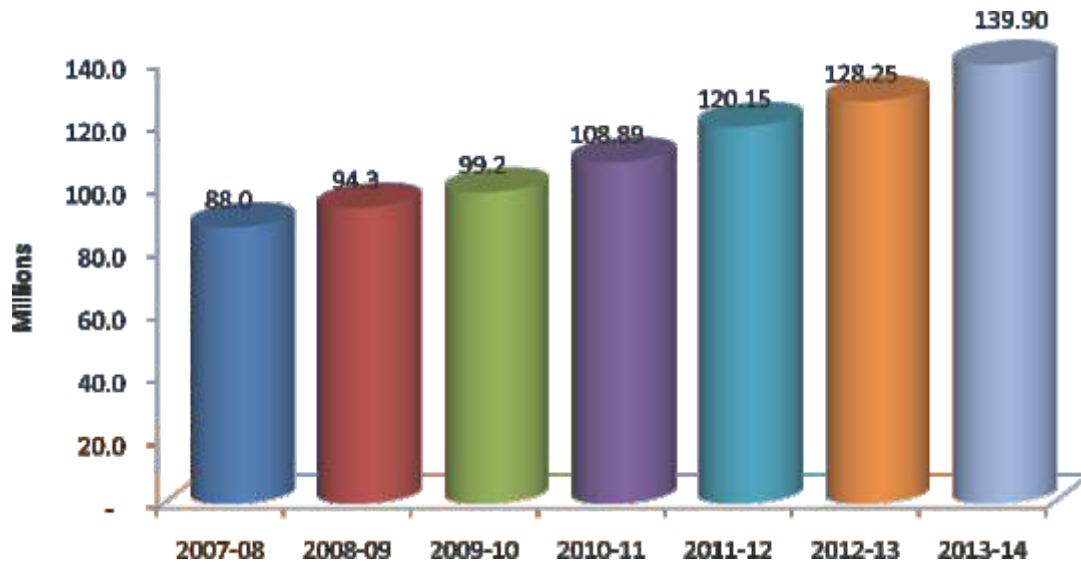
Figure 6 : Cellular Penetration



Cellular Subscription

Cellular mobile subscribers (number of active SIMs) in Pakistan reached 139.9 million at the end of June 2014 compared to 128.25 million as of end June 2013, depicting growth of 9.1% as compared to 6.7% during the corresponding period last year. Growth in this segment is a healthy sign for the operators as more subscribers mean more revenue generating opportunities. Similarly, existing customers also reap more benefits from the operators in the shape of new offers, packages and reduced tariffs. It is a commendable achievement for the cellular mobile operators as well after a tough period of streamlining the SIM sale procedures and huge investment in the NGMS license auction.

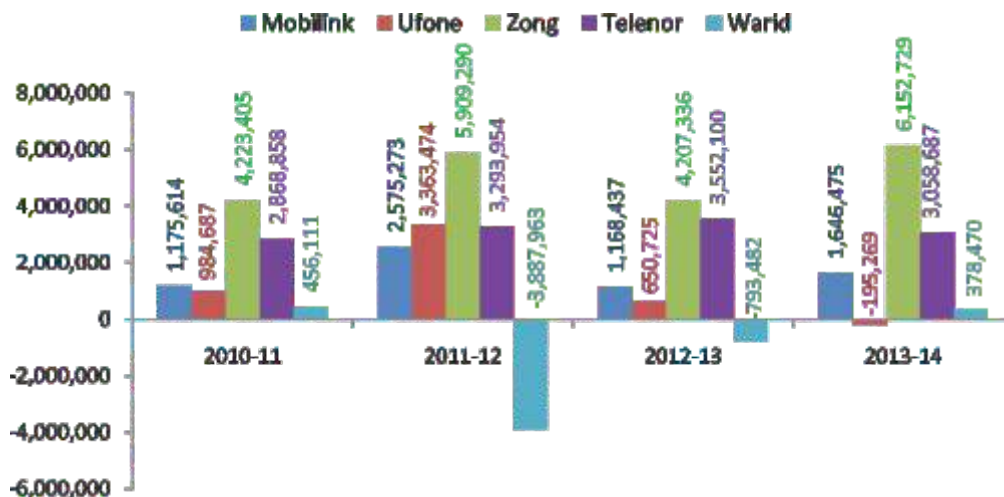
Figure 7: Cellular Subscribers
(Number of Active SIMs)



Net Additions

Cellular mobile operators added 11.04 million net new subscribers during the FY2014 as compared to 8.8 million during the corresponding period last year. Figure - 8 shows the trend of net additions during the last four years of all cellular mobile companies in Pakistan. It is evident that Zong has been the fastest growing operator in Pakistan and the company managed to add highest number of additions (6,152,729) this year as well. Telenor was able to add the next highest number of subscribers (3,058,687) after Zong during the current fiscal year. Mobilink is the market leader in terms of total subscribers; however, the operator has not been able to keep up with Telenor or Zong in the previous or current year as only 1,646,475 subscribers joined its network during FY2014.

Figure 8 : Cellular Mobile Subscribers Net Additions

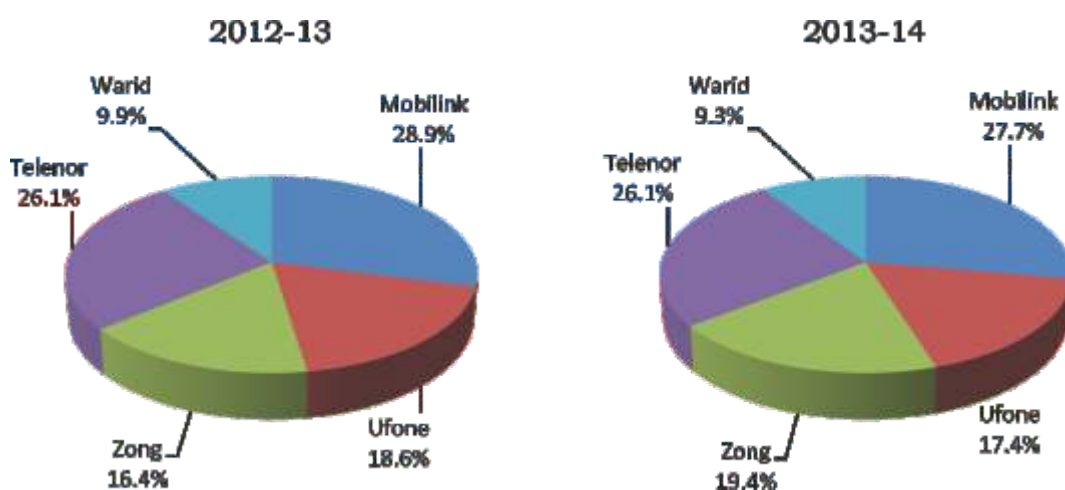


Warid has been churning subscribers heavily during the last two years, however, the company bounced back with the positive addition of 378,470 subscribers during FY2014. Major surprise in the net additions was from Ufone which reported a loss of 195,269 subscribers during FY2014 for the first time.

Market Share

Cellular mobile market has been undergoing interesting changes in the last few years. The gap between Mobilink and Telenor i.e. the two biggest operators in cellular segment, is diminishing with every passing year. However, rapid expansion in the subscriber base of Zong seems to be the major influence on market position of Mobilink and Ufone since Telenor managed to hold on to its share from last year. Mobilink is still the market leader with 38.8 million subscribers and 27.7% market share as of June 2014 as compared to 28.9% last year. Telenor maintained its market share of 26.1% in FY2014 with 36.6 million subscribers. Zong switched places with Ufone to become the third biggest operator in Pakistan's cellular sector with 19.4% share and 27.2 million subscriber base as of June 2014, up from 16.4% at June 2013. Ufone reported a slight drop in its subscriber base which now stands at 24.3 million and consequently, the market share also decreased to 17.4% as of FY2014 as compared to 18.6% at the end of corresponding period last year. Warid remained to be the operator with smallest share of 9.3% which was 9.9% in FY2013 and a subscriber base of 13.1 million at the end of FY2014.

Figure 9 : Cellular Subscribers Share

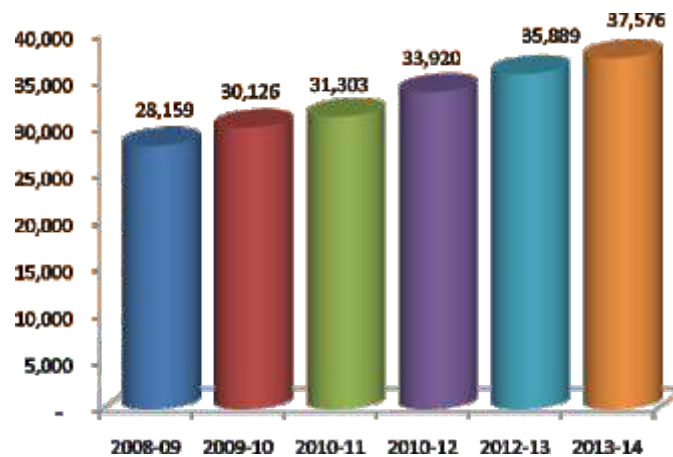


Network

Pakistan is a geographically diverse country with lands, peaks, deserts, seas and complex terrains spread over 796,096 sq. kms. Cellular mobile operators have done remarkably well to cover almost 92% of the land area of Pakistan. A total of 37,576 cell

sites have been erected by the cellular operators across the country as of June 2014 which is 4.7% more than the 35,889 cell sites reported at the end of FY2013. Although it is a single digit growth, it may be noted that CMOs kept expanding their networks while undergoing important upgrades on existing cell sites for expected launch of NGMS. Zong carried out major expansion in its network during FY2014 with the addition of 1,206 new cell sites followed by Telenor with 580.

Figure 10: Total Cell Sites



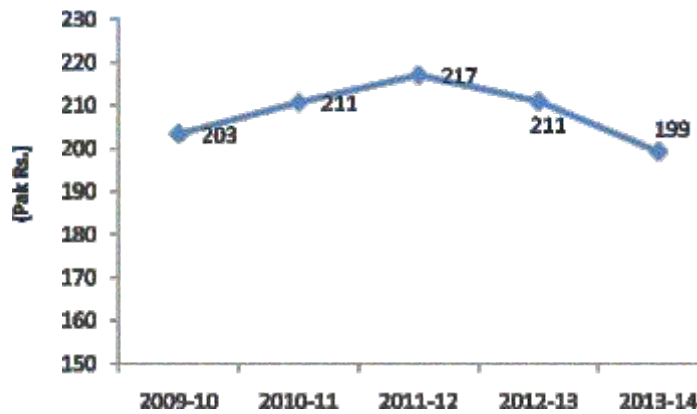
Ufone added 310 and Warid 55 new cell sites while Mobilink closed down 464 of its existing cell sites. Despite that, Mobilink still has the highest number of cell sites in Pakistan i.e. 8,593. Ufone has the second highest number of coverage points with 8,291 cell sites while Telenor follows with 8,179 cell sites as of June 2014. Zong has 7,514 while Warid reported a total of 4,999 cell sites at the end of June 2014.

Average Revenue per User

One of the key economic indicators used to gauge the revenue potential of a sector is Average Revenue per User (ARPU). It provides an understanding of the average revenue that cellular mobile operators are generating from a single subscriber. ARPU per month of Pakistan's cellular segment stood at PKR 199 (approximately US\$2) during FY2014 as compared to PKR 211 in FY2013 based on the number of SIMs. According to GSMA's market analysis on Pakistan in a report published in October, 2013, users of the cellular mobile services have on the average 2.17 SIMs. Based on these statistics, the actual ARPU per month of cellular services is equal to approximately Rs. 432 (US\$4.37). The considerable drop in ARPU signifies the prevailing tough economic environment in the country and the increase of Withholding tax from 10% to 15% in June, 2013 also limited the subscriber usage patterns. Moreover, stiff competition and tariff wars are also affecting the revenue

generation of cellular operators. Furthermore, the increasing use of smart communication applications via internet is slowly eroding the need for traditional SMS and voice calls. Therefore, it is imperative for the cellular mobile operators to focus on providing innovative data services and promote the use of mobile broadband that could help improve ARPUs significantly. It is, therefore, expected that the recent introduction of NGMS will increase the revenues of the cellular operators which have acquired the necessary bandwidth to deliver content and services at high speed to the subscribers.

Figure 11: Cellular Mobile Average Revenue per User /Month



With the advancement in technology, in addition to the introduction of amazing smart phones, more and more machines and devices are now making use of the connectivity capability to make the lives of people more convenient by offering them new features and services. According to one study it is expected that by the year 2050, approx 50 billion devices will be connected with other devices. All of this requires internet bandwidth offered by the Cellular Operators, who will stand to benefit tremendously in the coming years.

Traffic

Cellular mobile operators are actively involved in aggressive media campaigns promoting their respective packages and introducing lower tariffs. Telecom consumers are the ultimate beneficiaries of the competition as they eventually get more minutes/SMS for a given amount of credit as a result of reduced tariff and lucrative offers. Figures – 12 & 13 depict the trend of national and international traffic to fixed and mobile networks on cellular mobile networks. National traffic from cellular to cellular mobile networks have increased by 40% to 345.7 billion minutes

during FY2014 as an aftermath of bundled packages and unlimited talk time offers while traffic from cellular to fixed networks remained the same at 2.9 billion minutes. Similarly, the international traffic originating from cellular mobile networks has also increased to 2.8 billion minutes as compared to 1.9 billion minutes last year registering 47% growth during FY2014.

Figure 12: National Cellular Mobile Outgoing Traffic

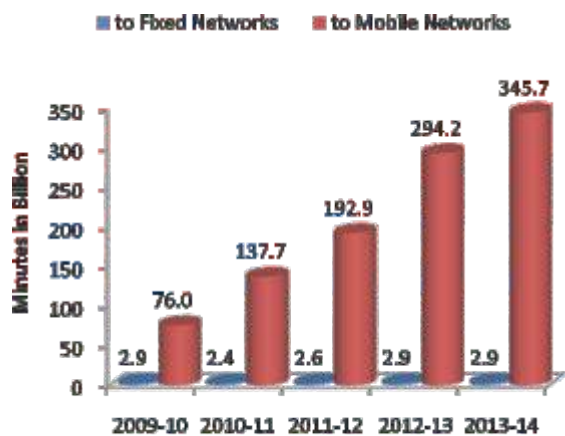
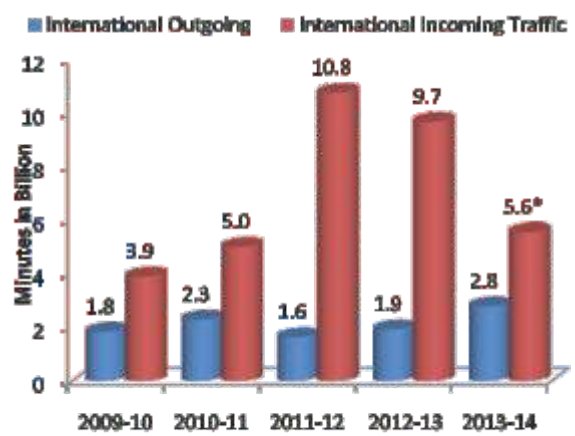


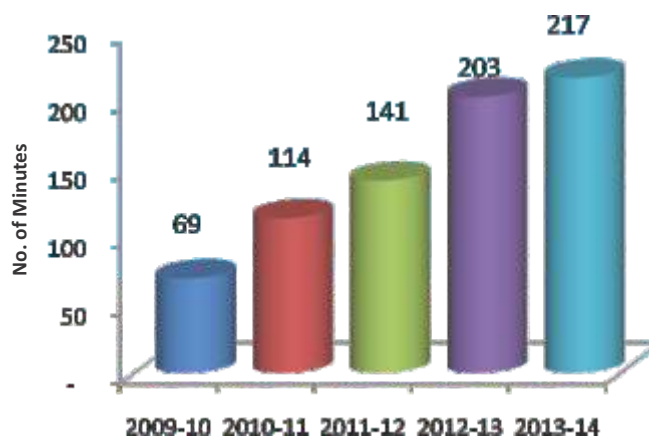
Figure 13: International Cellular Mobile Traffic



*Estimated

However, International incoming traffic on cellular mobile networks dropped to 5.6 billion estimated minutes as compared to 9.7 billion minutes last year depicting decline of 42% during FY2014. One view is that this is due to the introduction of International Clearing House (ICH), which increased the call rates to Pakistan due to upward revision of Access Promotion Contribution (APC) from 2.5 US cents per minute to 8.8 cents per minute resulting into higher tariffs for calls to Pakistan and ultimately reducing the international incoming traffic on the cellular networks.

Figure 14: Average Outgoing Minutes /Subscriber/Month (National & International)



On the other hand, more outgoing calls from cellular networks translated into higher Average outgoing minutes per subscriber per month which was 217 minutes at the end of FY2014 as compared to 203 minutes at the end of corresponding period last year with growth of 7%.

The total number of SMS exchanged over the cellular mobile networks dropped to 301.7 billion during FY2014 as compared to 315.7 billion last year showing a decline of 4%. Similarly, the average SMS per cellular subscriber in a month also reduced to 180 as compared to 214 last year. The rising influx of smart phones coupled with use of mobile internet, Over the Top (OTT) and social media applications such as Whatsapp, Viber, Facebook messenger etc which allow free messaging and calls has reduced the dependence of a subscriber on traditional mode of SMS resulting into reduced number of SMS exchanges over cellular mobile networks.

Figure 15 : Average SMS/Subscriber/Month

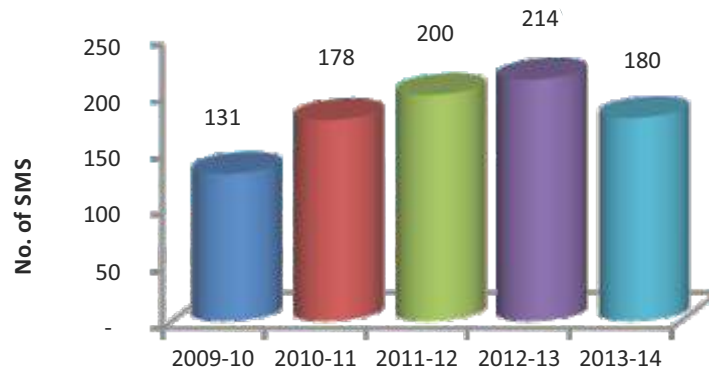
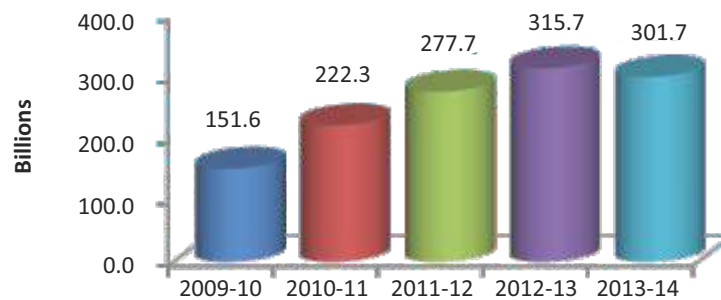


Figure 16 : SMS by Cellular Mobile Operators



Chapter 4

**BASIC
SERVICES**

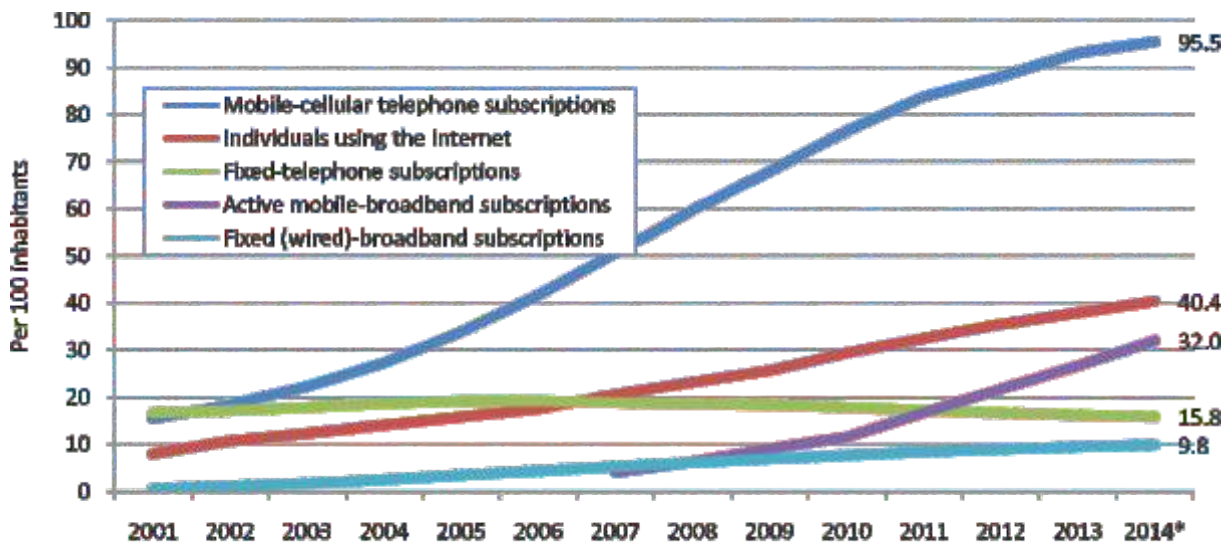


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Basic services include fixed local loop (FLL), Wireless Local Loop (WLL) and Long Distance International (LDI) services of Pakistan. Local loop (LL) segment was opened for competition in 2004 through de-regulation to various FLL, WLL and LDI operators. Despite the commercial presence of big operators backed by strong consortiums, proliferation of LL services could not materialize to the full extent. The major reason behind this could be the exponential growth in cellular mobile uptake during the past decade as unrestricted mobility feature proved to be a defining difference between the success of LL and cellular services. The dominance of PTCL in the LL segment still persists, especially in the fixed line segment owing to a nationwide infrastructure, established over the last 6 decades.

FLL subscribers continued to decline in Pakistan in the last few years. The decline of FLL services in Pakistan is not a unique case if we take a look at the global telecom development of the past decade or so.

Figure 17: Global ICT Developments, 2001-2014



Note: * Estimate

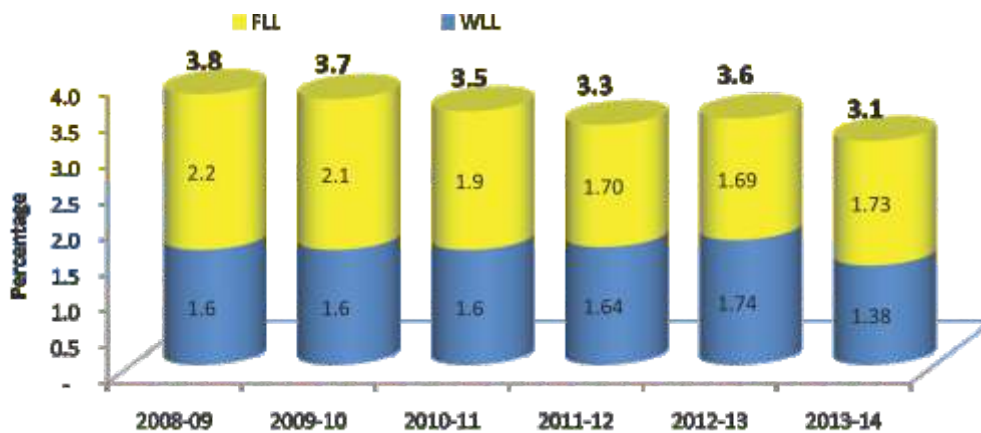
Source: ITU World Telecommunication /ICT Indicators database

Figure – 17 depicts the subscriber wise comparison of the major telecommunication mediums in the world. Fixed telephone subscriptions are as low as 15.8% while cellular subscriptions are more than 95%. Therefore, it is a universal fact that the cellular mobile is the most preferred medium for verbal communication globally while local loop is being increasingly used as a platform to deliver high speed broadband services.

Local Loop Teledensity

Teledensity of fixed and wireless local loop services reached 3.1% at the end of FY2014 as compared to 3.6% at the end of FY2013. The drop in teledensity during FY2014 can be attributed to the decline in WLL subscriber base as FLL segment has shown growth. FLL Teledensity has slightly increased to 1.73% at the end of FY2014 as compare to 1.69% at the end of corresponding period of last year. WLL teledensity dropped considerably and now stands at 1.38%, down from 1.74% at the end of FY2013. Substantial decline of numbers by Telecard is attributed as the major reason behind the decline of WLL services.

Figure 18 : Local Loop Teledensity



Note: Figure for FY 2013-14 is provisional. Figures for FY 2010-13 have been revised

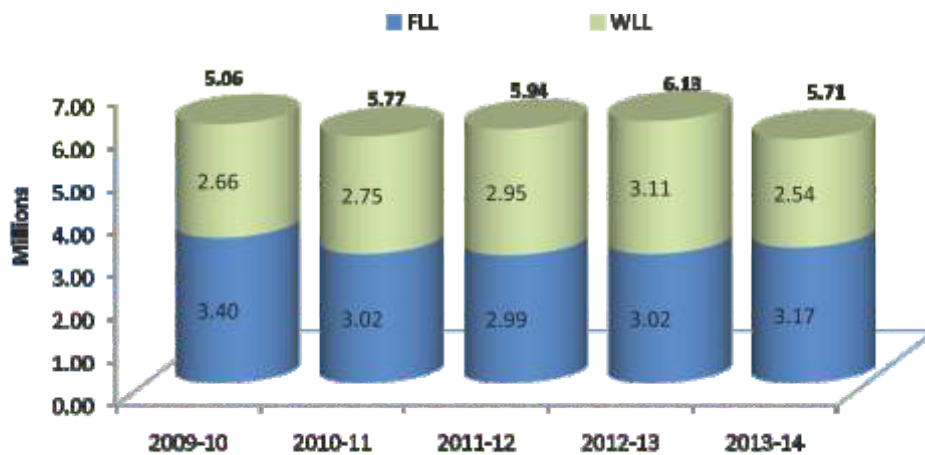
Local Loop Subscribers

Local loop subscriber base stands at 5.71 million at the end of FY2014 as compared to 6.13 million by end of FY2013. Net loss of 0.42 million subscribers has been reported translating into a negative growth of 7% during FY2014. FLL segment has slightly improved the subscriber figures to reach 3.17 million depicting growth of just 5% with 0.15 million net addition of subscribers. WLL segment has been the culprit behind dip in subscriber base of overall local loop subscriber base as more than half a million

subscribers were lost by WLL operators during FY2014. The decline of 18% brought the WLL subscriber base down to 2.54 million at the end of FY2014 which was 3.11 million as of June, 2013.

PTCL is the biggest operator in local loop segment in terms of subscriber base combining both of its FLL and WLL services. PTCL's total local loop subscriber base stood at 4,186,996 at the end of FY2014 as compared to 4,118,937 in June 2013. The company achieved just 1.7% growth with net addition of 68,059 subscribers. Despite little growth in subscribers, the share of PTCL in overall LL subscriber base has increased to 73% at the end of FY2014. The increase in PTCL's market share has more to do with heavy decline in subscriber base of other WLL operators than its own performance. FLL segment is still the stronghold of PTCL as more than 95% of the total FLL subscribers belong to PTCL. A major reason for PTCL having the lion's share in FLL segment is that due to the heavy cost of developing FLL Network, no operators operation including even PTCL is making any investment in the network.

Figure 19: Local Loop Subscribers



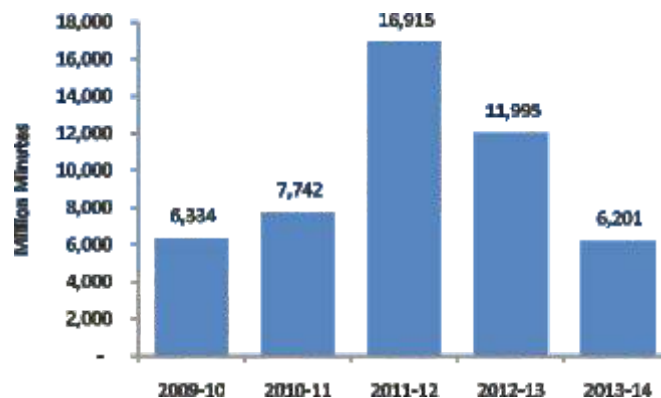
Note: Figure for FY 2013-14 is provisional. Figures for FY 2010-13 have been revised

Telecard can be termed as the biggest reason behind dismal statistics of the WLL segment as the Company reported an enormous loss of 0.5 million subscribers during FY2014. The overall subscriber base of Telecard now stands at 258,001 which is 66% less than that of FY2013. The Company has cited the closure of its Public Call Office (PCOs) as the main cause of this decline due to tough business conditions. Since the advent of cellular mobile services, PCOs are no longer the preferred service among the general public anymore. WorldCall has overtaken Telecard to become the second biggest operator in LL segment with 529,411 subscribers at the end of June, 2014. Wateen's subscriber base has also increased to 308,122 subscribers while Wi-Tribe also reported 200,186 subscribers as of June 2014. The subscriber base of NTC stood at 118,736 subscribers combining its FLL and WLL services in major cities of Pakistan by the end of FY2014.

Long Distance & International (LDI)

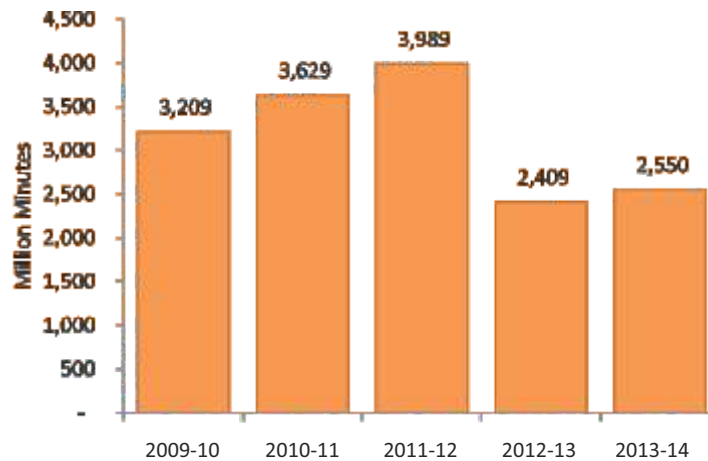
LDI is an important segment of the telecom sector as it serves as a gateway to international connectivity of Pakistan with the outside world. LDI services have been the centre of attention for the Authority due to continuous regulatory initiatives being undertaken to tackle grey traffic. Counter measures being introduced by the Government of Pakistan and PTA have been at the forefront of the telecom sector developments in the recent past. The implementation of International Clearing House (ICH) regime in October, 2012, extensive media campaign, dedicated toll free number for suspected number reporting and upgradation of the Monitoring & reconciliation of International Telephony Traffic (M&RITT) system are some of the key steps taken by Government of Pakistan and PTA to address the menace of illegal voice termination.

Figure 20: International Incoming Minutes by LDI Operators



The multitude of regulatory initiatives could not achieve the desired results in terms of traffic volume as the total international traffic (incoming and outgoing) decreased by 39% to reach 8.7 billion in FY2014 instead of increasing. The huge drop in traffic is mainly attributed to the reduction of international incoming minutes by 5.8 billion minutes during FY2014. The implementation of ICH regime in this sector could not stop Grey Traffic though revenues of operators and recovery of outstanding dues from operators improved. Decline of International traffic is owed to higher ASR rates for expatriates into Pakistan. On the other hand, total international outgoing traffic carried by LDI networks to other countries has increased by 6% as it stands at 2.5 billion minutes during the FY2014 as compared to 2.4 billion minutes last year.

Figure 21: International Outgoing Minutes by LDI Operators



Note: PTCL, Worldcall and Telecard traffic figures for the year 2013-14 are estimated.

Review of International Clearing House (ICH)

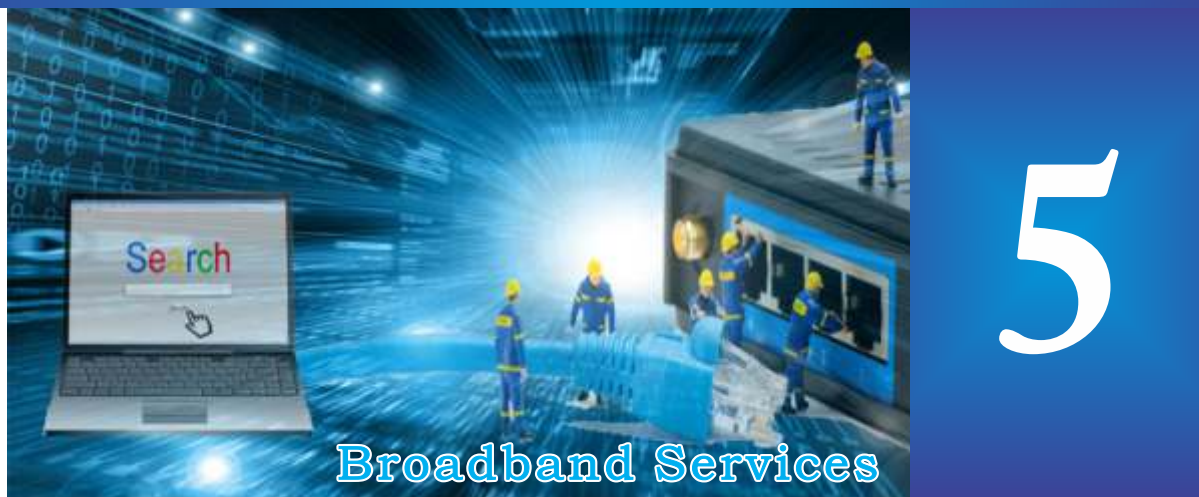
Grey telephony had been a constant nuisance for the Government of Pakistan and PTA due to huge losses being incurred on the National Exchequer for many years. In order to curb the grey telephony, stabilize international incoming termination rates and recover huge outstanding APC for USF dues, MoIT issued a Policy Directive on August 13, 2012 for the establishment of International Clearing House (ICH) Exchange. Under ICH, all international incoming traffic was to be brought in by one LDI Operator only i.e. PTCL being the incumbent and largest operator with installed international gateways and each LDI operator was entitled to its share of revenue as per the percentage agreed in ICH agreement based on their market share at the time of implementing ICH. Giving PTCL sole rights under ICH was intended to remove all sorts of competition and undercutting and hence the international incoming termination rates were intended to be stabilized.

However, since the introduction of ICH in October, 2012, the matter has been under the scrutiny of litigation and adjudication by the High Court and Supreme Court of Pakistan as well as the Competition Commission of Pakistan as being anti-competitive. Furthermore, ICH arrangement could not give the expected results and caused significant increase in grey traffic which ultimately resulted in steady decrease in inflow of Foreign Exchange and collections for the national exchequer. Therefore, Ministry of Information Technology (MoIT) withdrew its Policy Directive for establishment of ICH regime on 17th June, 2014 and restored authorization of PTA to

determine ASR including APC as done prior to ICH. The Authority is in the process of finalizing its determination on Approved Settlement Rates (ASR). However, the withdrawal of the earlier Policy Directive to establish ICH through another Policy Directive has also been challenged by LDIs and is subjudice in Sindh High Court.

Chapter 5

BROADBAND SERVICES



Information and Communication Technologies (ICTs) have become the prime focus of technological evolution around the globe and broadband is believed to be the driving force behind smooth and timely delivery of ICT enabled services. Broadband internet and mobile cellular services have been influential in connecting lives, online social relations, generating revenue, enabling freedom of speech and developing entertainment hubs in the 21st century. The rising trend of digitizing the services and creating a rich online experience is becoming the primary focus of the new age content providers. There are a myriad of competing technologies which can provide the bandwidth required for delivering broadband services, but each technology has its limits in terms of bandwidth, reliability, cost and coverage. Therefore, it is important for the Government to govern the broadband development by in order to provide the best possible combination of cost, quality and coverage to the average citizen.

World broadband subscribers have reached 690.1 million at the end of March, 2014 as compared to 654.6 million at the end of corresponding period last year adding 35.5 million new subscribers during the year. This translates into a modest growth of 5.4% in the four quarters leading upto March, 2014. Figure – 22 shows the subscriber number and quarterly growth rate for the past two years. China leads the world broadband market with 189 million subscribers followed by United States at 95 million. Asia has the largest number of 307 million broadband subscribers with Europe trailing at 194 million at the end of year 2013. Americas has 162 million, Middle East and Africa 23 million and Oceania 8 million subscribers. In terms of technology, market share for copper connections has dipped below 50% for the first time, with fiber-based technologies catching up fast.

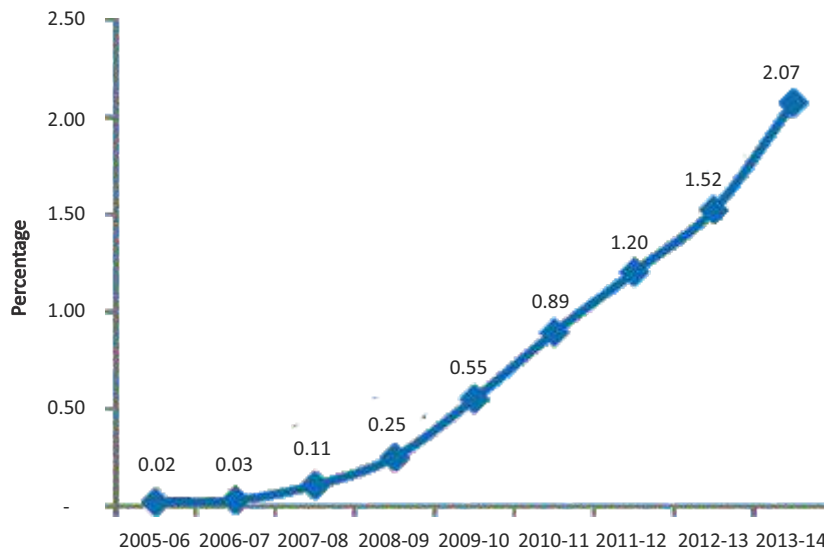
Figure 22: Global Broadband Trends



Broadband Penetration

Broadband sector of Pakistan is a true combination of a number of fixed and wireless technologies deployed by different operators. Although PTCL the incumbent, has a major hold on the broadband sector in terms of subscriber numbers, other operators are also pushing hard to establish their mark. Currently, broadband penetration of the country stands at 2.07% as of June, 2014 as compared to 1.52% at the end of the corresponding period last year. The slow rise in the penetration is due to a number of factors and an uplift requires concerted efforts by multiple stakeholders in the areas of consumer awareness, general literacy level, tariff reduction and local content development. It is expected that the launch of Next Generation Mobile Services (NGMS) services will play a crucial role in increasing the broadband penetration of the country by providing broadband services on smart phones.

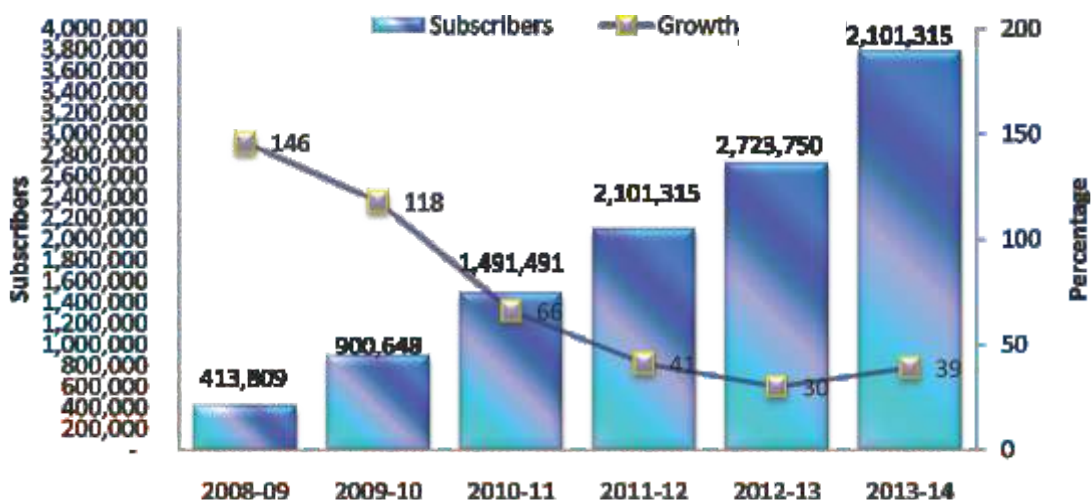
Figure 23: Broadband Penetration



Broadband Subscribers

Broadband subscribers stood at 3.79 million at the end of June, 2014 as compared to 2.72 million at the end of last fiscal year depicting 39% growth over the period under review. 1.07 million new subscribers have joined broadband networks in the FY2014, mainly due to the strong performance of PTCL. Growth rate of the broadband industry had been gradually declining with every passing year as depicted in figure – 24. However, the trend has reversed during FY2014. This is also supplemented by the fact that for the first time, broadband market has added over a million subscribers in a fiscal year which is a welcome sign for future.

Figure 24 : Broadband Subscribers



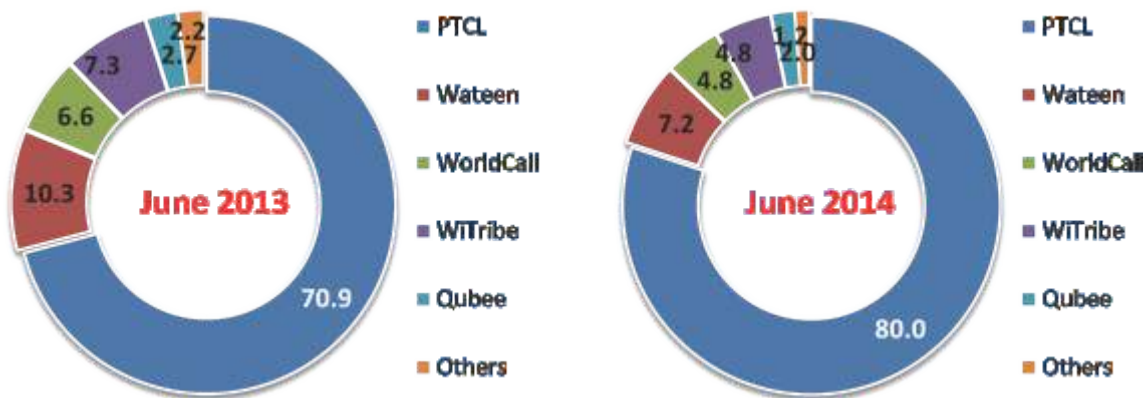
Major Broadband Players

PTCL is a major player in providing broadband services in Pakistan. PTCL has been successful in getting the major share of the broadband market by providing multitude of services and technologies under its umbrella. Ranging from ownership of international optical fiber links to availability of both fixed (DSL) and wireless (EvDO) broadband services, PTCL maintains a stronghold on almost every facet of the broadband market. Currently, PTCL has 80% share of the subscriber base consisting of 3.03 million subscribers including fixed and wireless broadband services.

The strength of the incumbent can be gauged from the fact that the net additions of PTCL i.e. 1,106,025 are actually more than that of the entire broadband sector combined. EvDO has been the main reason behind this growth due to 827,496 new subscribers added during FY2014.

Wateen, the next big operator, has 7.2% market share signifying the huge space between PTCL and other operators in the market. Subscriber base of Wateen stands at 273,794 at the end of FY2014 depicting a drop of 2.6% due to subscriber churn. PTCL's performance had a major impact on the market position of Wi-Tribe and WorldCall as equal market share of 4.8% gives them the joint third spot in broadband market of Pakistan. Wi-Tribe has 182,854 subscribers by the end of June, 2014 as compared to 199,786 subscribers in June, 2013 declining by 8.5%. WorldCall, despite having a variety of broadband technologies i.e. DSL, HFC and EvDO, has 183,094 subscribers as of June, 2014 with growth of 1.5%. Qubee made a promising start in the broadband market last year but dropped its market share from 2.3% last year to 2% in June, 2014 with 76,926 subscribers. Other companies constitute the remaining 1.2% of the market.

Figure 25 : Broadband Operators - Market Share

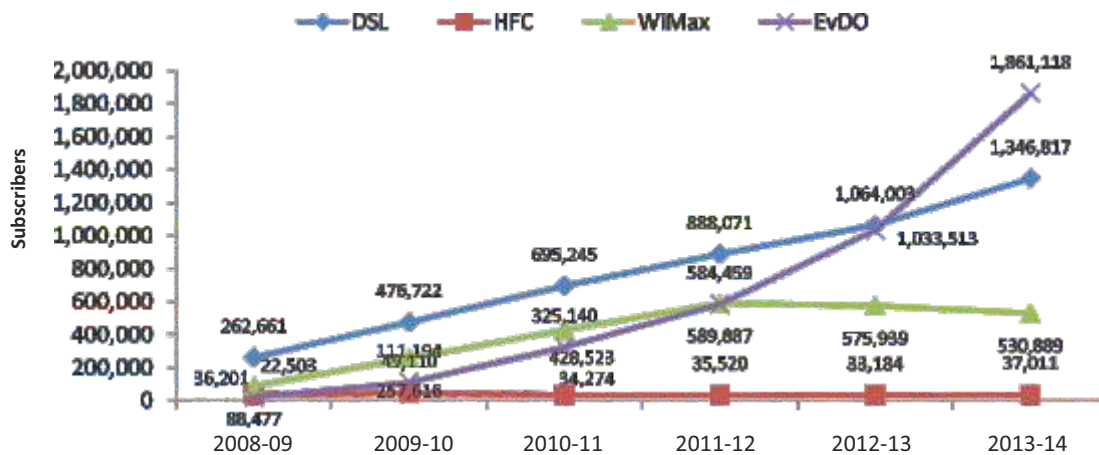


Broadband Technology Trend

Pakistan's broadband market has rich presence of latest high speed technologies due to technology friendly regulatory environment being provided by PTA. Historically, broadband over fixed line infrastructure (DSL, FTTH, HFC) were the only available mediums for delivering high speed internet. With the ingress of wireless technologies (WiMax and EvDO), a new array of wireless solutions changed the broadband landscape of the country entirely. Currently, wireless media is the dominant force in the broadband market surpassing the fixed line technologies by a considerable margin. Figure – 27 depicts the subscriber wise status of the broadband technologies in Pakistan during the last six fiscal years. EvDO is leading the market with 1,861,118 subscribers surpassing the DSL subscriber base of 1,346,817 by a clear margin at the end of June, 2014. After an impressive start in 2008, WiMax has been losing subscribers for the last two years reducing currently to 530,889 due to subscriber

churn and poor performance of the operators using this technology to deliver broadband services. HFC remains on the bottom line with 37, 011 subscribers at the end of FY2014.

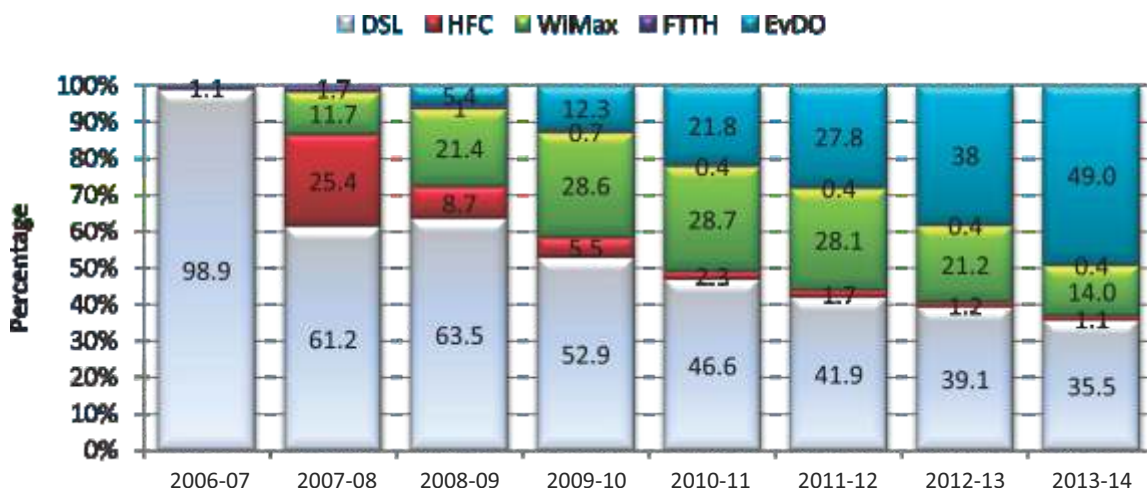
Figure 26 : Broadband Technology Trends



Currently, EvDO leads the subscriber market share with 49% at the end of FY2014 followed closely by DSL at 35.5% subscribers. WiMax services hold the third spot with 14% which was at 28.6% in 2010. Figure – 27 depicts the market share as it evolved from FY2007 to FY2014.

Wireless technologies have increased their market share to 63.1% at the end of June, 2014 while fixed line technologies hold 36.9% share. This market situation is in stark contrast to the global technology trends where fixed line dominates the broadband market in most of the countries.

Figure 27 : Broadband Technology Share



Broadband Tariffs & Offers

Broadband market of Pakistan has seen a gradual decrease in tariffs over the years in lieu of the introduction of new players and technologies. Cost of service remained a major barrier to the broadband proliferation in the country as the upfront installation charges and staggered Customer Premises Equipment (CPE) cost were in addition to the monthly tariff being charged by the operators. However, the upfront charges have been increasingly reduced by the major operators paving way for the customers to subscribe to the broadband service at affordable rates.

PTCL has been actively rolling out new and innovative offers to generate demand for broadband services. The incumbent announced that it will offer free EVO devices to all DSL subscribers as a backup connection with no device charges and a monthly line rent of Rs. 500. The operator also recently upgraded the existing 1Mbps DSL package to 2Mbps free of cost till 30th April, 2014. However, afterwards the subscribers will have to pay higher rates to continue with 2 Mbps speed. Wi-tribe launched a monthly “Win with Wi-tribe” customer engagement program under which its loyal customers are awarded with lucrative rewards through lucky draw. Qubee also offered free Wi-Fi routers and customized tariff plans to attract new customers. Wateen offered incentives to the customers by giving unlimited download volume at no additional cost. Launch of a new entrant 'Burq Broadband' in the wireless broadband market providing Wi-Fi prepaid services is also expected to further enhance the broadband delivery in Pakistan.

Chapter 6

Consumer Protection And Complaint Handling



Consumer protection is one of the core responsibilities of PTA under the Pakistan Telecom (Re-Organization) Act, 1996. Unprecedented growth in the subscriber figures and tough competition in the sector provides diverse options for telecom subscribers to choose from but it also poses certain challenges to the regulator to control the downside of telecom usage by some unscrupulous users and monitor the quality of service as per prescribed standards. To protect the consumers, PTA devised an automated Complaint Management System which not only records the customer complaints against their respective service provider but also resolves them expeditiously. Telecom consumers can register their complaints online, by email, telephone or conventional mail. Customers are also kept in the loop through the entire redressal process until satisfactory resolution of the complaint. Keeping in view the trend of complaints, the Authority always keeps strengthening its regulatory framework to cover most of the issues in line with international best practices. Particularly, after the launch of 3G services in Pakistan, PTA is fully cognizant of its responsibilities to manage complaints and educate the users to use the services judiciously.

Table 8 : Summary of Consumer Complaints Received and Resolved FY2014

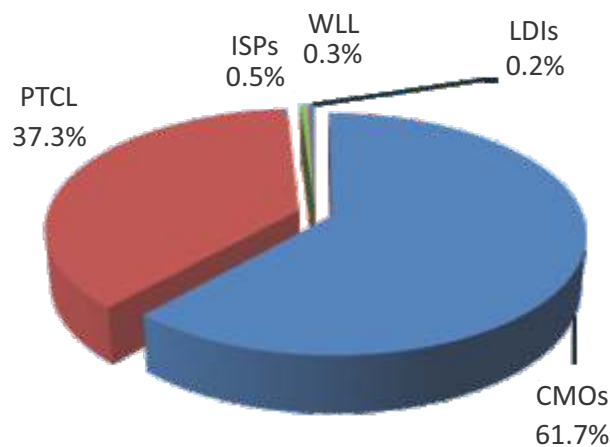
Service Providers	Complaints Received	Complaints Resolved	% Change
CMOs	22,271	21,722	97.5
PTCL	13,458	13,255	98.5
Internet Service Providers (ISPs)	198	184	92.9
Wireless Local Loop (WLL)	98	98	100.0
Long Distance International (LDIs)	67	60	89.6
Total	36,092	35,319	97.9

Analysis of Consumer Complaints

During FY2014, a total of 36,092 complaints were received against telecom service providers including CMOs, PTCL, LDIs, WLL operators and ISPs as compared to

29,714 complaints during the corresponding period in previous year. PTA achieved a remarkable 98% redressal rate which means that 35,319 of the total received complaints were resolved to the satisfaction of the customers. As shown in the graph and table above, cellular mobile operators constitute the major part of the overall complaints followed by PTCL. With the ever increasing subscriber base of telecom subscribers, the overall complaints trend has also increased this year in comparison with the corresponding period last year.

Figure 28 : Summary of Consumer Complaints Received 2013-14

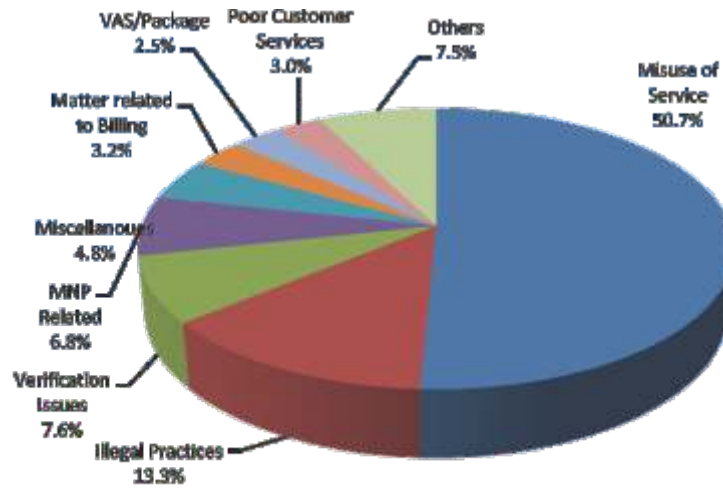


Cellular Mobile Related Issues

Cellular mobile subscribers constitute major part of overall telecom subscriber base, therefore, maximum number of complaints belong to this segment. Total number of complaints against CMOs during FY2014 stood at 22,271 as compared to 17,948 registered in FY2013. Out of these total complaints, 50% of the complaints were related to misuse of service which includes obnoxious, fraudulent and undesired communication as well as the blocking of SIMs involved in spam.

To ensure effective resolution of such complaints, PTA has already devised “Protection from Spam, Unsolicited Fraudulent and Obnoxious Communication Regulations, 2009”. Illegal practices (13.7%) and verification issues (7.6%) related to or using mobile SIMs are also a major part of the total complaints against CMOs which has been effectively dealt by the introduction of biometric SIM verification system by PTA. Pakistan is apparently the only country in the World which has implemented BVS for the issuance of SIMs. MNP related issues (6.8%), billing complaints (3.2%) and poor customer service (3%) have also been registered with the Authority frequently.

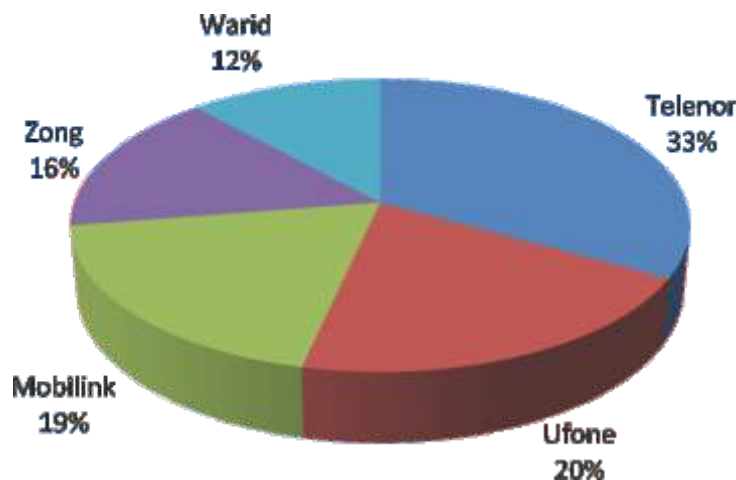
**Figure 29 : Category wise Complaints
(CMOs & MNP) FY 2014**



Note: Others include Refund of Amount, Non Provision of services, Misleading Statements, 3G/4G issues etc

In terms of the segregation of complaints on operator basis, a total of 7,372 complaints were received against Telenor which is 33% of the total CMO related complaints. Ufone, despite, being the fourth biggest operator subscriber wise, had 4,513 complaints against its various services which make up 20% of the total CMO related complaints.

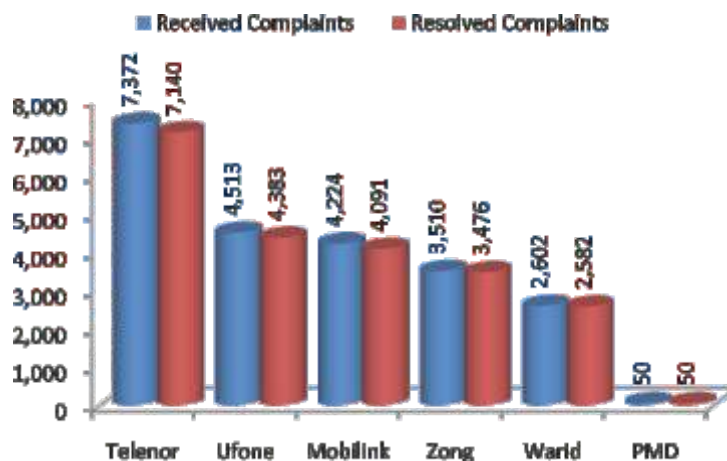
**Figure 30 : Breakdown of Complaints Against
Mobile Operators FY 2014**



Mobilink, which had the biggest share in complaints during the last few years dropped to third spot with only 4,224 complaints (19%) registered against its name during FY2014. Zong has 16% share of the total complaints against CMO as 3,510

complaints were received by the Authority against the operator during FY2014. Warid, the smallest operator in cellular market, also had the smallest share of only 2,602 complaints i.e. 12% of the total CMO complaints. PTA took up and pursued these complaints with the CMOs and managed to effectively resolve 98% of the complaints registered during FY2014.

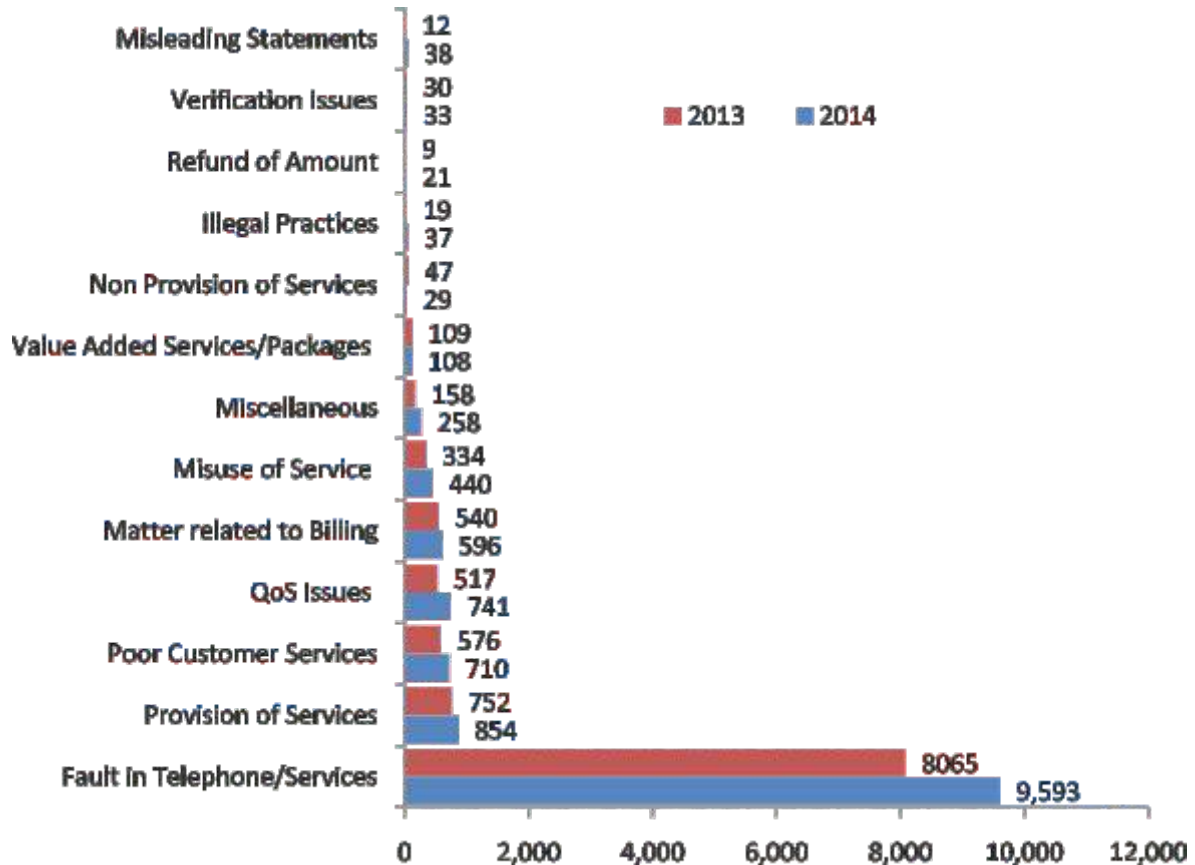
Figure 31 : Complaints Received and Resolved (Mobile Operators) FY2014



PTCL Related Issues

PTCL is an important operator for the telecom sector of Pakistan as the incumbent holds a virtual monopoly over the fixed line services. During FY2014, PTA received a total of 13,458 complaints against PTCL as compared to 11,168 complaints during the corresponding period last year. Faults/disruption in service remains to be the major issue regarding PTCL's services as more than 71% of the total complaints against the operator belong to this category. Being a fixed line operator, it requires door to door services for quick redressal of complaints. PTCL lacks in such services. The need for up gradation and maintenance of the existing infrastructure by PTCL is very much evident as depicted in Figure – 32 and to come up to the expectations of the customers. Among other areas of concern are poor customer services, QoS issues, and provision of services as per the complaints registered by PTA's Complaint management system.

Figure 32 : Analysis of PTCL Related Consumer Complaints (2013 and 2014)



Mobile Number Portability

Mobile Number Portability (MNP) is a service that allows the mobile subscribers to change the mobile network operator without changing the existing mobile number and code. PTA introduced MNP in March 2007 in order to provide the cellular mobile subscribers the flexibility of using the network of their choice, without the limitation of changing their mobile number. MNP facilitates fair competition in the market and encourages the operators to provide high quality services and attractive packages for customer retention.

Since the advent of MNP services in 2007, 29.8 million SIMs have been ported out to other networks in Pakistan. During the FY2014, 4.6 million SIMs have been switched from existing operators, inspired by lucrative offers and in search of better network performance of the other operators.

Telecommunication Retail Tariff Regulations

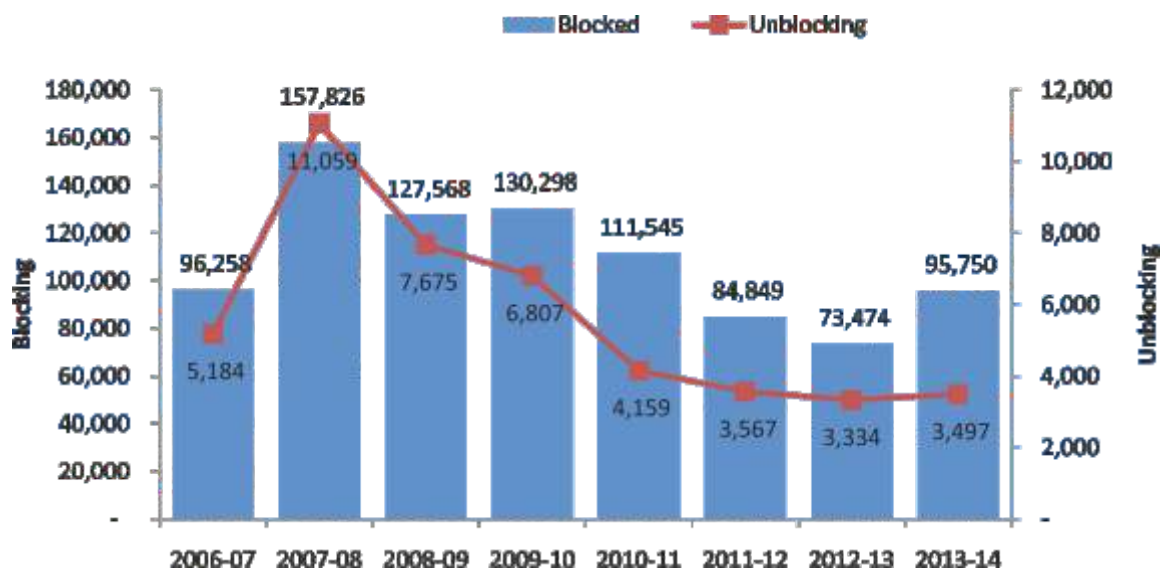
Tariff is one of the foremost factors that determine the acceptability of an offered service by the consumer. Under the Pakistan Telecommunication (Re-organization) Act 1996, PTA has been mandated to regulate tariffs in accordance with the changing dynamics of the telecom industry. Therefore, PTA is in the process of preparing “Telecommunication Retail Tariff Regulations” to provide a degree of pricing flexibility and stability compatible with safeguarding and protecting the interests of consumers. In addition, the Tariff Regulations will also ensure that tariffs are set at a level which takes into consideration the cost of provision of telecommunication services. Soon to be approved, the Tariff Regulations will also prevent cross-subsidization of other telecommunication services by basic telephone service.

IMEI Blocking

IMEI blocking facility introduced by PTA in 2006 is one of the major initiatives of PTA to assist the Law Enforcement Agencies (LEAs) to curb the rising incidents of stolen, lost and snatched mobile phones by culprits in Pakistan. PTA not only blocks the use of a reported handset on any cellular network in Pakistan but also helps unblock the phone in case the handset is recovered by the owner.

Since the launch of this service, a total of 877,568 IMEIs have been blocked by PTA as reported by the handset owners till June, 2014. Out of these, 48,394 IMEIs were unblocked after successful recovery of the handsets. During FY2014, a total of 95,750 IMEIs were blocked after scrutiny of the received complaints while 3,497 IMEIs were unblocked as depicted in Figure - 33.

Figure 33 : IMEI Blocking and Unblocking



Chapter 7

**Looking Ahead:
Shaping Future
Telecom Strategies**



This chapter highlights the key areas of public policy and regulatory interests that will augment the development of society through modernization of telecom and ICT infrastructure. In the next decade, ICT sector development will be based on consumer outlook, technological trends and industry led innovation. PTA is aimed at achieving full potential of ICT opportunities in terms of sector development, industry growth and quality telecom service provision to un-served areas on equitable basis while safeguarding the consumers' interests. To achieve this objective, it is imperative to ensure the presence of robust public policy framework, independent and dynamic regulator, committed public funding and meaningful consultation process with stakeholders.

Our vision is to create a fair regulatory regime - promoting competition and providing equal opportunities to the existing players and new entrants in the market. Fairness and transparency will also be ensured in licensing and competition. Government and the regulator will provide necessary policy and regulatory framework to address the existing and upcoming challenges to the industry and shall be responsive to the interests of all stakeholders against a sound cost benefit analysis. Nevertheless, the government and PTA shall undertake timely and efficient decisions to effectively safeguard public interests leading to economic and social well-being of the masses.

Smarter Communities and Market Growth

The burgeoning base of consumers, their evolving requirements as well as expectations of a ubiquitous user experience shape the telecom and ICT industry at large. Consumer constitutes the most important element of the Eco system and therefore, becomes the focal point of things in future, in particular the Pakistani consumers over ten to twelve years from now. In a country like Pakistan which is now the 6th most populous nation, telecom and ICT technologies have a direct and positive impact on human well-being. Whether it is outreaching of cost effective health care, educational and financial services to the un-served populace, easing traffic congestion

or preventing power theft, enabling technologies are helping us move towards a better, more humane and efficient society. The concept of smart cities and towns make extensive use of ICT, to improve the quality of life of its citizens through connected transport, smart energy, contactless payments, mobile government and more.

As technologies, specifically the mobile technology transforms access to information and services anywhere, anytime and by anyone, the resultant impact becomes a key driver of economic growth. In the next decade, access to affordable broadband is becoming as crucial to socio-economic development as networks like transport, water and power. Mobile technology spearheaded by vibrancy and innovation has just begun to unfold its value for society. Pakistan's population is estimated to reach 226 million in 2025 with median age of 26.4 and the country's consumer appetite will grow for all kinds of ICT services and innovative developments with approximately 63 million still below the age of 14 years. Mobile broadband subscribers are expected to reach 47 million in 2020 and 79 million by 2025 i.e. a mobile broadband penetration of 35% by 2025. Revenues from connected devices will surpass both the Voice and Data by 2020 and their combined revenues by 2025. Pakistan mobile and related market is estimated to be over US\$ 17 billion per year by 2025 up from the current US\$ 4 billion per year.

Key service providers in Pakistan will be encouraged to offer extended Over the Top (OTT) services such as Viber, Skype and work with third party digital distributors and vice versa to offer consumers value through product centric services in a collaborative framework. Collaborative framework shall be built around regulatory and technical support systems including availability of additional spectrum, spectrum harmonization, spectrum and infrastructure sharing and other regulatory interventions and facilitations wherever it is applicable and required.

Enabling Technologies

In order to catch up with the developed world, aggressive technology development strategies will have to be adopted by the Government of Pakistan and PTA will support all such deployment. PTA envisions affordable and broad based communications access to the consumer irrespective of their location in the country. PTA has already successfully awarded the spectrum in 2100 MHz and 1800 MHz bands in April, 2014 for 3G and 4G cellular mobile services. PTA is gearing itself to stay on top of the developments in the 5th Generation Mobile Services Technology so that it may be launched in Pakistan in a timely manner. In future, work shall be started to free-up additional spectrum and its award in all bands that includes 700/800 MHz, 850 MHz, 900 MHz, 1.8 GHz and 2.1 GHz for use by mobile operators for access networks.

Operators shall choose the latest versions of technology for their long term business viability and for which regulatory incentive shall also be provided. Adoption of HSPA+ and LTE in 2014, and advanced deployment of LTE will take place before 2020 and continue till 2025 and beyond. Existing WLL operators will be encouraged through a transparent process to migrate to LTE, which is now the 3rd Generation Partnership Project 2 (3GPP2) roadmap for future evolution of the standard.

To avoid spectrum congestion and ensure its efficiencies, Authorized Shared Access (ASA) will be introduced among service providers in Pakistan. The CMOs can consider joint shared deployment of network in low population areas where it is not otherwise profitable for single operator to invest. High capacity backhaul systems at higher frequency spectrum will be encouraged by PTA to avoid congestion at lower frequencies and low OPEX for the service providers. Due to its strategic location, Pakistan can play a pivotal role in becoming a main transit hub for all kinds of regional traffic in addition to its own increasing requirement. Large rural population in Pakistan that could not bear the fruit of technology, are to be served by Geosynchronous Orbits & Low Earth Orbit satellite systems.

Supportive Policy and Regulations

PTA aims for effective policy and regulatory framework in the face of imperative challenges facing Pakistan's telecom sector growth development today. PTA believes in a timely shift in regulatory regime with the introduction of next generation technologies/networks and proliferation of broadband, in particular, with an aim to safeguard consumer interests in Pakistan in an increasingly converging environment. As a regulator we need to analyze various resources, strategies and mechanisms that could be utilized by the Government and the regulator to streamline enforcement of national laws, rules and regulations that would govern the telecom sector in the next revolution underway with advanced spectrum licensing.

Following strategies are important in order to set course for medium as well as long term growth strategy of the telecom sector taking into consideration the interests of the key stakeholders.

- Facilitate healthy competition in the mobile segment rather than over-regulating it.
- No discrimination in favour of, or against, new market entrants, but establish a level playing field so that fairness and transparency is ensured in licensing and competition.
- Promote market consolidation and allow sustainable market structures to evolve naturally.

- Broadband Stakeholders Group to be constituted/revived comprising of representative of all relevant stakeholders for resolving issues and drawing a comprehensive implementation strategy.
- Additional 50 to 150 MHz of spectrum by 2025 in harmonized bands to be made available to meet the industry demands and to deliver the full benefit of mobile broadband services to consumers.
- Support mobile operators' transition to LTE & Advance LTE services using either TDD or FDD implementations.
- Initiate legislation on areas where hands on regulator's experience exposes gaps and inconsistencies.
- Avoid spectrum congestion and ensure spectrum efficiencies concepts such as Authorized Shared Access (ASA) will be introduced in the interest of consumers among service providers in Pakistan.
- Encourage mobile infrastructure and spectrum sharing through voluntary cooperation between licensed operators and also facilitating third party business.
- Regular in-house as well as third party Quality of Service (QoS) audits to ensure consumer interest are protected.
- Government to lay out policy guidelines to administer a 'co-regulatory' scheme to address community concerns about offensive and illegal material online.
- Respond proactively against cyber theft & crimes to build consumer trust in online services that shall also affect uptake in the long run.
- Unequivocal attention to extend broadband coverage across Pakistani's remote areas.
- Introduction of content licensing and monitoring reform to enable new business models for rights holders and commercial users to provide attractive content offers for consumers.

Annexures

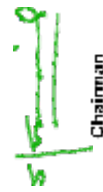
The background of the page is a light purple color. It features several thick, curved bands that overlap each other. One prominent band is a dark blue color, starting from the top right and curving towards the bottom left. Another band is a bright cyan color, starting from the middle left and curving towards the bottom right. There are also lighter blue and white bands that create a layered, abstract effect. The overall design is modern and clean.

Annexure 1 : Audited Financial Statement of Pakistan Telecommunication Authority for the year ended 30th June, 2014

Pakistan Telecommunication Authority
Balance Sheet
As at June 30, 2014

	2014 Rupees	2013 Rupees	Note	2014 Rupees	2013 Rupees
Balance of Federal Consolidated Fund, related party					
Balance of Public Account, related party	10,033,633,917	0,726,711,939	4	398,354,243	447,074,091
Due to/(from) Government of Pakistan, related party	(5,821,313,112)	(7,076,264,356)	5	-	-
	<u>4,212,320,805</u>	<u>(349,552,387)</u>		<u>345,625,000</u>	<u>592,800,000</u>
Non-Current Liabilities				141,942,727	
Long term payable to A.K & GR, related parties	538,107,168	755,642,370	6	<u>1,113,133,823</u>	<u>1,072,388,678</u>
Deferred grant	49,635,059	79,205,707	7		
Deferred liabilities	481,042,287	300,024,661	8		
	<u>5,277,105,310</u>	<u>785,370,591</u>			
Current Liabilities					
Unearned revenue	2,172,151,250	2,172,151,250	9	<u>429,508,357</u>	<u>867,812,215</u>
Payable to A.K and GR, related parties net	267,791,157	236,850,305	10		
Income tax payable	693,657,739	3,829,887,799	11	<u>454,064,238</u>	<u>150,432,497</u>
Accrued and other liabilities	248,416,756	103,335,113	12	<u>6,882,415,864</u>	<u>4,936,931,488</u>
	<u>3,402,016,964</u>	<u>6,342,224,467</u>		<u>7,565,988,459</u>	<u>6,055,206,750</u>
	<u>8,679,122,282</u>	<u>7,127,595,058</u>		<u>8,679,122,282</u>	<u>7,127,595,058</u>
Contingencies and Commitments			13		

The annexed notes 1 to 29 form an integral part of these financial statements.


 Chairman


 Member (Finance)

**Pakistan Telecommunication Authority
Income and Expenditure Account
For the year ended June 30, 2014**

	Note	2014 Rupees	2013 Rupees
Revenue	22	106,041,136,852	9,277,113,045
Expenditure			
General and administrative expenses	23	1,282,975,820	702,654,068
Provision for doubtful fee receivable	19.2	543,124,903	554,602,187
Audit fee		400,000	300,000
Financial charges		3,467	4,155
		(1,826,504,190)	(1,257,560,410)
		104,214,632,662	8,019,552,635
Amortization of deferred grant	7.2	33,620,698	33,620,698
Other income	24	560,605,116	396,734,879
		594,225,814	430,355,677
Surplus for the year before taxation		104,808,858,476	8,449,908,312
Less: Provision for taxation	25	(3,714,723,951)	(5,727,735,576)
Net surplus for the year transferred to Federal Consolidated Fund		101,094,134,525	2,722,172,736

The annexed notes 1 to 29 form an integral part of these financial statements.



Member (Finance)



Chairman

Pakistan Telecommunication Authority
Cash Flow Statement
For the year ended June 30, 2014

	Note	2014 Rupees	2013 Rupees
CASH FLOWS FROM OPERATING ACTIVITIES			
Surplus for the year before taxation		104,808,858,476	8,449,908,312
Adjustments for:			
Depreciation and amortization		55,418,384	50,748,519
Provision for employee's gratuity scheme obligation		47,920,991	39,507,939
Provision for pension obligation		801,585	621,252
Provision for accumulating compensated absences		226,121,862	-
Profit on bank deposits		(549,150,615)	(176,617,143)
Provision for doubtful fee receivable		543,124,903	554,602,187
Amortization of deferred grant		(33,620,698)	(33,620,698)
Direct deposit in FCF by Cellular Mobile Operator		(43,499,362,000)	
Gain on sale of property and equipment		(4,353)	(7,951)
		61,600,108,535	8,885,142,417
Changes in assets and liabilities			
Decrease / (Increase) in assets			
Advances to employees		(194,697,066)	12,030,196
Advances, deposits, prepayments and other receivable		(21,412,493)	(2,837,501)
Fees receivable including initial license fee -net		242,383,955	(104,441,868)
(Decrease) / Increase in liabilities			
Accrued and other liabilities		16,058,960	(71,861,866)
Contributory provident fund payable		21,479,446	17,816,594
Government of AJK & GB		(32,680,203)	(158,762,788)
		31,122,599	(308,057,211)
Cash generated from operations		61,631,231,134	8,577,085,206
Income taxes paid		(7,118,695,944)	(4,838,217,445)
Accumulating compensated absences encashed		(2,832,188)	-
Gratuity and pension paid		(7,289,461)	(429,178)
Net cash generated from operating activities		54,502,413,541	3,638,438,583
CASH FLOWS FROM INVESTING ACTIVITIES			
Purchases of property and equipment		(6,727,203)	(378,403)
Investment matured -net		-	392,685,859
Profit on investment and bank deposits received		266,981,367	128,543,122
Proceeds from sale of property and equipment		33,020	17,141
Net cash generated from investing activities		260,237,184	520,867,719
CASH FLOWS FROM FINANCING ACTIVITIES			
Contribution to Federal Consolidated Fund (FCF):			
-Payment made to Frequency Allocation Board		(319,368,097)	(249,481,184)
-Payment made to FCF		(52,985,358,107)	-
-Federal excise duty paid / adjusted during the year		(967,391,349)	(400,000,000)
Movement in Public Account		1,254,951,224	1,267,472,475
Net cash generated from financing activities		(53,017,166,329)	617,991,291
Net increase in cash and cash equivalents		1,745,484,396	4,777,297,583
Cash and cash equivalents at beginning of the year		4,936,931,468	159,633,875
Cash and cash equivalents at end of the year	21	6,682,415,864	4,936,931,468

The annexed notes 1 to 29 form an integral part of these financial statements.


 Member (Finance)

Page 1 of 1


 Chairman

Annexure 2 : Telecom Revenues

(Rs. in Million)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cellular	236,047	262,761	298,510	311,145	322,683
Local Loop	61,595	58,342	63,805	80,661	88,831
LDI	32,895	34,195	32,675	38,572	43,631
WLL	3,473	4,978	5,861	5,617	6,279
CVAS (Estimated)	10,202	7,052	8,394	3,526	4,123
Total	344,212	367,327	409,245	439,521	465,547

Note: Revenues for PTCL, Teletcard, Witribe, Worldcall, Wateen and CVAS licenses for FY2014 are estimated.

Annexure 3 : Foreign Direct Investment

	(US\$ in Million)				
	2009-10	2010-11	2011-12	2012-13	2013-14
FDI in Telecom	374	79	(361)	(408)	903
Total FDI	2,199	1,574	821	1,576	2,641
FDI in Telecom Sector as a % of Total FDI	17	5	(44)	(26)	34

Source: State Bank of Pakistan.

Annexure 4 : Telecom Investment

(US\$ in Million)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cellular	908.8	358.6	211.8	570.4	1,789.7
LDI	240.3	131.6	13.3	1.9	1.8
LL	22.5	18.5	5.0	16.1	14.2
WLL	23.0	10.2	7.3	11.9	10.0
Total	1,194.60	518.9	237.5	600.3	1,815.6

Note: 2012 13 figures are revised PTCL, Telectrad, Witribe and Worldcall are for three quarters of FY2014.
Wateen figures not received.

Annexure 5 : Cellular Mobile Subscribers

(Numbers)

	2009-10	2010-11	2011-12	2012-13	2013-14
Mobilink	32,202,547	33,378,161	35,953,434	37,121,871	38,768,346
Ufone	19,549,100	20,533,787	23,897,261	24,547,986	24,352,717
Zong	6,704,288	10,927,693	16,836,983	21,044,319	27,197,048
Telenor	23,798,221	26,667,079	29,961,033	33,513,133	36,571,820
Warid	16,931,687	17,387,798	13,499,835	12,706,353	13,084,823
Total	99,185,843	108,894,518	120,148,546	128,933,662	139,974,754

Annexure 6 : Fixed Local Loop Subscribers

(Numbers)

	2009-10	2010-11	2011-12	2012-13	2013-14
PTCL	3,268,642	2,881,684	2,847,597	2885144	3,034,361
NTC	105,788	105,954	107,095	107631	106,738
Nayatel	1,583	1,649	2,860	3,699	3,773
WorldCall	9,874	10,085	9,830	8977	8,887
Brain	11,267	13,280	14,076	14,662	14,410
Union	4,200	4,200	4,175	4,175	4,175
Total	3,401,354	3,016,852	2,985,633	3,024,288	3,172,344

Annexure 7 : Wireless Local Loop Subscribers

(Numbers)

	2010-11	2011-12	2012-13	2013-14
PTCL	1,353,523	1,424,051	1,233,793	1,152,635
NTC	12,114	9,165	12,231	11,998
WorldCall	497,361	518,340	519,030	529,411
Telecard	588,056	588,056	763,330	258,001
Wateen	218,506	297,503	281,053	308,122
Mytel	138	32	32	33
Link Direct	38,850	39,135	25,074	60
Sharp/Qubee	41,342	72,893	74,148	80,597
Witribe			199,786	200,186
Nayatel				14,630
Total	2,749,890	2,949,175	3,108,477	2,541,042

Note: Data from WorldCall, Wateen and Mytel not yet received. Telecard Figures inconsistent and under verification

Annexure 8 : Broadband Subscribers

(Numbers)

S.NO	Company Name	2011-12	2012-13	2013-14
1	PTCL	1,262,732	1,930,591	3,036,616
2	NTC	9,279	10,900	13,205
3	Worldcall Pvt. Ltd.	181,311	180,382	183,094
4	Wateen Ltd.	297,503	281,053	273,794
5	Multinet Pakistan	3,374	4,230	5,585
6	Nayatel	8,243	10,945	14,630
7	Micronet Broadband	3,318	1,708	1,438
8	LinkdotNet (WoL Telecom)	35,608	24,916	3,467
9	Link Direct	25,589		
9	Wi-Tribe	197,151	199,786	182,854
10	QuBees/Sharp Com	72,893	72,834	76,926
11	CyberNet	3,528	3,528	3,528
12	SUPERNET	203	203	203
13	COMSATS	438	438	438
14	Brain Net	145	145	145
Total		2,101,315	2,721,659	3,795,923

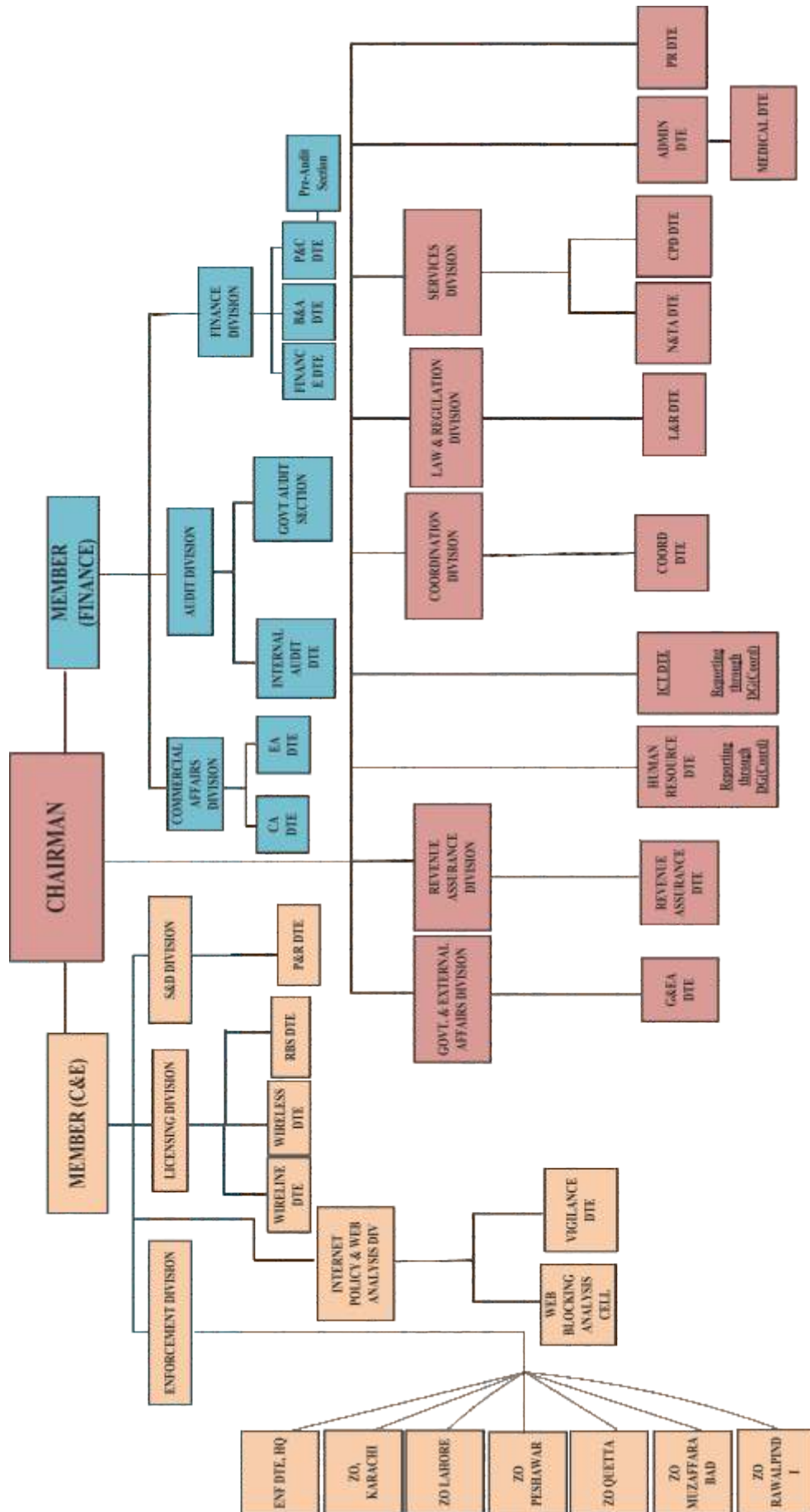
Note: Link dotNet (WoL Telecom) and Link Direct have merged. CyberNet, SUPERNET, COMSATS and Brain Net data was not received.

Annexure 9 : Mobile Number Portability

(No. of SIMs Ported out)

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
July	27,622	260,246	576,366	764,584	405,242	223,827
August	25,304	178,496	642,180	750,920	330,163	239,088
September	28,717	148,820	741,490	733,063	381,472	328,105
October	33,871	207,381	1,039,706	827,828	379,604	340,925
November	71,410	152,561	837,665	612,511	160,537	429,645
December	93,229	171,921	1,060,268	902,856	49,380	460,691
January	85,004	215,032	588,208	971,285	118,902	474,867
February	66,762	200,754	570,433	751,641	166,613	500,141
March	70,010	361,370	658,323	732,182	257,225	513,370
April	97,884	427,258	735,667	575,487	289,745	433,650
May	106,791	499,997	725,715	519,962	248,850	315,958
June	160,316	620,814	829,011	460,987	231,666	344,485
Total	866,920	3,444,650	9,005,032	8,603,306	3,019,399	4,604,752

PTA Organogram





Pakistan Telecommunication Authority
Headquarters, Islamabad

Economic Affairs Team

Dr. Muhammad Saleem, Director General
Mr. Muhammad Arif Sargana, Director
Dr. Shahbaz Nasir, Deputy Director
Mr. Abdul Rehman, Assistant Director
Mr. Waqas Hassan, IT Officer
Mr. Muhammad Riaz, Admin Officer