

Pakistan Telecommunication Authority
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Telecom Quarterly *Review* 2009

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Regulatory Measures

Urdu Version of PTA Website Launched

For the facilitation of general public and telecom users, PTA on 17th March 2010 launched the Urdu version of its official website on Internet. The website was inaugurated by Advisor to the Prime Minister on IT, Sardar Muhammad Latif Khan Khosa in a ceremony held at PTA Headquarters, Islamabad. Chairman PTA, Dr. Mohammed Yaseen, Member (Finance) PTA, Syed Nasrul Karim Ghaznavi, Member (Technical) PTA, Dr. Khawar Siddique Khokhar were also present on the occasion.

This new Urdu version of PTA website contains the same contents of the English version converted into simple Urdu language with similar layout and design. This step has been taken in view of providing online information to those internet



users who are generally less-educated in web-surfing or less-familiar with English language. Now, they would also be able to enjoy the same facility and could access the online available information regarding PTA activities, decisions, policies, Consumer Protection regulation and Complaint Management System through a simple click. The users would also be able to access various online services of PTA. A special CMS (Content Management System) has also been developed for this website to integrate the new consumer complaint system with the telecom operators. Besides, SIM Information System 668, Blocking of Stolen handsets through IMEI number, Telecom Sector Indicators and other such services would also be available on Urdu version of PTA's website.

Addressing the inaugural ceremony, Advisor on IT & Telecom, Sardar Muhammad Latif Khan Khosa appreciated PTA efforts for achieving remarkable progress in the telecom sector of Pakistan. He valued the efforts put in by PTA to execute its notion of facilitating the telecom consumer by introducing new platforms. He said that this new edition of PTA website would embark a new horizon of telecom information dissemination to the people of Pakistan. While briefing the Advisor to the Prime Minister on structure, scope and achievements made by PTA the chairman said that PTA believes that lack of local language content is one of the main hurdles behind the proliferation of Broadband Internet services in Pakistan. The launch of Urdu version of PTA website is a major landmark in the Internet history of Pakistan where PTA has marked itself as the first-ever governmental organization to introduce full-content version of website in Urdu. This also demonstrates PTA's effort to encourage local content in order to bring Internet nearer to the people.

Special Program Launched for the Promotion of ICT Sector of Pakistan

PTA launched a special program for the promotion of Information Communication Technologies (ICT) Sector of Pakistan in a ceremony held at PTA Headquarters, Islamabad on 23rd February 2010. The ceremony was graced by the Advisor to the Prime Minister on IT, Sardar Muhammad Latif Khan Khosa who formally inaugurated the PTA program. Parliamentary Secretary Interior, Capt (R) Rai Ghulam Mujtaba Kharal, Secretary Cabinet Division, Mr. Abdul Rauf Chaudhry, Secretary IT & Telecom, Mr. Naguibullah Malik, Chairman PTA, Dr. Mohammed Yaseen, Member (Finance) PTA, Syed Nasrul Karim Ghaznavi, Member (Technical) PTA, Dr. Khawar Siddique Khokhar and representatives of IT & telecom industry were also present on the occasion.

Addressing the inaugural ceremony, Advisor on IT & Telecom, Sardar Muhammad Latif Khan Khosa said that the Government is committed to enhancing the quality of manpower in the ICT sector and will continue to provide the



necessary support to industry and the academia. He appreciated the efforts of PTA towards proliferation of ICTs in the country. Secretary IT & Telecom on the occasion said that Government is committed to support the ICT sector by taking required policy measures and are targeting to create an environment for the promotion of required content and applications in order to enhance the productivity of our human resource. Also on the occasion Chairman PTA said that today, PTA's main focus is on the development of local content and applications and in this regard has taken number of initiatives to launch and promote new innovative solutions for the betterment of telecom industry and society.

Conference on “Promotion of Local Content and Applications”

In view of the importance of local contents and applications for future promotion of ICT industry and infrastructure, PTA in collaboration with Motorola organized conference on “Promoting ICT Sector” on 25th February, 2010 in Islamabad. Secretary IT & Telecom, Naguibullah Malik, Chairman PTA, Dr. Mohammed Yaseen, Member (Finance) PTA, Syed Nasrul Karim Ghaznavi, Member (Technical) PTA, Dr. Khawar Siddique Khokhar, leading representatives from IT & telecommunication sector and renowned academic & research scholars attended the conference.

The conference was another effort of PTA to provide a conducive platform for Content Developers and leading ICT stakeholders where ideas, applications and latest innovations in this important field could be discussed. A total of nine (09) content providers demonstrated their latest applications which were received with tremendous response by the participants. To understand the challenges faced by telecom industry in terms of high cost of ownership and expenditures and facilitate the promotion of ICT in the country, this conference proved to be a huge success.



Addressing the conference, Secretary IT & Telecom said that for the promotion of ICT sector in Pakistan, there is an acute need of bringing consensus among the Government, IT Industry, Telcos and academia to map out effective strategies for the best utilization of available opportunities in this sector. In this regard, he appreciated this initiative of PTA for providing an important platform for some constructive dialogue and discussion. Chairman PTA, Dr. Mohammed Yaseen said that the key issue in further development of data segment is non-availability of local contents and applications which can contribute towards formulation of ICT-based economy. He invited all the stake holders to join their hands with PTA in order to bring about spectacular growth in the ICT sector as well as to enhance their own business in the market.

PTA Awards Gold Medals to the Winners of Best Research Projects on IT & Telecom

To encourage academia industry partnership in IT & Telecom sector, PTA since 2008 started rewards for students coming up with unique research projects in Information Technology and Telecom disciplines. In this regard PTA recently awarded gold medals with cash prizes to 12 students of various distinguished educational institutes of the country for the best research

projects on IT & telecom for the year 2009. Secretary Cabinet Division, Abdul Rauf Chaudhry presented gold medals to the winners of the competition during a ceremony held at PTA Headquarters. Chairman PTA, Dr. Mohammed Yaseen, Member (Finance) PTA, Syed Nasrul Karim Ghaznavi, Member (Technical) PTA, Dr. Khawar Siddique Khokhar were also present on the occasion.

Addressing the ceremony, Secretary Cabinet Division said that PTA has taken this initiative proactively which should be appreciated and followed by the whole telecom industry especially by the operators to take maximum advantage from the research work of these young scholars. Chairman PTA in his address said, intense local research activities are need of the hour to sustain previous growth patterns. The linkage program would be helpful in creating a strong industry-academia relationship enabling us to understand the views of researchers regarding pertinent issues faced by the industry.

The event was attended by faculty members of the universities, parents of the awardees and representatives of the industry.



PTA Consumer Forum AT Lahore

Pakistan Telecom Authority organized a Telecom Forum “Together for Consumer Rights” on 15th October 2009 at Lahore. Mr. Naguib Ullah Malik, Secretary IT & Telecom was the chief guest while Chairman PTA, Dr. Mohammed Yaseen presided over the Forum. Member (Technical) PTA, Dr. Khawar Siddique Khokhar, renowned poet Mr. Amjad Islam Amjad, representatives of Lahore Chamber of Commerce, Cellular Mobile and Fixed Line sectors, telecom consumer groups, academia and the media community also participated in the event. President Pakistan Consumers Association, Kokab Iqbal and representatives of Cellular, Fixed Line and Broadband Services gave presentations during the Forum.

Telecom consumer related issues and difficulties faced by telecom users in general were discussed in addition gathering was informed about the initiatives and measures taken by PTA. The Authority also formally launched the SIM information system on this occasion.

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While talking on the Forum, Mr. Naghuib Ullah Malik appreciated the "SIM Information System - 668" initiative taken by PTA and said that it is crucial to safeguard our communication systems so that they don't fall into the wrong hands and for that purpose this new system will play an effective role.

Addressing the consumer forum Chairman PTA, Dr. Muhammad Yaseen said that the Authority is cognizant of telecom consumer's needs and taking number of steps to facilitate them in resolving their issues. In this regard PTA has revamped complaint handling mechanism of mobile companies, PTCL and other telecom operators. He also highlighted the growth taken place in the sector over last few months.



Towards a Well Documented Mobile Industry.....

'Launch of SIM Information System - 668' and other initiatives

Pakistan Telecom Authority is working towards documenting the telecom sector in order to curb unsocial practices and form an organized sector. In this regard number of initiatives that have taken place during the reported period are mentioned here;

Pakistan Telecommunication Authority (PTA) launched a new service named "SIM Information System - 668" to enable the mobile subscribers to know the total number of SIMs issued against their respective CNIC number with each mobile operator. The service was inaugurated by Secretary IT & Telecom, Mr. Naguib Ullah Malik at PTA's telecom consumer forum in October 2009.

With this system in place every mobile user can now know number of SIMs issued against his/her CNIC with the mobile company by sending his CNIC number (without dashes and spaces) to 668 through SMS. Rs.2/- will be charged on each SMS which is inclusive of all taxes. In case of unauthorized numbers against his CNIC, a consumer can get the data corrected from the concerned mobile operator's Customer Services Center. The unauthorized SIM owners will be advised to register the SIM in their names within seven days of notification from concerned Customer Services Center otherwise their calling facility will be stopped after thirteen days and the SIM will be completely blocked after



seventeen subsequent days of the issuance of notice. This service will help in streamlining the data of mobile phone users. It is a robust, secure and efficient system to store a record size of approx 100 Million subscribers'. The system ensures proper



data integrity mechanism while answering back to multiple queries at a specific time. Since the launch of “SIM Information System 668”, more than 10.8 million requests have been entertained by the system while 10% of them have visited Customer Services Centers (CSC) of mobile operators for the correction of their data.

Pakistan Telecommunication Authority (PTA) going further in documenting the mobile subscribers, has introduced an online facility for overseas Pakistanis in order to get their SIMs data regularized or to block the extra SIMs/connections issued against their Computerized National Identity Card (CNIC). An analysis of web queries revealed that around 60% of the total web queries were being made by Pakistani community living abroad. This automated facility has been made available on the websites of PTA and all cellular mobile operators. Overseas Pakistanis can now visit PTA's Website http://www.pta.gov.pk/668/sim_info_overseas.html to resolve this issue. Written requests of overseas Pakistanis are also being received to facilitate them in lodging their complaints and getting extra SIMs removed against their CNICs.

The Authority has now removed the condition of CNIC copy being provided by the consumers in order to facilitate both CSCs/franchisees and consumers to handle and process maximum number of complaints in short span of time. Consumers are now required to fill the undertaking form prior to which they have to show their original CNIC to the representative of CSC/Franchisee. The irregular SIMs registered against complainant CNIC shall then be immediately removed from his/her name. In view of difficulties of consumers of far

flung areas to approach Customer Services Centres, designated franchisees of each mobile company were also permitted to only receive the complaints pertaining to “668” and forward the same to concerned company for correction/deletion/regularization of SIM data, as the case may be. Furthermore, an optional permission to mobile operators is also being given to allow online facility to correct the customers' antecedents and get the SIMs registered in their names through the procedure of “Activation of SIMs After Verification 789” by calling the helpline of respective mobile company. However, this facility is only meant/valid for those SIMs on which at least one warning SMS for correction of antecedents has been received.

Pakistan Telecom Authority Ensuring Quality of Service (QoS)

While working on ensuring quality of service (QoS) in the the mobile industry PTA has taken number of initiatives detailed as under:

Pakistan Telecommunications Authority (PTA) has formulated two sets of Key Performance Indicators (KPI's) to improve and monitor the QoS of “Fixed Broadband” and “GPRS/EDGE” networks. The objective of introducing these KPIs is to create transparency and set monitor-able standards in fixed broadband and GPRS/EDGE services. Extensive consultations with the relevant operators and stakeholders were carried out for the development of these QoS parameters. The KPIs were finalized after discussing the varying views in detail with all concerned bodies which were incorporated in the final version. The document has also been made available on PTA's website (www.pta.gov.pk).

In order to gauge the QoS being offered to Pakistanis travelling abroad, PTA conducted a pilot International Roaming (IR) QoS in 2006-07 through Optiwave Technologies (OWT). The successful experience pushed the regulator to carry out another in-depth survey for having reasonably sampled statistics (through testing of countries frequently travelled by Pakistanis) of parameters including billing error rate, voice quality, CLI display and call completion ratios and SMS delivery and corresponding delays. With the test reports PTA expects to figure out un-served frequently travelled countries by an operator (s), countries served unsatisfactorily by individual operator, possible grey traffic carrying operators/countries and over charging to a customer.

All these tests are being performed according to international standards. Till now the OWT has completed all the requirements and has submitted its recommendations for rationalizing of International Tariff.

On the basis of recently concluded Quality of Service (QoS) Survey of mobile phone operators, Pakistan Telecommunication Authority (PTA) issued Show Cause notices to five mobile phone operators of Pakistan. PTA conducted this survey throughout the last year and shared results of first three quarters with the operators with directions to improve their services. The final comprehensive survey was conducted in the fourth quarter of 2009. A reasonable time was also given to them, so that they can improve their network performance. However, it was found that all mobile operators failed to achieve the desired results. As a result, PTA issued show cause notices to all mobile companies for failing to maintain the quality as per the license conditions.

Showcause Notice Issued to PTCL

A survey was conducted across Pakistan including major and small cities and rural areas from August to October 2009 along with the PTCL representatives on a mutually agreed survey methodology. PTA, informed PTCL about its poor Quality of Service and had directed to improve the quality as per license conditions, however, no improvement made therein despite ample time provided to PTCL after completion of survey. As a result, show cause notice was served to initiate the proceedings against the licensee as per rules. PTA has given 30 days time to PTCL to submit the reply. Based on the outcome PTA, under the Telecom Act, reserves the right to proceed legally. It may be mentioned that this is the first instance of PTCL being show caused on account of poor quality of service which clearly shows the PTA's resolve for not compromising on sub-standard services to the telecom consumers.

Ufone Fined Rs. 150 Million On Violating SIM Verification SOP

In order to curb anti social practices and assist government in restraining terrorist activities, the Authority in cooperation with NADAR and Mobile operators have implemented a 789 facility for SIM verification. Under the new system all new SIMs issued are required to be verified by the operators by using NADRA's databases before activation and this system works according to approved SOPs given to all mobile operators.

A SIM issued by Ufone was traced back to be involved in terrorist attacks on Lahore in December. When the matter was enquired it was confirmed that the SIM was issued and activated in violation of the SOPs; whereby a call centre agent overlooked a wrong answer when subscriber at the other end responded to the specific questions by giving inaccurate mother's name.

Ufone was called for hearing and it admitted and regretted the contravention on the plea that the company is issuing 25,000 connections a day and is trying its best to minimize errors.

The Authority on extending a help and accepting the breach of rules by UFONE, showed soft corner and imposed a fine of only Rs. 150 million. The amount is to be paid within 30 days of issuance of the order. In case of failure to deposit the amount all permissible means including filing of a recovery petition, would be taken to recover the fine.

PTCL and DSL Operators Signed Interconnect Agreement for Provisioning of Broadband Services

The interconnection agreement between the DSL operators and PTCL was pending for last couple of months and PTA had been making efforts to resolve the issues raised by both the parties, on mutually agreed terms. These issues include permissibility to DSL operators to lease bandwidth from other private operators, laying of fiber in PTCL collocation sites,

prices and discounts offered by PTCL for domestic and international bandwidth and provisioning of VPN services. PTA resolved the matter by carrying out detailed consultation with PTCL and DSL operators in series of meetings.

PTCL and DSL Operators finally signed a DSL interconnection agreement for provision of broadband services under the auspices of Pakistan Telecommunication Authority (PTA) on 30th October 2009. Under this agreement, DSL operators will now have a choice to acquire IP bandwidth from any other operator in addition to PTCL which will enable DSL operators to offer broadband services at competitive tariffs. It is believed that broadband tariffs will be reduced significantly. This would not only attract new broadband subscribers but would also motivate dialup users to shift to broadband services thereby increasing the broadband penetration in Pakistan.



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Agreement on Local Internet Peering Signed

In a joint ceremony held at Pakistan Telecommunication Authority (PTA) Headquarters on 1st July 2009, PTCL and Trans World Associates (TWA) signed an agreement on establishment of local Internet peering for routing of domestic email and Internet traffic. This arrangement will bring cost efficiency vis-à-vis international IP bandwidth by restricting local internet traffic within the country. Considered as a major step towards Information Communication Technologies (ICT) revolution, the arrangement will also have an indirect impact on proliferation of local internet content development in the country.



Open Skies Policy for Satellite Services

In 2004 PTA repealed the Satellite Registration Regulations, after which the requirement of the registration of foreign satellites, providing services in Pakistan and the registration fee both were waived-off. As a result there has been a wide variety of satellite services available in Pakistan, and open competition has resulted in lower prices for the customers. PAKSAT requested PTA to review its decision on the open skies policy. Since, government is investing heavily in completing the PAKSAT 2 Satellite which is about to be launched in 2011. PTA has made following recommendation:

- i) To meet requirement of PAKSAT and protect our investments in PAKSAT 1R, Pakistan should gradually adopt open skies policy for Geo-stationary satellite networks.
- ii) The completion of the satellite coordination with PAKSAT and the satellite service provision on reciprocal basis will be included in the registration regulations.
- iii) To move to open skies policy, PAKSAT must carryout assessment of services available with them versus the potential demand. If they have the capacity to meet the current and future demand, closed skies policy will be formally adopted.

Grey Traffic

Grey traffic is a menace where PTA is making utmost efforts to overcome it. The deployment of Monitoring & Reconciliation of International Telephony Traffic (M&RITT) facility at PTA has been a landmark achievement in the campaign against illegal traffic operators. In light of M&RITT analysis, PTA in collaboration with FIA carried out raids against those involved in illegal telecom activities i.e. “Grey Trafficking” and “Sale of pre-active SIMs”. During the last two quarters, a total of twenty four (24) raids have been carried out, out of which twenty (20) raids were against illegal call termination whereas four (04) on pre-active SIM sellers. The raids were mostly in the areas of Islamabad, Lahore, Karachi, Peshawar, Quetta, Mansehra and Batgaram.

PTA has also blocked huge number of IP's involved in carrying illegal traffic which were causing severe loss to the Government and industry. Apart from this, analysis of heavy callers data continued with great success resulting in detection of several cases of illegal termination. A total number of 5000 SIMS & IMEI's have been blocked so far.

Approval of PTCL Tariff Proposals

During the quarter under review, PTCL submitted a number of tariff proposals to Authority for approval. These packages included special packages for stimulating demand and utilizing the idle capacity in high ARPU urban areas of Karachi and Lahore. PTCL also submitted various rural packages to offer telecommunication services in rural areas of Pakistan at subsidized rates.

No Harmful Effects of Telecom Towers Survey

Pakistan Telecommunication Authority (PTA) along with Frequency Allocation Board (FAB) recently conducted an extensive survey in major cities of the country including Azad Jammu & Kashmir (AJK) to check the omission of power level from transmitters and receivers of Base Transceiver Station (BTS)/Tower installed by mobile companies. The survey was carried out with the help of special tool/equipment in 11 cities across the country including Karachi, Hyderabad, Lahore, Faisalabad, Mirpur, Muzaffarabad, Peshawar, Abbotabad, Quetta, Rawalpindi and Islamabad. The results of this survey showed that power level of all BTS surveyed was much below the prescribed limits and in line with the policy directives of Ministry of Information Technology & Telecommunication (MoIT&T) and according to the World Health Organization (WHO) and International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines.

PTA and SBP to formulate Third Party Mobile Banking Regulations

PTA and State Bank of Pakistan (SBP) have agreed to formulate “Third Party Mobile Banking Regulations”. Chairman PTA Dr. Mohammed Yaseen met Governor SBP Syed Salim Raza at State Bank of Pakistan, Karachi. Heads of the two regulators discussed the proposed Regulations originally drafted by PTA and announced a “Joint Regulatory Committee”. The primary objective of this collaboration is to develop a unified regulatory framework, since mobile banking engrosses both financial institutes and mobile phone operators.

During the discussion, Chairman PTA highlighted salient features of draft regulations including operators' obligations, arrangements between operators and financial institutes and Dispute Settlement Mechanism. Governor State Bank appreciated this initiative by PTA and considered it an important development for the banking and telecom sectors of the country.

At the end of the meeting during a joint statement, both regulatory heads endorsed the proposed “Third Party Mobile Banking Regulations” and aimed to continue mutual coordination for setting up a fair and non-discriminatory regulatory framework for the mobile banking service providers.

First SMS-based Secure Mobile Payments Initiative launched

PTA's regulatory initiatives have been revolutionary to achieve phenomenal growth and bring home latest services. Continuing the trend, PTA has helped expand a new arena of financial services for consumers to interact via a protected and patent channel. At August 11, 2009, Pakistan's first SMS-based Secure Mobile Payments Technology was inaugurated by Chairman PTA, Dr. Mohammed Yaseen at an event hosted by AKNMTECH, a Mobile Value Added Services Provider. As Pakistan's telecommunication industry continues its steady march towards growth and prosperity, this technological initiative is designed to enable more than 97 million mobile consumers to interact with their respective financial institutions and conduct mobile transactions in a simple, reliable and secure form.

Intel Collaborates With PTA and NADRA to Provide Employment Opportunities to the Unemployed

Intel Pakistan Corporation in collaboration with the Pakistan Telecommunication Authority (PTA) and National Database & Registration Authority (NADRA) launched a program “Apna Karobar” to provide employment opportunities to the unemployed people & increase IT and PC Penetration in the country on August 12, 2009. The program offers a low cost



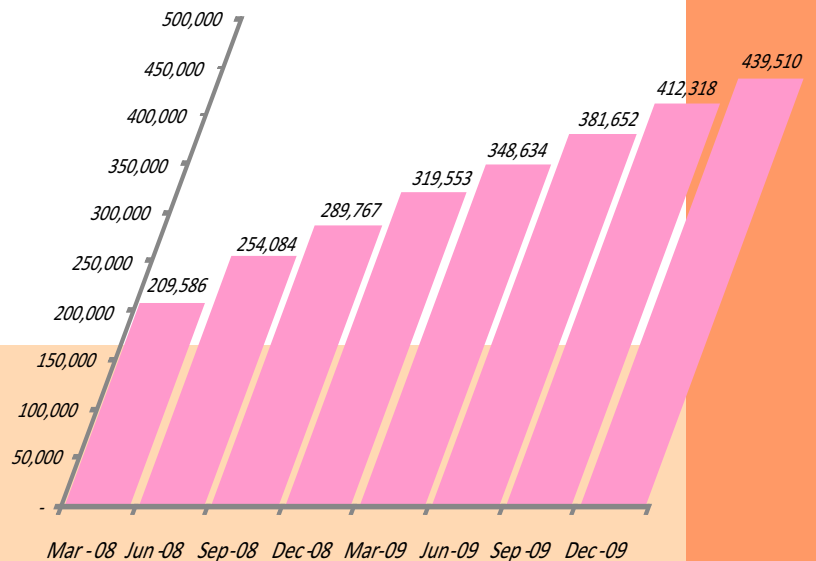
Telecentre starting from PKR 33,000. This scheme will entitle individuals to earn a decent livelihood by introducing and extending ICT based solutions. This collaboration will result in enhancing IT awareness and PC penetration in the country with ample opportunities for the unemployed to start their own businesses.

Progress on IMEI System for Blocking mobile Handsets

A combined financial analysis of mobile In order to tackle the menace of handset theft in the country, PTA on 30th September 2006 successfully implemented a central IMEI based system across the country for blocking the mobile handsets which have been theft or stolen. PTA made these arrangements through concerted efforts, and industry consultation and cooperation.

The graph shows Quarterly trend of the blocked mobile handsets. An increasing trend in the blocking is itself a proof of the success of the system. The number of mobile handsets which have been blocked till 31st December 2009 is above 439,510. Similarly, more than 26,992 handsets have been unblocked; the quarterly addition in the number of unblocked handsets is also increasing. The complaints for handsets thefts have been registered from throughout the country.

Progress on IMEI System for Blocking Mobile Handsets



Combined Financial Analysis of Mobile Companies

A combined financial analysis of mobile operators for the year 2007-08 was carried out to compare the performance of Mobilink, Telenor, Ufone, Warid, and CMPak. The analysis highlighted strengths and weaknesses of every operator as compared to their competitors and allowed insight into understanding the financial performance of CMOs.

It is encouraging to notice that the telecom sector of Pakistan is still growing in terms of its subscriber base. The operators are engaged in price war to increase their market share. Over the years, the call charges have decreased drastically and this trend is continuing. However, each operator has adopted a different avenue of growth for themselves.

During the year 2008-09, all operators except Ufone incurred 'Net losses' due to economic crunch and competition in the market. Few reasons of the mobile sector having negative margins is that the mobile operators are facing high borrowing cost, increasing cost of debt servicing on borrowing and exchange rate losses due to depreciation of Pak Rupee. Moreover, CMOs are absorbing subscriber's acquisition costs (i.e. activation tax) of Rs.250 and offering free minutes etc. which in turn is hampering their ability to make profits. It has also been reported that due to free minutes offering on new SIMs market participants keep on buying new SIMs instead of retaining a number which in turn increases the CMOs cost. This needs to be addressed going forward, as the market needs to turn its focus from increasing subscribers and win back promotions to increasing their ARPU.

Training the Staff

In view of the importance of IT in official and everyday matters, PTA conducted advanced IT training to enhance the IT skills of its officials including lower cadre staff. 175 officials at PTA Headquarters and Zonal Offices have been trained under this

program. Advanced IT Training Program 2009 covered training areas such as basic programs, network, trouble shooting, MS office, software and advanced applications.

In this connection, an award ceremony was held at PTA Headquarters in November, 2009. Chairman PTA Dr. Mohammed Yaseen, distributed certificates among the position holders of this training program. Member (Finance) Syed Nasrul Karim Ghaznavi, Member (Technical) Dr. Khawar Siddique Khokhar and senior officers of the Authority were also present on this occasion. Earlier in 2008, PTA arranged Basic IT Training Program 2008 for its staff members covering word processing, spread sheet, multimedia etc.

Emergency Exit Drill

In view of prevailing law and order situation of the country, the Cabinet Division issued a notification to all Regulatory Authorities, including PTA, to carryout exit drills so that in case of any emergency, safe evacuation of employees may be ensured by following foolproof strategy. Following the said directive, PTA carried out a successful and well coordinated exit drill of its employees at PTA, Headquarters on 24th December 2009.

Instructions regarding safe escape routes and other measures to be taken at the time of drill were already communicated to the PTA employees. Alarms were fixed at all the floors and were made functional to carry out the drill. All the staff/officers present in the building were evacuated safely and fire fighting exercise was carried out after the complete evacuation of the premises. It was done in coordination/consultation with District Administration and other related departments.





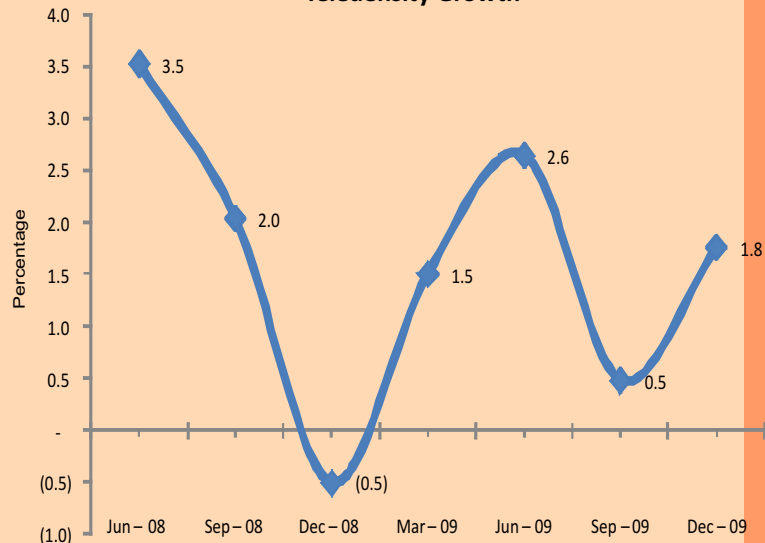
Telecom Economy

Telecom Economy

After passing through a difficult time in the year 2008-09, Pakistan economy is back on recovery path as indicated by the macroeconomic indicators for the first half of the fiscal year 2009-10. All macroeconomic indicators show positive sign except the budget deficit target, which was exceeded by a small margin. The exchange rate remained stable and international reserves position has strengthened during the first half of the fiscal year 2009-10. Economic growth in Pakistan has started recovering due to

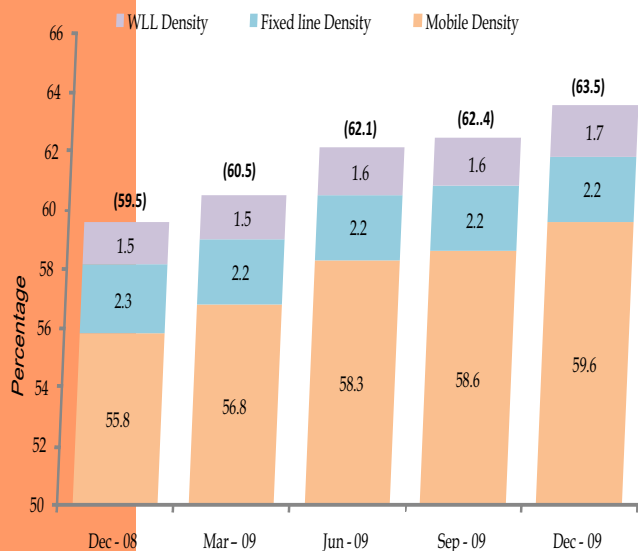
improvement in large scale manufacturing sector's output resulted from improvement in global economy which has helped manufacturing export growth. However the growth recovery prospects also enclosed few risks and challenges including the security situation, power shortage, the drop in overall volume of trade and poor tax growth. A revenue shortfall and delays in disbursements of pledged donors support have complicated the fiscal management. Economic managers of the country intend to introduce the VAT in the second half of the fiscal year 2010 which may recover the revenue shortfall¹. Country's engagement in war against terrorism has resulted in additional expenditures, putting pressure on federal budget. Consequently, the budget deficit for first quarter of the fiscal year 2009-10 has been reported 1.5% of GDP as compare to 1.1% in the first quarter of last year. Unprecedented surge in inflation (CPI) remained the concern of economic managers which has been contained in the year 2009-10 to some extent. CPI inflation dropped to 8.9% YoY in October 2009 (the lowest level in the preceding 26 months)

Teledensity Growth

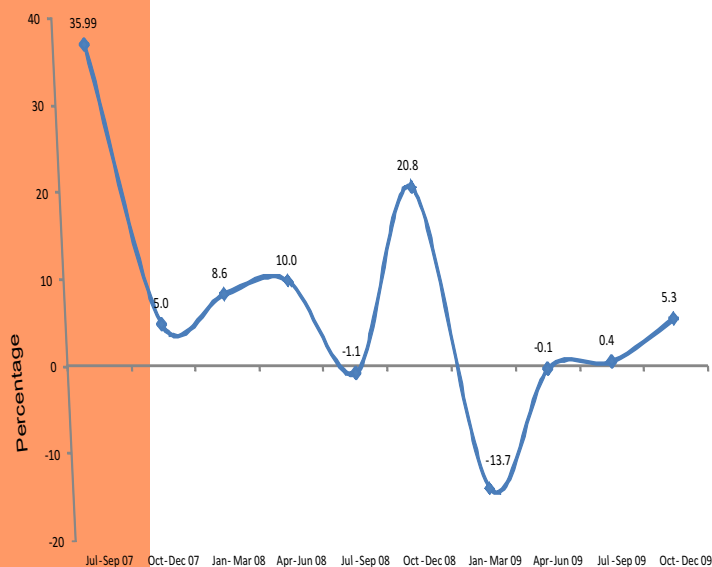


¹<http://www.imf.org/external/np/sec/pr/2010/pr1043.htm>

Teledensity



Telecom Revenue Growth



however, it went back to 10.5% in November 2009. As a leading economic indicator, this shows growth inflationary pressures in the economy. It is estimated that inflation may accelerate in the second half the fiscal year 2009-10 due to higher international commodity process and lower than anticipated receipts. It is estimated by State Bank of Pakistan that GDP growth for the fiscal year 2009-10 would be around 3.3%, higher than the previous year's growth of 2.0%. Services sector would major contributor in this growth while improvement in industrial output is also expected in the year 2009-10. Average inflation is expected to be within the range of 10-12% as against the target of 9%².

Telecom sector too appears to be on the path of recovery after slow growth in the year 2008-09 due to slow down in the economy. The growth of teledensity remained topsy-turvy in the year 2008-09 where teledensity continued to decline from June 2008 to December 2008 (3.5 to -0.5%) and picked up again in June 2008 and reached at 2.6% in June 2009. Total teledensity declined again in the first of quarter of the fiscal year 2009-10 however it stated picking up in the second Quarter of the same year. The decline in teledensity the first quarter of 2009-10 is attributed to decline in cellular mobile numbers by major operators, Mobilink and Ufone, who dropped their numbers due to some definitional changes. PTCL also reported decline in fixed line subscribers during the period which caused decline in overall teledensity. PTA provided a uniform definition of active subscribers to all operators for reporting purpose where all have compliance to this definition.

Quarter of the same year. The decline in teledensity the first quarter of 2009-10 is attributed to decline in cellular mobile numbers by major operators, Mobilink and Ufone, who dropped their numbers due to some definitional changes³. PTCL also reported decline in fixed line subscribers during the period which caused decline in overall teledensity. PTA provided a uniform definition of active subscribers to all operators for reporting purpose where all have compliance to this definition.

Total teledensity of the country is up and reached to 63.5% in December 2009 which was 62.1% in June 2009. During the first two quarters of the fiscal year 2009-10, teledensity has increased by about 1.8% in overall. Mainly the rise has been witnessed in WLL density which grew by 6% while the cellular mobile teledensity grew by 2.2% in the first two quarters of the fiscal year 2009-10. However, the fixed line teledensity remained unchanged during the first two quarters of the fiscal year 2009-10. Main reason for slow down in the pace of tedensity could be attributed to the maturity of market where operators' efforts are now on retention policy instead of expansion of subscribers.

²State Bank of Pakistan, State of Pakistan Economy, First Quarterly Report 2009-10
³For detail see chapter on Cellular Mobile

Industry Financials

Soaring inflation, cutthroat competition, expenditures on advertisements, rising utilities expenditures and power shortage have squeezed down the margins of the telecom companies in general. However, despite all these difficulties the revenues of the industry registered positive growth during the last few quarters. Main reason for this positive growth is attributed towards a tax relief provided to the industry in the budget of 2009-10 where the tax rate was reduced from 21% to 19.5%.

During July-September 2009, total industry revenue were reported Rs. 81.3 billion while in the second quarter of 2009-10 (Oct-Dec,09) the industry revenue reached Rs. 85.88 billion. During the first half of Fiscal Year 29-10 (July-Dec,09), telecom industry earned 167.2 billion revenues compare to Rs. 161.8 billion in previous half yearly revenue. Cellular mobile sector share in total revenue comes out about

68% which has shown a positive growth in revenue generation in the first 6 months of the fiscal year 2009-10 where it registered growth of about 5% during the period. Fixed line sector grew about 0.5% during the first half of fiscal year 2009-10.

Despite the squeezing margins of the telecom industry owing to economic difficulties, heavy taxes and falling exchange rates, sector continued to contribute in national revenues through taxes and duties imposed by the authorities. During the first 6 months of the fiscal year 2009-10, telecom sector contributed about Rs. 48.6 billion in national kitty through these taxes of which major share comes from GST revenues where sector deposited over Rs. 21.44 billion during the period. Major decline in tax revenues has been observed in Activation tax which is imposed @250 per new connection, in this head companies deposited over Rs. 3.8 billion compare to Rs. 14.2 billion in last full year. This decline is understandable because of the market maturity. PTA collections are quite comfortable where it collected over Rs. 4.91 billion in the first half of the fiscal year.

Telecom Contribution to Exchequer

(Rs. in Billions)

Period	GST	Activation Tax	PTA Deposits	Others	Total
2006-07	36.28	17.60	9.72	36.95	100.55
2007-08	44.61	19.20	10.86	36.96	111.63
2008-09	49.35	14.20	9.15	39.30	112.00
Jul - Dec - 09	21.44	3.80	4.91	18.45	48.60

Source: Central Board of Revenue and Pakistan Telecommunication Authority.

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

Others include custom duties, WH Tax and other taxes.

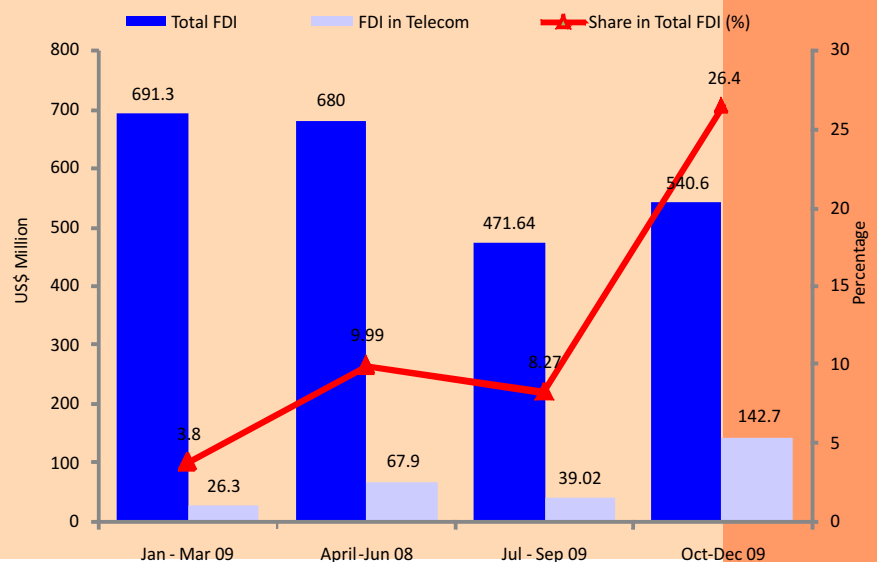
Others are estimated

Foreign Direct Investment

Foreign Direct Investment

Telecom industry continued to attract Foreign Direct Investment (FDI) to expand the infrastructure and maintainance of their networks. However, the volume of FDI also continued to decline with the maturity of market over the time. Foreign Direct Investment consists of the amount remitted from abroad and the reinvestment of profits earned by the companies which were supposed to be repatriated by the foreign firms.

During the quarter ending December 2009, telecom sector attracted US\$ 142.7 million FDI



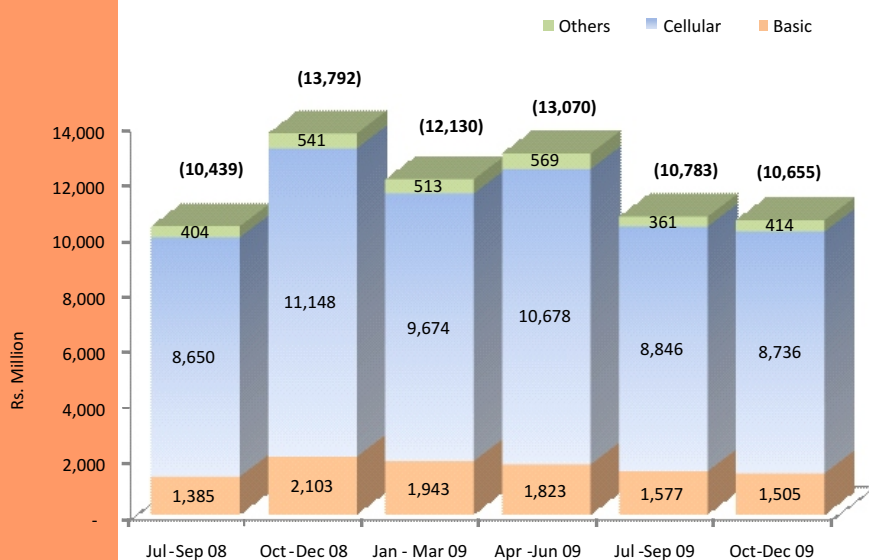
Source: State Bank of Pakistan

which was 26.4% of the total FDI in the country during this period while in previous quarter FDI in telecom sector was reported US\$ 39 million that was about 8% of the total FDI in the country. During the last one year, sector has attracted about 37% of total FDI in Pakistan which is a commendable.

Taxes on the Sector

Pakistan telecom sector has been burdened with various taxes by different organs of the Government of Pakistan. These taxes include GST/CED, With Holding Tax, Income Tax, Activation Tax, regulatory fee, spectrum charges, stamp duties and various fees by civic authorities etc. Operators are required to deposit a handsome amount of their revenues to national kitty in the form of these taxes which are squeezing their profit margins. A comprehensive study is required to analyze these taxes and rationalize the tax structure for this growing sector that could be a win-win situation for all parties.

Quarterly GST/FED Collected



Source: Central Board of Revenue

2009-10 as expected owing to drop in call rates, slowdown in economy, falling exchange rates and rising inflation etc.

During the first half of fiscal year 2009-10, FBR collected Rs. 21.4 billion against Rs. 25.2 billion in previous quarter and Rs. 24.2 billion in quarters before. During the this first half of the fiscal year 2009-10, GST/CED revenues of the cellular mobile companies dropped by about 13% compared to previous 6 months while the revenues of Basic service declined by 18% in the same period. FBR needs to revisit the situation and provide further relief to operators in terms of rate of GST/CED, so that more revenue be generated.

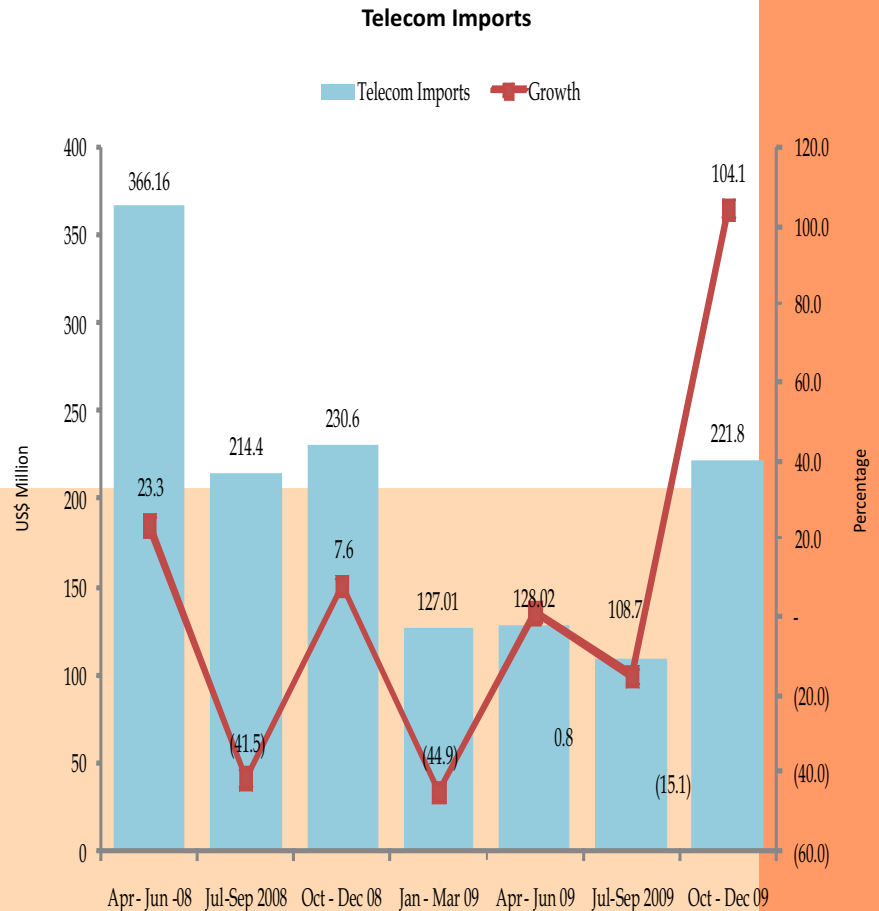
Activation tax is another tax which is charged @ Rs. 250 per new connection from all operators. This tax also has increased the mobile acquisition cost where companies are compelled to pay this tax from their own pocket due to competition in the market. This tax is also burden on the cellular mobile companies. Since, the market is moving towards maturity where new addition in cellular mobile subscribers has also reduced, this tax also needs to be reviewed and may abolished to provide further cushion to operators for further expansion in the sector. Revenue generation in tax has also reduced considerably. During the first of the fiscal year, FBR collected Rs. 3.8 billion while the previous year, companies deposited over Rs. 14.3 billion against activation tax. FBR has also imposed WH tax @10% on cellular mobile companies which is an advance income tax, this tax is unjustified because most of the cellular mobile subscribers belong to poor strata of the society who are not liable to pay income tax.

Among all these taxes, GST/CED is a major tax which is imposed on telecom operators @19.5% of their revenues. In the year 2008-09, Government of Pakistan suddenly increased the rate for GST/CED for telecom sector from 15% to 21% which has a negative impact on revenue generation as well on the growth of the sector. Regulatory Authority raised this issue with authorities along with facts and figures, consequently Government of Pakistan agreed to reduce this burden in the budget of 2009-10 where this tax was reduced by about 7% and set @19.5%. It certainly gave relief to operators which enabled them to divert sources for network expansion. However, total revenue in this head could not be increased in the first half of Fiscal year

Telecom imports

In the year 2008-09, Government of Pakistan imposed custom duty and regulatory duty @Rs. 750 per mobile handset to discourage the mobile imports and save foreign exchange. Consequently, the import of mobile handsets declined sharply and very next quarter of the fiscal year 2008-09 (July-September 2008), the cellular mobile handsets imports declined to US\$70.7 million compared to US\$ 127.6 million in previous quarter. This trend continued for next quarter as well where the imports of mobile handsets reached just US\$ 12 million in Jan-Mar 2008. However, the imposition of custom duty increased the smuggling of mobile handsets in the country and eventually the country was flooded with smuggled Chinese and handsets of other origins which gave loss to national exchequer. In the budget of 2009-10, Government of Pakistan took back the regulatory duty on mobile handsets imports which gave impetus to the imports of handsets in subsequent quarters.

Total imports of telecom sector registered about 104% growth in the second quarter of Fiscal year 2009-10 compared to previous quarter mainly the import of equipments. Soon after reducing the regulatory duty on mobile handsets, growth of mobile handsets increased by about 27% in the next quarter ending September 2009.



Source: State Bank of Pakistan
Note: April June 09 Telecom Imports Revised



Cellular Mobile

Cellular Mobile Services

While Pakistan economy is experiencing severe macroeconomic issues, yet mobile industry turned out to be more stable and resilient. Although the industry had gone through a knotty period during the last year where highs and lows of the market moved operators towards more aggressive business strategy but stable growth in last two quarters of 2009 have pacified the stakeholders including regulator. Couple of years back Pakistan Mobile industry was termed to be one of the fastest growing industries across the world, the foundation then laid by the policy makers actually did not let the system crumble rather made the sector more mature after going through a low period. Today the industry claims to have survived the indigenous and exogenous shocks which have resulted in stabilized ARPU's, hoisted growth rate, shrunk tariffs and well documented (subscriber antecedents) subscribers.

Ever innovative operators are venturing in to new venues by launching intense subscriber acquisition strategies and reactive marketing campaigns therefore winning back dormant and inactive subscribers as well as having new additions on their networks. The SMS and talk time campaigns on Independence Day and Eid had made mark in both voice and data traffic generations. Similarly launch of SMS service of social-networking site facebook by Telenor, blackberry services by Zong for younger segment and N share by Mobilink that enables subscribers to upload pictures and videos to online portals are few noteworthy attractions. Mobile commerce which has just kicked off by Mobilink and Telenor in the form of Mobilink Genie and Easy Paisa has placed Pakistan on higher pedestal in mobile growth across Asia.

Areas of concerns however, do exist in the industry where foremost and stressful is the cut-throat competition among operators pushing each other into price wars thus reducing profit margins and lowering ARPU levels. All this results in depressed financial health of the sector and thus preparing grounds for mergers and acquisitions that are growing up in the media about operators. Similarly delay in 3G licensing is putting pressure on operator's who have upgraded their networks to save time once the service becomes legal in the country.

The Pakistan Telecom Authority in hand with the operators is working in number of mobile venues of which foremost is the clearance of spectrum for 3G and licensing formalities. The ground work at PTA's end is completed however, a green signal along with the decision on issues like number of licenses, bidding process, eligibility criteria are awaited from Ministry's

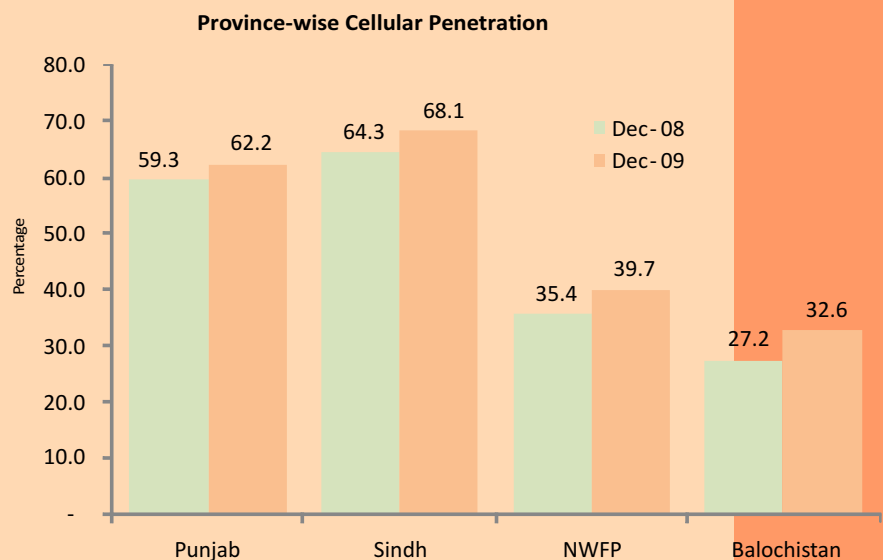
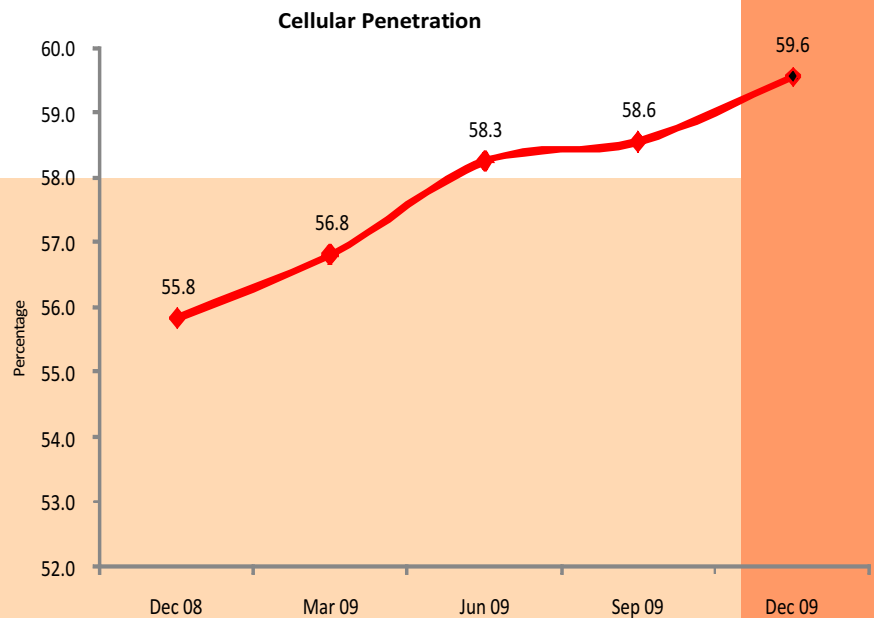
side. PTA regularly does the quality of service surveys for mobile operators across Pakistan, with results of latest survey the QoS had turned out to be far below the standards and all operators were given warning to improve within given time but disappointing reaction from the industry forced the PTA to show cause all 5 operators. PTA has also done Towers survey in order to check harmful effect if any of these towers to the environment. It has been declared with much assurance from PTA that the radiation levels of towers are much below threshold levels and thus are not giving any harm to the environment. PTA is also working towards devising a strategy on Infrastructure sharing among operators that would help in reducing their costs as well. In order to have exact number of active subscribers, the Authority approved and implemented a standard definition of active subscribers in the industry. In addition to completing the documentation of the mobile industry PTA on the other hand is also working on reducing the volume of obnoxious calls by taking strict actions against all complaints. Last but not the least PTA has called out for all the customer services agreement forms for mobile operators, the Authority plans to revise the forms in the backdrop of giving legal cover to the customers who in most of the cases are unaware of their rights and obligations. In the following pages detail growth patterns exhibited by the sector are discussed.

Penetration Patterns

The cellular penetration in Pakistan today, stands at 59.6 making more than 90% of the total teledensity of the country. The mobile penetration kept increasing in all four quarters of 2009, however, the growth staggered during June Sept 09 when it grew by 1% only. While looking at the yearly scenario, the penetration grew by more than 7% which is not very exciting but keeping in view the situation even this much of growth is an achievement. The main reason behind such slow growth in these three months is due to loss of subscribers by Ufone as the company remained involved in subscriber's data cleaning.

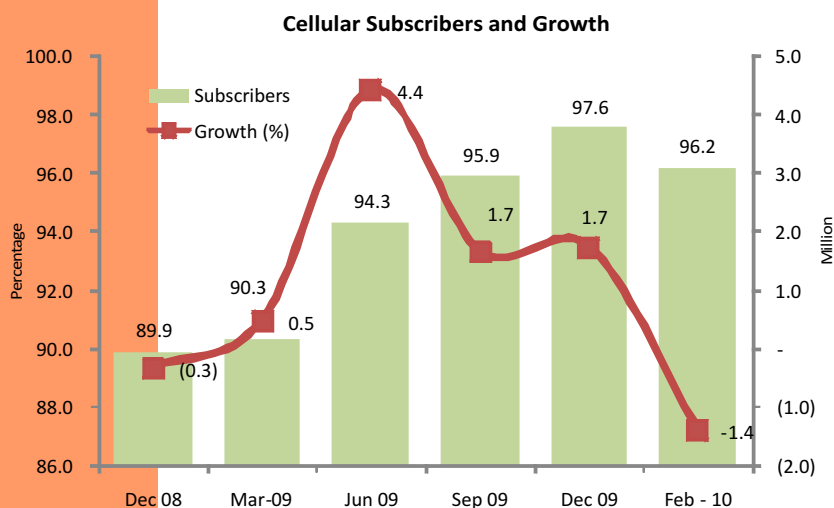
While looking at the penetration levels across provinces Sind seems to have highest penetration of mobile services among all the provinces, almost 68% of total population of this province own mobile service. Punjab has the second highest mobile penetration in the country where 62 out of every 100 people having mobile phones in this province followed by NWFP and Balochistan with 40% and 32% mobile penetration. While looking at the quarterly growth rates, since Dec' 08 Punjab and Sind grew by 5% and 6% whereas 12% and 20% growth in penetration was witnessed in NWFP and Balochistan. The

operators are concentrating more on NWFP and Balochistan while expanding coverage areas, as there seems to be quite a few uncovered areas.



Subscriber Mix

The total mobile subscribers in Pakistan have reached 98 million at the end of Dec - 09 approximately while growing at the



rate of 2% in each quarter. Although the growth was highest during Apr-June 2009 quarter that is 4.4% but with the re-registration process, launch of 668 services and data cleaning by the operators, the growth deteriorated in the next quarter. Mobilink this year crossed 30 million mark of total subscriber base and Telenor reached 22 million subscriber base whereas, Ufone showed drop from 19 million to 18 million subscribers from Dec 2008 to Dec 2009. While looking at the provincial presence Mobilink seem to have lead in almost all provinces of Pakistan, whereas Telenor has maximum subscribers in AJK & NAs. Although mobile penetration is highest in Sind but Punjab has the largest number of mobile subscribers i.e. 57 million. Zong's subscriber base is increasing in every province however in proportion with other operators ZONG is competing well in NWFP whereas Warid seems to be still not very popular in this province. With overall subscriber growth pattern in last four quarters it is safe to predict that growth would improve in the coming year.

Cellular Subscribers by Province (Dec 09)

Operator	Punjab	Sindh	NWFP	Baluchistan	AJK & NAs	Total
Mobilink	18,358,424	7,870,891	3,266,717	842,265	462,057	30,800,354
Ufone	10,982,829	4,746,935	2,071,866	540,675	167,870	18,510,175
Zong	3,451,429	1,657,780	1,336,537	305,239	169,249	6,920,234
Instaphone	586	339	105	43	-	1,073
Telenor	12,159,936	6,372,780	2,452,433	797,440	718,200	22,500,789
Warid	12,061,991	5,124,046	1,217,159	210,725	233,394	18,847,315
Total	57,015,195	25,772,771	10,344,817	2,696,387	1,750,770	97,579,940

Net Additions

A total of 7.6 million subscribers were added to total subscriber base of mobile industry in 2009. While analyzing the net additions in the subscriber's base by each operator, on average almost 2 million subscribers have been added in each quarter during 2009. Similarly more than 6 lacks subscribers have been added each month on average. Telenor added maximum subscribers to its network during each quarter of 2009 however, maximum subscribers were added in 2nd quarter and on average almost 0.77 million subscribers were added in each quarter by the company. Mobilink lost

Quarter wise Addition in Subscribers by Operator

	Mobilink	Ufone	Zong	Instaphone	Telenor	Warid	Total
Jan- Mar 09	-239,475	309,564	493,360	-71,011	597,132	461,573	1,551,143
Apr - Jun 09	896,714	393,963	405,937	-216,075	908,041	511,109	2,899,689
Jul-Sep 09	909,211	-900,113	243,190	-32,975	765,463	581,472	1,566,248
Oct - Dec 09	754,304	-594,419	290,473	0	842,197	379,107	1,671,662
Total	2,320,754	-791,005	1,432,960	-320,061	3,112,833	1,933,261	7,688,742

subscribers in early 2009 due to SIM registration program however, the company picked up in the next three quarters and added 0.8 million subscribers and thus giving total of 2.3 million net addition at the end of 2009. Zong and Warid added 1.4 million and 1.9 million subscriber respectively during 2009 giving an average of 0.35 million and 0.48 million subscriber's addition per quarter.

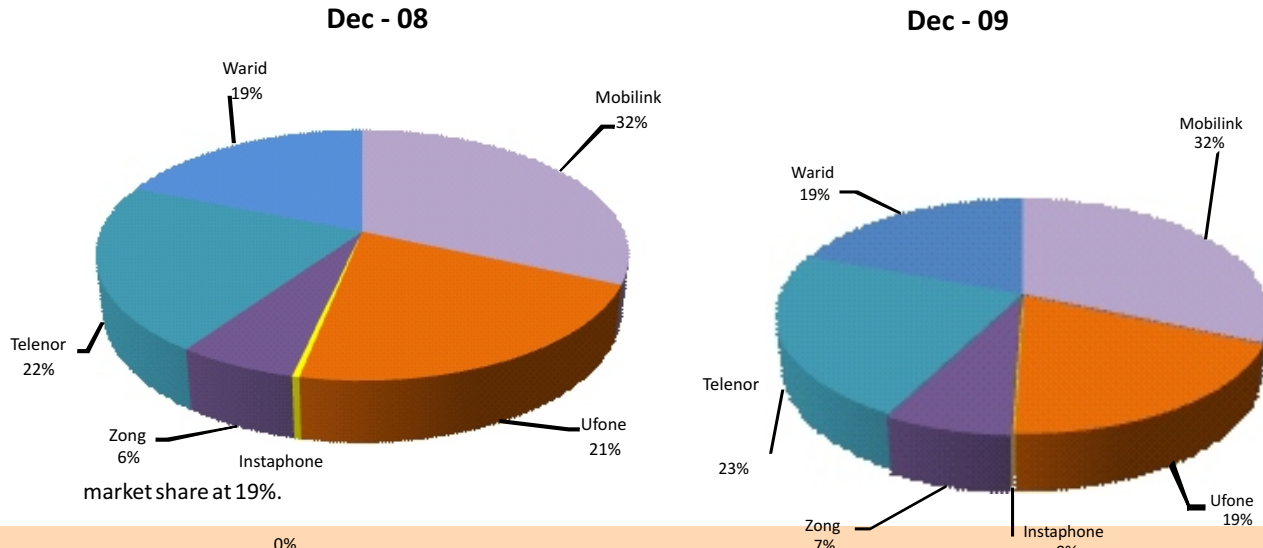
Ufone went through a massive data cleaning exercise in 2009 and did huge off-boards from its networks thus lost almost 0.8 million subscribers during 2009.

Market Share

Although Mobilink registered lower net additions in the subscriber's base as compared to Telenor in 2009 but the company still enjoys lions share in the local market with almost 32% of total subscriber's having Mobilink as their chosen operator.

Telenor and Zong gained another point in their share and stood at 23% and 7% at the end of 2009 whereas Ufone lost its share from 21% to 19% from Dec-08 to Dec-09. Warid showed a consistency and stability in its market share and kept its

Cellular Subscribers Market Share

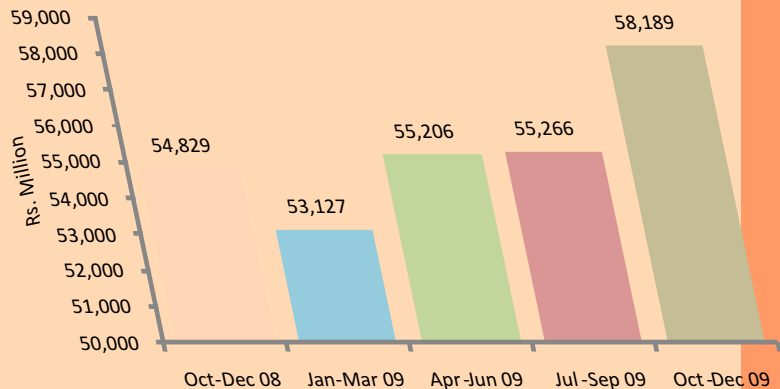


Ufone is now over with its data cleaning program, Telenor expanding its networks in all provinces and leading in AJK and Warid's merger buzz are quite a list of factors to give Mobilink a reason to work harder on keeping and increasing its market share in the coming days.

Revenues

Total Revenues of mobile industry stood at Rs. 221 billion at the end of Dec 2009 whereas average revenue generated by the industry in each quarter of 2009 is Rs. 55,351 million. Mobilink being the market leader reported revenue of Rs. 103 billion from Oct 08 to Dec 09 followed by Telenor and Ufone with Rs. 68 billion and 54 billion turnover for the same period. Although Ufone did not do well in net addition to total subscriber base as compared to Warid that reported a revenue of Rs. 37 billion from Oct 08 to Dec 09. Zong has earned a total of Rs. 12 billion revenue from Oct 08 to Dec 2009.

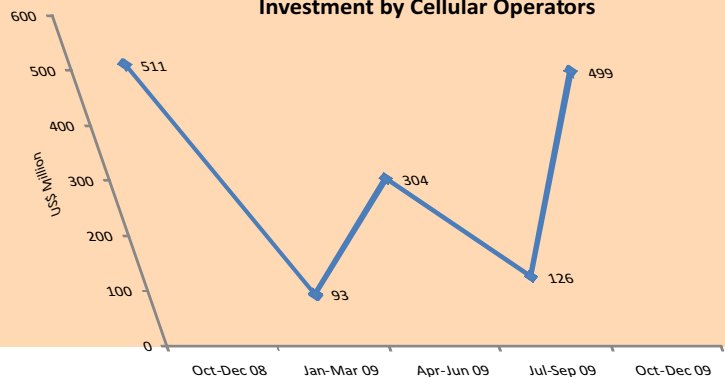
Revenues by Cellular Operators



Investment

Total investment in the sector reached US\$ 970 million at the end of December 2009. The investment started to pick up in the last quarter of 2009 when only in six months the investments grew by 45% i.e. from US\$ 304 million to US\$ 447 million. However, if we compare last quarter of 2008 with that of 2009 they were 10% less.

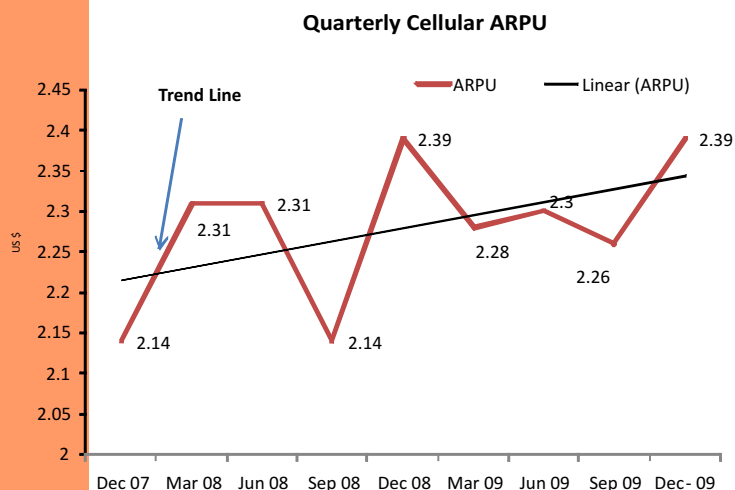
Investment by Cellular Operators



Ufone, Zong and Telenor invested US\$ 264 million US\$ 266 million US\$ 250 million from Jan to Dec 2009. These companies are investing more in expanding their networks whereas Telenor is also working towards cutting the operational costs in order to become financially efficient in this regard the company would soon be erecting solar BTS. Both Mobilink and Warid have kept low investment profile during the last two quarters though.

Average Revenue Per User

The Pakistani Mobile industry had been facing dropping ARPU's for last couple of years owing to the fact that initially the



operators were adjusting to amplified fixed investments (rolling out network, predatory pricing etc). This fact about local industry however, stands true for global mobile industry as well which is depicting dropping ARPU levels. Also the economic turmoil that hit the global economy two years back also affected revenues and thus profits of the companies. Pakistan mobile industry had witnessed dropping ARPU's till early 2009, having a quarterly review of ARPU levels shows that the ARPU have been stabilized now and have stopped falling in the local industry (Figure shows the quarterly ARPU trend). Stability in ARPU's can be in the purview of the facts that companies have recovered their

fixed costs and the recent financial crunch have pushed the operators to reduce their operating expenses (layoffs etc.). The ARPU of Pakistan Mobile industry today thus stands at an average of US\$ 2.3.

Taxes

Yet again Mobile segment turned out to be one of the major contributors in the national exchequer for the reported period.

A total of Rs. 17.6 billion were contributed to government kitty in the last six months (Jul-Dec'09) under the head of

GST/FED Paid by the Cellular Operators

	Oct -Dec 08	Jan-Mar 09	Apr -Jun 09	Jul -Sep 09	Oct-Dec 09
Zong	796.69	920.50	759.96	517.34	501.99
Mobilink	4,471.61	3,047.74	3,758.93	3,630.33	3,248.36
Ufone	2,003.31	1,693.22	2,463.45	1,653.91	2,001.26
Warid	1,515.44	1,403.53	1,129.08	866.57	708.37
Telenor	2,361.31	2,608.92	2,566.32	2,178.12	2,275.84
Total	11,148.36	9,673.91	10,677.74	8,846.27	8,735.82

Rs. Million

GST/CED. While comparing figures for 1st six months (Jan-jun'09) with last two quarters of 09 the GST collected by the Government was Rs. 20 billion which is approximately Rs. 2 billion higher. This phenomenon occurred due to the fact that GST was reduced by the Government after the budget was announced in June 2009.

Activation Tax by Cellular Operators

	Oct-Dec 08	Jan-Mar 09	Apr-Jun 09	Jul-Sep 09	Oct-Dec 09
Mobilink	644	386	996	805	511
Ufone	676	652	704	347	311
Zong	649	729	516	390	315
Telenor	980	1,009	713	591	418
Warid	615	524	218	44	23
Total	3,564	3,300	3,147	2,177	1,578

Rs. Million

While looking at the activation tax the operators contributed a total of almost Rs. 4 billion in six months (July-Dec'09) while comparing this number with Jan-Jun'09 figure i.e. Rs. 6 billion. A reduction of Rs. 2 billion is again attributed to the fact that Activation tax in the budget of 2008-09 was reduced from Rs. 500 to Rs. 250. Mobilink and

Telenor contributed maximum in the Activation tax contribution till Dec 2009 followed by Ufone and Zong. Warid contribution was not significant.

The reduction in tax contribution both GST and Activation in the reported period (July-Dec'09) was due to the reduction in tax rate. The positive effects and impact of reduction in tax rate would be visible in the coming quarters of 2010.

Network Coverage

In order to survive in a competitive market, operators in addition to increasing value added services for its subscribers and providing them with good quality of service, increasing the network coverage is also an essential factor. Today more than 10,000 Cities/ towns/villages are having cellular network. All major motorways and disturbed areas (NWFP, Balochistan) have cellular networks and engineering teams of the operators are working day and night to keep the networks alive even in the toughest terrains of Pakistan. Ufone and Warid have expanded their networks during quarters of 2009 at a larger scale as compared to the rest of the operators whereby they added more than 1,600 and 780 locations respectively. Reportedly Warid has pursued an aggressive expansion strategy to broaden network coverage from cities to smaller towns and villages. Mobilink and Telenor at the end Dec 2009 have been covering around 10,148 and 5,938 locations. ZONG did not improve much in terms of adding new location and has presence in around 1200 locations.

Today there are more than 28,000 towers in Pakistan owned by all 5 operators of which Mobilink and

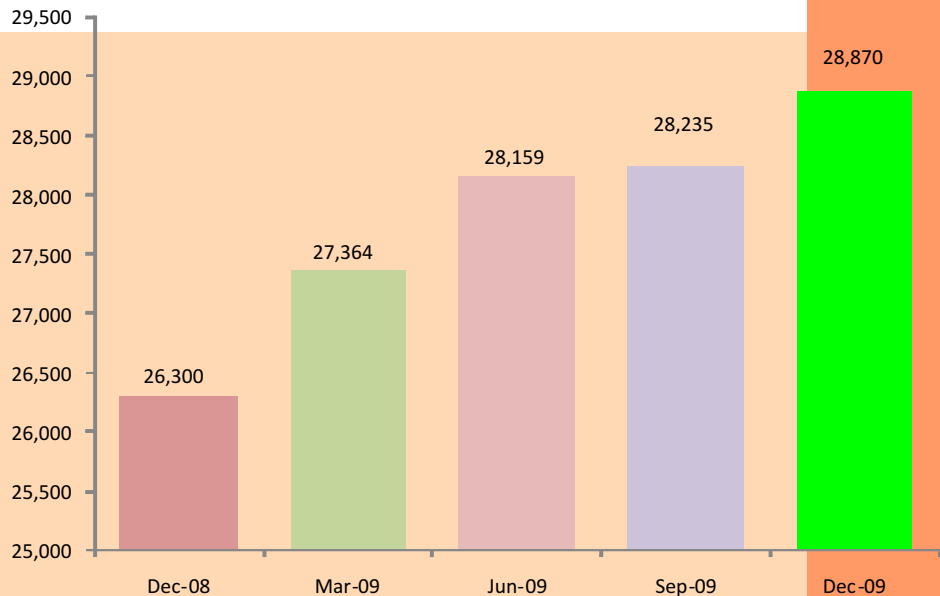
Telenor have maximum towers i.e. 7,952 and 6,273 respectively. Zong added more than 1,200 towers during 2009 with average of 300 towers added in each quarter of the year. Ufone has added almost 600 towers however, in June'09 and Sep'09 quarters it did not add any new cell site. Mobilik and Telenor did not impress much on increasing the number of towers as the companies remained busy in innovating new value added services and better tariff packages for their consumers. Although Warid did not add much to its towers base on the contrary locations covered by Warid are quite impressive.

With increasing networks the operators need to increase the sale points in the country as well. Therefore today we have more than 1700 franchises of all five operators in Pakistan of which Mobilink has largest franchise network of 428 franchises followed by Warid with 417 franchises in Pakistan. Ufone has a total of more than 370 franchises whereas Telenor does not rely much on franchises and only has 252 of them. During the reported period only Warid and Zong had impressive

Cities/Towns/Villages covered by Cellular Operators

	Dec-08	Mar 09	Jun 09	Sep 09	Dec-09
Mobilink	10,001	10,148	10,148	10,148	10,148
Ufone	5,235	5,889	6,908	6,908	6,910
Instaphone	95	95	95	95	95
Telenor	5,827	5,833	5,876	5,876	5,938
Zong	1,252	1,252	1,252	1,252	1,252
Warid	5,902	5,902	6,679	6,760	6,688

Quarter-wise Cellular Cell Sites



additions in their franchise list. whereas Telenor and Ufone added very few new franchises. While looking at mobilink it did not increase its franchises rather reduced it by single digit.

Franchises by Cellular Operators

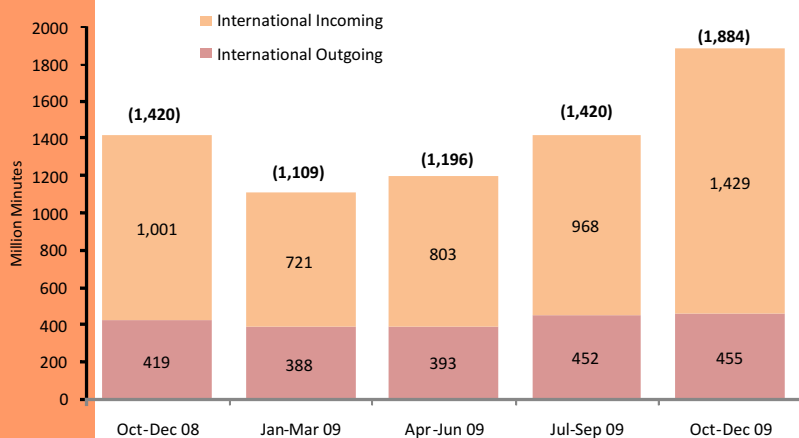
	Mar-09	Jun 09	Sep 09	Dec 09
Mobilink	429	429	428	428
Ufone	361	362	368	373
Instaphone	235	235	235	235
Zong	174	177	190	246
Telenor	242	242	242	252
Warid	283	283	415	417
Total	1,724	1,728	1,878	1,951

Traffic Trends

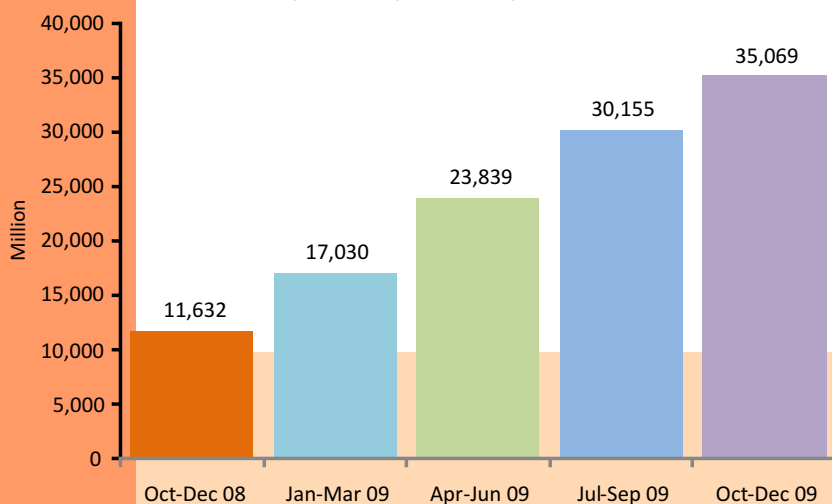
Mobile usage in Pakistan has grown tremendously over the years with increasing competition among the operators of which subscribers are gaining the most. The minutes of use per subscriber is increasing every quarter, whereas international traffic is improving due to highly competitive packages to most called destinations. Total incoming and

outgoing international minutes at the end of Dec 2009 were 5,608 million. The year started with 1.1 billion minutes in the first quarter and trend carried on in the second quarter as well, however improvement in the traffic was witnessed in the last two quarters when total international minutes were 1.4 and 1.8 billion respectively. The companies have been offering very lucrative packages for destinations like US, UK, Canada etc. where calling is almost as cheap as nation wide call.

Cellular International Incoming and Outgoing Traffic



Quarterly SMSes by Cellular Operators



Mobilink having largest subscriber base is not having very impressive SMS traffic and same is the case with Warid.

All mobile operators are now working on improving data services and in this regard rely on SMS and like services. Bundle offers and bulk packages have actually increased the SMS traffic in the country and becomes very useful on celebrations and events like EIDs, Independence Day and New Year. From Jan to Dec 2009 there were 106 billion SMS's generated by all 5 operators. The last two quarters of the reported period had been really exciting for SMS as the growth rate was almost 50% in 6 months time. Main reason behind such big push are events like EID and New year that fall in those quarters. Ufone is leading the SMS traffic while looking at operators position with 40 billion SMS from Jan to Dec 2009, followed by Telenor and Zong with 26 billion and 17 billion SMS's respectively.



Basic Services

Overview

Fixed local loop, Wireless local loop and Long distance international are the backbone of telecommunication infrastructure of any country. PTA issued ample number of licenses for such services to numerous companies in an attempt to introduce healthy competition in the market. However, the investors hesitated from commencing their operations due to number of reasons including lack of investment, intense competition, right of way and political and economic instability.

FLL sector of Pakistan is facing a declining trend following the global pattern and also due to non-introduction of Local Loop Unbundling. Global fixed local loop subscribers have declined considerably in the past few years. During the first two quarters of FY 2009-10, FLL subscribers dropped by 3% coming to a total of 3.4 million. The prime reason of this decline pertains to the loss of 106,135 subscribers by PTCL in the last two quarter. Province-wise statistics reveal that Punjab has the highest number of subscribers, more than double of all other provinces combined. PTCL remains the market leader with 96% share in the FLL subscriber market while a 95% share in FLL revenue. Although subscribers of FLL have dropped but growth in revenue has been a good sign for the sector as a total of Rs. 31.2 billion have been generated by the FLL companies during Jul-Dec 09.

The WLL market of Pakistan carries high potential for growth due to its reach, relatively easy deployment procedures, investment affordability. PTA had been facilitating the sector by every possible means due to which the sector has sustained its growth; if not improving. At the end of December 2009, WLL subscribers remained 2.6 million with 1.7% penetration level. PTCL leads the market with vigorous chase by Telecard, WorldCall and Wateen. Punjab has highest number of subscribers followed by Sindh and NWFP while Balochistan has least number of subscribers. There are total of 3,490 cell sites by all operators at the end of Dec 2009. WLL sector generated revenue of Rs. 3 billion approx. in 2009 (Jan-Dec) with last two quarters generating the highest revenue.

LDI sector has constantly been improving since the deployment of Monitoring & Reconciliation of International Telephony Traffic (M&RITT) facility and strong campaign against illegal operators by PTA. The ongoing campaign of PTA where almost 20 raids have been carried out against illegal operators so far, has increased the traffic volume of licensed operators. During

the last year, LDI industry generated a revenue total of Rs. 56 billion which shows a 37% increase from the same period in 2008.

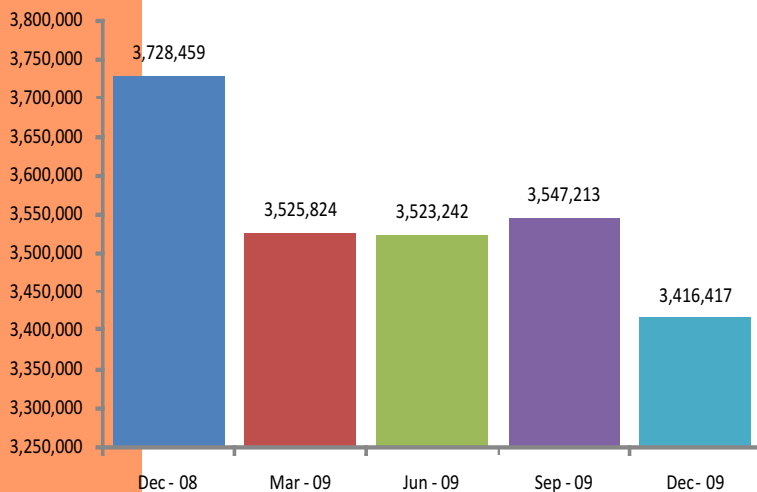
Fixed Local Loop (FLL)

The World's veteran communication medium has been under pressure from wireless boom of the 21st century which has changed the priority options of the customers as well as investors around the world. According to ITU's ICT EYE, there were 1.28 billion fixed line connections worldwide at the end of 2006. However, that figure has dropped down to 1.25 billion by the end of 2008. On the contrary, the same database shows that mobile subscribers have reached 4 billion by end of 2008 from just 2.7 billion in 2006. Such a remarkable rise of wireless media has removed the conventional dependency on fixed line infrastructure and the trend is obvious in Pakistan as well. PTCL has been a sole provider of basic telephony in Pakistan for a long time but quality issues always haunted this giant of telecom industry. PTA, being the regulator, tried to cater this issue by introducing competition in the market via de-regulation of the sector in 2004. A total of 84 licenses had been issued to 37 companies, however, the operators failed to make any significant progress and to date 34 licenses of 17 operators have been cancelled by PTA due to failure in meeting their roll out obligations. Most of the remaining operators are operational and the rest are expected to commence their services during the allotted time.

Subscribers Statistics

At the end of December 2009, FLL connections reached 3,416,417 with a decline of 3% in last two quarters. Although first quarter of FY 2009-10 showed positive growth trend, the second quarter, however, depicted the biggest drop in connections since last four quarters, mainly due to loss of 106,135 subscribers by PTCL Although penetration of fixed line is

FLL Subscribers



Fixed Local Loop Subscribers by Province Dec-09

	Punjab	Sindh	NWFP	Balochistan	Total
PTCL	1,867,224	926,177	372,842	102,399	3,268,642
NTC	63615	27575	9485	3729	104,404
Nayatel	19,100				19,100
WorldCall	1,781	9,577			11,358
Brain	9,213				9,213
Union	3,700				3,700
Total	1,964,633	963,329	382,327	106,128	3,416,417

just 2% but it must be considered that in most of the cases, one line caters for many users at home or office for instance. Among major operators other than PTCL, NTC provides telecom services primarily to Government departments catering 104,404 subscribers almost the same as in December, 2008. NayaTel has 19,100 connections with 1% growth while WorldCall holds 11,358 subscribers with decline of 4%. Brain and Union are the smallest players in the market; however, Brain has performed well achieving the highest growth rate of 7%.

PTCL leads the market share with an almost 96% share followed by NTC, Worldcall, NayaTel and Brain. NayaTel has expanded its coverage area in the recent past as well and is offering triple play services in areas of Rawalpindi as well.

Table given below shows the provincial distribution of FLL industry. Punjab has a higher base than all of the other provinces combined. Sindh is at second place with 0.96 million fixed lines operating in the areas. NWFP and Balochistan have 0.38 and 0.1 million active lines by end of December, 2009. With USF spending heavily for

deploying fibre to rural areas, it is expected that the provision of fibre will increase the penetration level of telephony.

PTCL Overview

PTCL is the oldest and the largest telecom company of Pakistan. It has the largest Basic Services infrastructure in Pakistan since it owns the largest stake in subscribers, coverage, revenue and traffic of local loop services. Apart from local loop, PTCL is also the biggest LDI and Broadband operator in the country, therefore its performance heavily affects industry statistics and customer perception about overall telecom services of the country.

PTCL Revenues & Profits

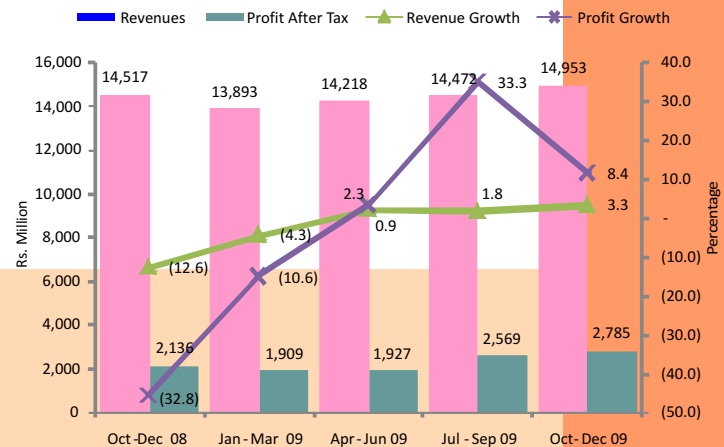
PTCL revenues depict the combined statistics of its local loop (FLL & WLL) and LDI services. Although PTCL has lost considerable number of FLL and WLL subscribers in the last quarter, its revenues have been growing at a steady pace after June 09. Figure given below shows the quarterly performance of PTCL in terms of revenue and profit. The revenue growth of PTCL has been relatively linear in the last three quarters after overcoming the revenue losses in the previous two quarters (Dec 08-Jan09). Growth rate of profit after tax has performed well as it rose from negative 32% all the way up to positive 33.3% in Sep 09. It is a big achievement by the incumbent that it managed to keep its profitability intact under difficult circumstances such as the economic slow down and general decline in its subscriber figures.

PTCL has the highest number of subscribers in fixed local loop sector with 3,268,642 subscribers at the end of December, 2009. However, comparing this figure with that of December 2008, it depicts a decline of 9%, and a net loss of 312,745 subscribers. This heavy decline in the PTCL's subscriptions had a huge impact on overall industry statistics. A close analysis of this decline points to a number of reasons:-

1. *Poor Quality of Service - PTCL has the oldest infrastructure in the country which requires frequent maintenance from the incumbent; but the same has not been done by PTCL on regular basis resulting into poor quality of services. Ultimately, people have started to shift towards wireless media to avoid unnecessary interruptions caused due to poor QoS.*
2. *Lack of Investment in Network - PTCL has not been expanding its infrastructure to the un-served and under-served areas. As more people are realizing the need for communication and the requirement for telecom services gets stronger, it is an excellent opportunity for the incumbent to grow its market size by investing in the un-served areas.*
3. *High call rates to cellular networks and vice versa - Since the inception of cellular services in Pakistan, call rates from PTCL to cellular networks have been high which compels its customers to use mobile in addition to PTCL. Same is the case for calls from cellular networks to PTCL except for Ufone which is the sister company of PTCL. Decreasing call rates to other mobile networks may improve PTCL's revenue stream.*

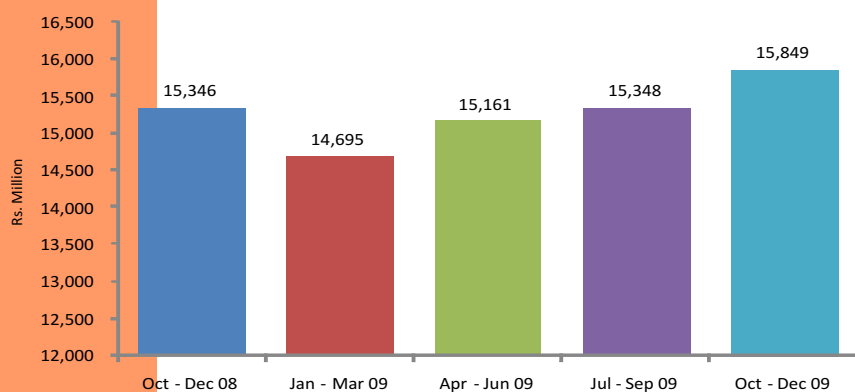
In view of the above, it is evident that there is a lot of opportunity for PTCL to improve its subscriptions, revenues, profits and general public perception about its services. If PTCL fails to grab this opportunity, it is likely that the new operators will benefit the most out of it.

PTCL - Revenue & Profit after Tax



In view of the above, it is evident that there is a lot of opportunity for PTCL to improve its subscriptions, revenues, profits and general public perception about its services. If PTCL fails to grab this opportunity, it is likely that the new operators will benefit the most out of it. However, PTCL is starting to take serious note of the situation and devising new strategies to improve the customer's base. Year 2009-10 has been declared as the "Year of Customer Care and Gain" by PTCL which is an attempt to put forth all efforts towards retaining existing customers. In this connection, PTCL has recently started a new offer to bring back the displeased customers by providing incentives like no restoration charges, waiving off fixed charges for those months in which the service is not used, easy installments of outstanding payments and convenient reactivation facilities. With such offers and better customer care, the incumbent is hopeful of re-gaining the customer's trust and bringing the growth to the positive side of the scale in the near future.

Fixed Local Loop Revenues



shown significant growth in the past two quarters; however, WorldCall and NTC have not been able to sustain their revenues.

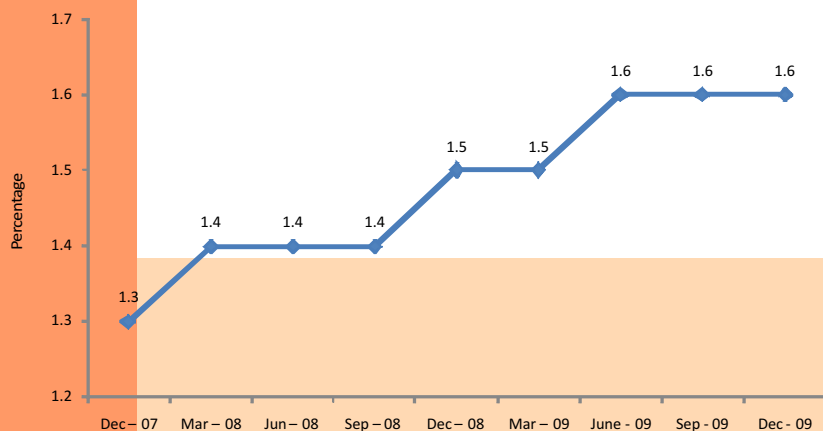
Revenues

Fixed line revenues have remained relatively steady for the last one year with the only drop seen in Jan-March 09. FLL sector has generated about Rs. 31.2 billion revenue during the last two quarters almost same as July-December, 2008. Although local loop industry has been losing subscribers in the past quarters, the good part is that revenues have been improving. Again, as FLL industry is more or less a monopoly of PTCL, its revenue share of 95% is the main contributor of total FLL revenue. PTCL, NayaTel and Brain have

Wireless Local Loop

The WLL market as compared to fixed line in Pakistan is more aggressive due to competition thus providing right ingredients

WLL Teledensity



to flourish. The regulator at its end had been creating conducive environment for the growth of WLL services, however, due to certain reasons the growth did not match the expectations. PTCL being a multi service operator could not concentrate properly on WLL and the new licensees' lower investment capabilities to increase coverage and limited mobility issue are hindering WLL growth in the country. The industry showed an average growth rate of 16% during 2009 thus making WLL subscribers today stand at 2.69 million.

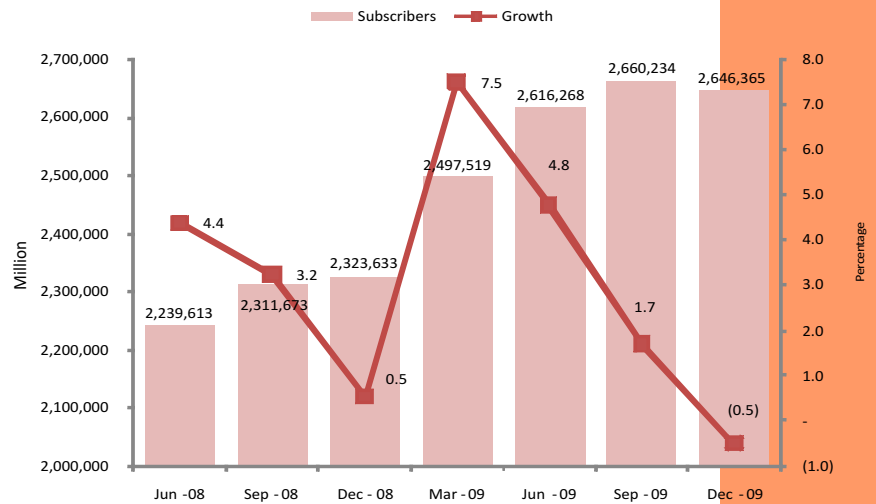
The WLL penetration in the country stands at 1.7% at the end of Dec'09 whereas it was 1.3% in Dec'08 showing a growth rate of 31% in one year. The growth during 2009 remained consistent and almost insignificant in month on month basis. Such low WLL penetration levels show that the

service is not popular among the masses at all. A comprehensive strategy is required for the uplift of this sector.

There were 2.6 million WLL subscribers in the country at the end of Dec'09. The subscriber base has been growing with an average growth rate of 15% per quarter during the year. The year started with 2.3 million subscribers and ended at 2.6 million. However, the growth was not uniform among the quarters of 2009 and least growth was witnessed in the last two quarters of 2009 i.e. 1.7 and 1.1 respectively. During the first quarter the increase in subscribers was impressive and growth crossed 7% but after that decline started which is still carrying on. Lower growth rates were experienced due to decreasing subscriber figures of PTCL, which is the market leader in WLL segment.

PTCL initially started off very well in WLL and it seemed that the operator would recover the fixed line loss from WLL services. The company also got license to operate WLL services in AJK region in December 2008 and a jump in the subscribers was witnessed in the very next quarter. The impact of this expansion is no longer visible as the company is now focusing more on mobile, internet broadband, wireless broadband and smart TV services, thus making the fixed-line and WLL subscribers to go in the back ground. PTCL today has a total WLL subscribers base of 1.2 million but the growth had been slow for the operator mainly due to competitive and attractive packages offered by WLL competitors and mobile operators. NTC started its WLL services in the local market very late as compared to other operators, and today maintains around 11,000 subscribers. With such big network for fixed services, NTC was not expected to have any issue of attracting customers but growth in one year was not significant. Companies including World Call, Great Bear, Wateen, Mytel, Link Direct have 573,760, 65,740, 124,036, 138 and 20,237 subscribers. Telecard is the only company which showed significant growth during the year where its subscribers grew from 534,412 to 650,208. PTCL and Link Direct are two companies that have shown drop in subscriber's base in the last quarter from 1,302,794 to 1,244,145 and 22,360 to 20,237.

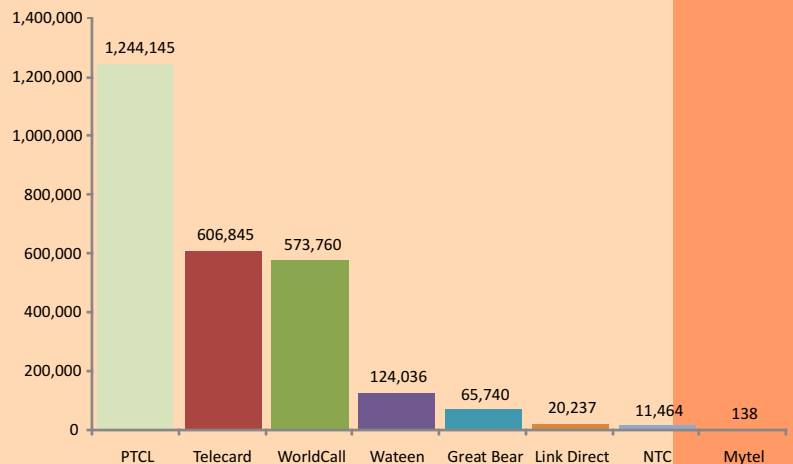
WLL Subscribers and Growth



WLL Subscribers

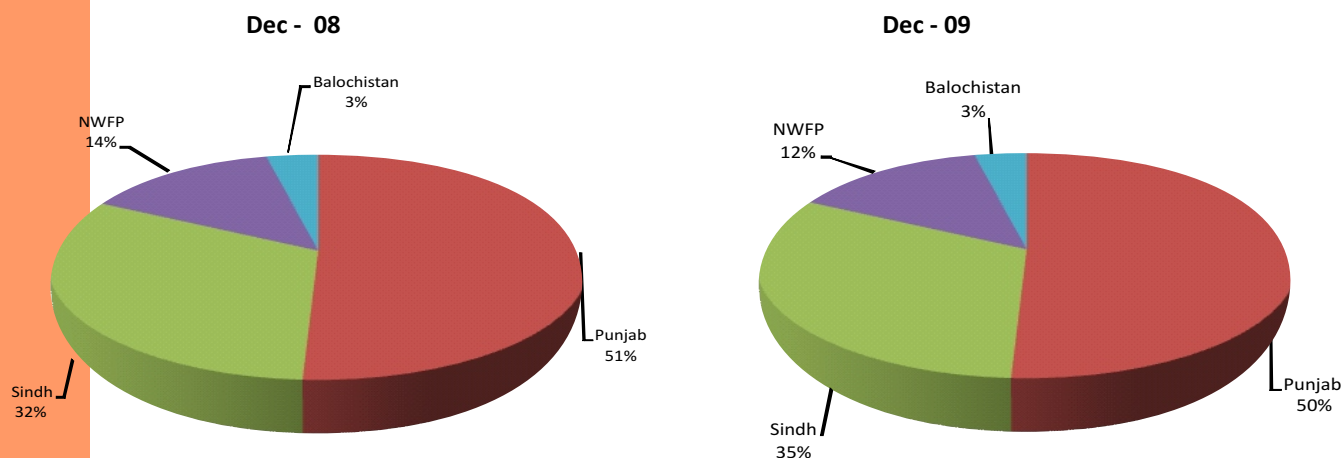
	Jun 08	Sep 08	Dec - 08	Mar-09	Jun 09	Sep 09	Dec - 09
PTCL	1188416	1,188,125	1,133,462	1,245,827	1,305,675	1,302,794	1,244,145
NTC	0	7,046	7,746	8,498	10,272	10,629	11,464
WorldCall	487387	517,424	537,054	539,672	559,362	565,118	573,760
Telecard	479208	506,827	534,412	566,445	582,907	593,547	606,845
Great Bear	62886	63,310	64,345	66,391	66,389	65,584	65,740
Wateen	21577	27,318	39,310	55,896	72,176	100,064	124,036
Mytel	139	139	138	138	138	138	138
Link Direct		1,484	7,166	14,652	19,349	22,360	20,237
Total	2,239,613	2,311,673	2,323,633	2,497,519	2,616,268	2,660,234	2,646,365

WLL Subscribers by Operator (Dec 09)



Analyzing the provincial situation, Punjab has maximum subscribers followed by Sind and then NWFP, Balochistan has least number of subscribers. While looking at the company wise situation only PTCL, Telecard and Wateen have some presence in Balochistan all other companies do not operate in this province. Great Bear is only operating in Punjab and Mytel in NWFP. Keeping in view provincial situation the operators need to focus on NWFP and Baluchistan in order to increase their market share.

WLL Subscribers Share by Province

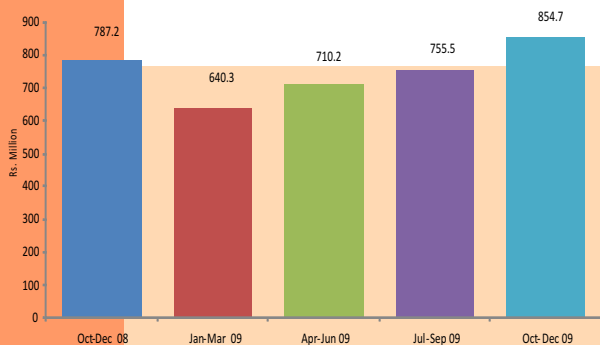


There are total of 3,467 cell sites by all operators at the end of Dec 2009. PTCL being the largest operator has maximum cell sites (1,482) spread across all four provinces including AJK. Wateen has second largest share in cell site with total 929 cell sites by end of 2009. Although World Call and Telecard have bigger share of WLL market but the cell sites are not comparable with Wateen as they have only 406 and 297 cell sites respectively as compared to Wateen with more than 900 of them. Due to lack of investment with companies it has become difficult to increase the coverage and increase more cell sites. Consequently rumors of mergers among current operators are becoming stronger.

WLL Cell Sites Dec 09

	Punjab	Sindh	NWFP	Balochistan	AJK	NA	Total
PTCL	808	332	222	89	28	3	1,482
WorldCall	264	121	21				406
Telecard	132	116	13	8			274
Great Bear	42						42
Wateen	597	255	53	24			929
Mytel			2				2
Link Direct	114	214	3	1			332
Total	1,977	1,042	315	125	28	3	3,467

Revenues by New WLL Operators



Although the WLL segment is not doing well in terms of subscriber growth and network coverage the quarterly turnover is showing an average increase of 10% in each quarter of 2009. The total turnover of the WLL sector in 2009 (Jan-Dec) stands at Rs. 3 billion approximately. This turnover however does not reflect total figures as PTCL WLL revenue is not included. Telecard has second largest subscriber wise share but revenue wise second largest share is of Worldcall. Wateen is also doing well in terms of revenues where in 2009 its revenues crossed Rs. 900 million.

The objective of introducing Wireless Local Loop services in Pakistan was to bridge the digital divide between urban and rural Pakistan. The Regulator gave time for industry to get mature and

helped operators overcome teething problems but the technology still remains expensive with competing mobile services. Limited mobility and handheld terminal issues are exerting pressure on the growth of this industry. The service is still popular in the urban areas and a dire potential is there in rural population but the operators have to realize the importance of investment and better tariff packages. A right recipe is required to give boost to this segment.

Long Distance & International (LDI)

LDI sector is an important part of any telecommunication structure which is responsible to deal with international traffic involving huge foreign exchange earnings for the country as well as for the sector. Pakistan's LDI market had been under quandary for quite sometime due to high settlement rates and low revenue figures. The issue of illegal call termination was another major setback for the infant companies and the absence of any established system of reconciliation of international minutes further worsened the situation. However, LDI companies did not leave grounds and fulfilled their roll out obligations of establishing 14 Points of Presence at the least.

During the de-regulation period, PTA issued LDI licenses to 14 companies in an attempt to create a level playing field for all the operators. PTA had been in close coordination with the LDI operators on working out a plausible solution to their problems. Improvement of settlement rates from US \$12.5 to \$10.5 by the regulator boosted the sector's traffic and revenues. Formation of "Monitoring and Reconciliation of International Telephone Traffic Regulations 2008" and deployment of Monitoring and Reconciliation of International Telephone Traffic (M&RITT) facility to block the illegal IPs involved in routing grey traffic to Pakistan has had a tremendous impact on curbing this menace. In last two quarters alone, PTA has carried out 20 raids against illegal exchanges across the country and also blocked more than 2200 IPs involved in carrying illegal traffic which were causing severe loss to the Government and industry. Apart from this, analysis of heavy callers' data continued with great success resulting in detection of several cases of illegal termination. A total number of 5000 SIMS & IMEIs have also been blocked so far.

PTA's efforts along with determination of LDI operators has given a new life to this important sector and it is a strong expectation that LDI companies will further progress as illegal exchange operators get discouraged by constant pressure of PTA.

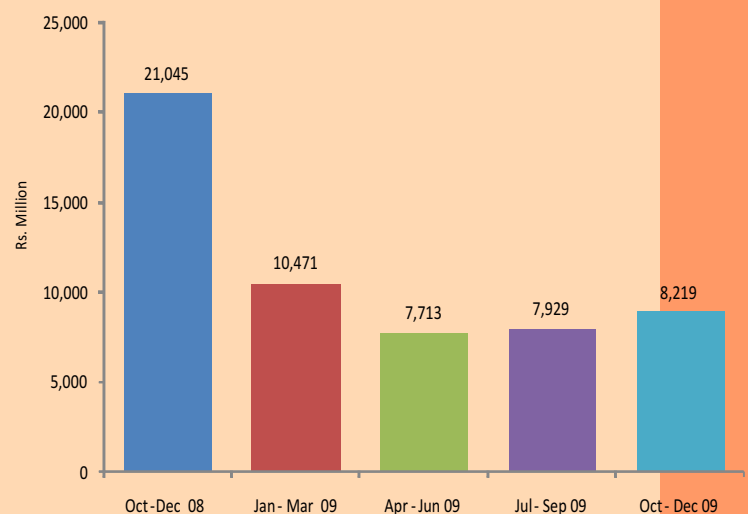
LDI Revenues

During the last calendar year, LDI industry generated a revenue total of Rs. 56 billion which shows a 37% increase from the same period in 2008. LDI revenues have been declining in the first two quarters of 2009, however, a rising trend is observed in the last two quarters. A big drop was observed during the period from Jan-Mar 09 where revenues dropped by almost 50%. A further decrease in the next quarter made the situation graver. However, the last two quarters showed significant positive growth where revenues grew consistently.

LDI revenues are dependent upon the total international traffic (incoming + outgoing) carried by the operator to and from the country. PTCL has been

holding the highest share in revenues since long and the fact remains true in the last two quarters as well. However, a look at

Revenue by New LDI Operators

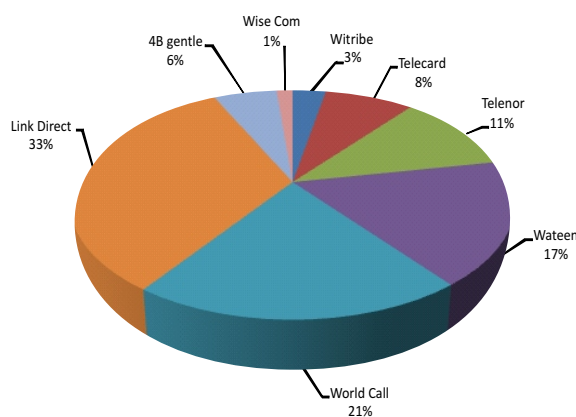
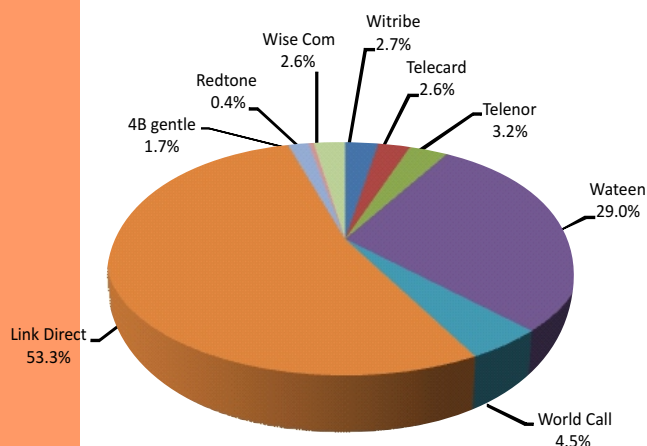


the LDI operators other than PTCL reveals that there has been a lot of loss and gain going on in the market share of major companies. Figure given below shows the change in market share of LDI companies for the same quarter over the past two year. The biggest winner in the race seems to be WorldCall which managed to increase its revenue share from a mere 4.5% to 21% in last one year.

Share in Total Revenue by New LDI Operators

Oct - Dec 08

Oct - Dec 09

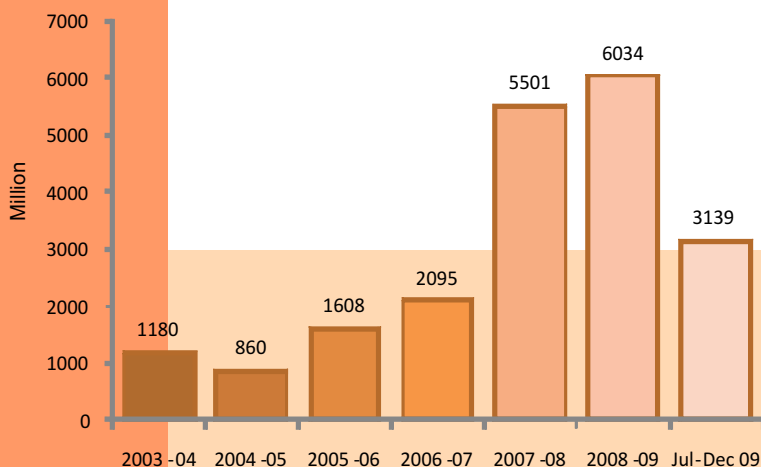


Similarly, 4B Gentle, Telecard, Telenor and Wi-tribe also increased their market share in the last few quarters. With so many gainers, the net result affected the market share of Link Direct severely as it lost 60% of its market share over the year. Same is the case with Wateen whose 29% share in revenue cut down to 17% by the end of this year.

Traffic

During FY 2008-09, LDI sector had seen a tremendous growth in the total international traffic owing to the deployment of Monitoring & Reconciliation of International Telephony Traffic (M&RITT) facility thorough which PTA was able to bust numerous illegal gateways inside Pakistan. During the last two quarters alone, PTA in collaboration with FIA has carried out

LDI Traffic

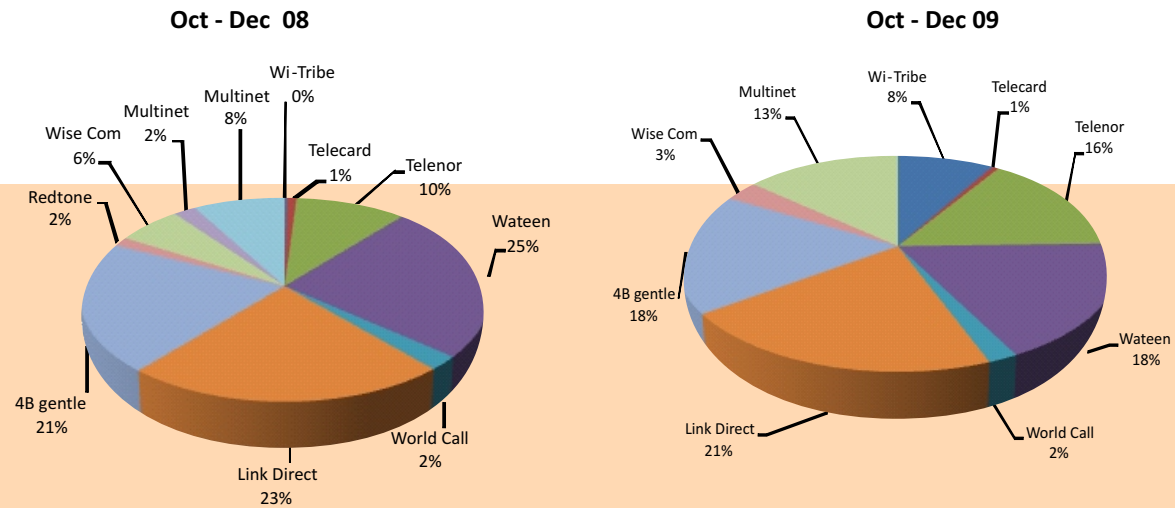


20 raids against illegal operators, apprehended the culprits and thus saved billions in revenue to National Exchequer. This led to increased traffic on network of licensed LDI operators and ultimately better revenues. The total international traffic carried from and to Pakistan reached 4.7 billion minutes during Jul-Dec 2009 which shows a 13% increase from the 4.14 billion during the first two quarters of 2009. The total international outgoing minutes generated by new LDI companies during the last two quarters stood at 1.56 billion which means 10% growth from the first six months of 2009. Total incoming traffic grew by 15% for the period from Jul-Dec 09 totalling 3.14 billion minutes. New LDI operators are gaining momentum and the market share is changing day by day. Currently, Link Direct has the highest stake of 21% in the total international minutes followed by 4BGentle

and Wateen, both at 18%. Although holding the top three spots, these three companies have actually lost their market share when compared to market position in December, 2008. This shows a significant change in the market where traffic seems to converge towards equal distribution of traffic among the big operators. Operators like Telenor, Wi-Tribe, and Multinet have improved their market position in last year.

Basic services are essential to bridge the digital divide and provide telecom facilities to all corners of the country. Service availability, network quality, subscriber addition and overall growth of the telecom heavily depend upon the success of local loop and LDI services. Apart from this, the proliferation of other services like Broadband is also directly proportional to efficient and robust local loop infrastructure. With constant support of PTA and improvement in economic condition of the country, the situation is expected to improve in the future.

Share in LDI Traffic by New Operators



Note: Oct - Dec 08 Shares of LDI Operators are revised



Broadband Services

Sector Review Broadband has often been compared with the cellular industry of Pakistan due to the exemplary growth of the latter in the last few years. It is a fact that broadband penetration levels are low but the extent of this infant industry's success should be gauged by its growth rates not its penetration level. The inherent constraints of broadband also effect its propagation such as literacy rate, computer skills, high

tariffs, reservations among parents regarding cyber security and child safety, language barrier, service availability and high cost of computer equipment. A close look at all these factors would reveal that broadband is actually propagating at a rapid pace even exceeding estimations by various renowned broadband experts. For example, Business Monitor International (BMI) in its last quarterly report (Q3 2009) had forecasted that there will be a 12% broadband penetration by end of 2013 but revised its estimate to 33% by end of 2014 in the most recent publication. (Q1 2010)

CableTV Operators & Broadband

A new paradigm has emerged in broadband arena with local CableTV operators ready to provide broadband DSL on this existing infrastructure. PEMRA stats show that Pakistan has strong CableTV profile with 2346 cable operators catering around 8 million households. PTA, recognizing the potential of this medium has asked for CableTV operators to apply for broadband license. License of M/s LeoNet in Karachi has been approved while other requests from Lahore and Karachi are under process with the Authority. Broadband through CableTV could be a viable alternative to copper dependence especially for under served and rural areas where poor or non-existent wire line infrastructure is barring the broadband proliferation

Broadband has long been termed as 'The Next Big Thing' for Pakistan primarily because not only it is a fast and reliable but also a cheap source of information dissemination and communication. Broadband market has experienced unmatched growth rates; steadily rising penetration level due to injection of latest technologies like WiMax and EvDO. Pakistan is ranked amongst top five most dynamic economies in terms of increased internet penetration in South Asian region (Source: UNCTAD 2009). Despite showing excellent performance in the recent times, a huge potential is still being offered by the Pakistan's broadband market in terms of infrastructure expansion, new subscriber addition and introduction of value added services.

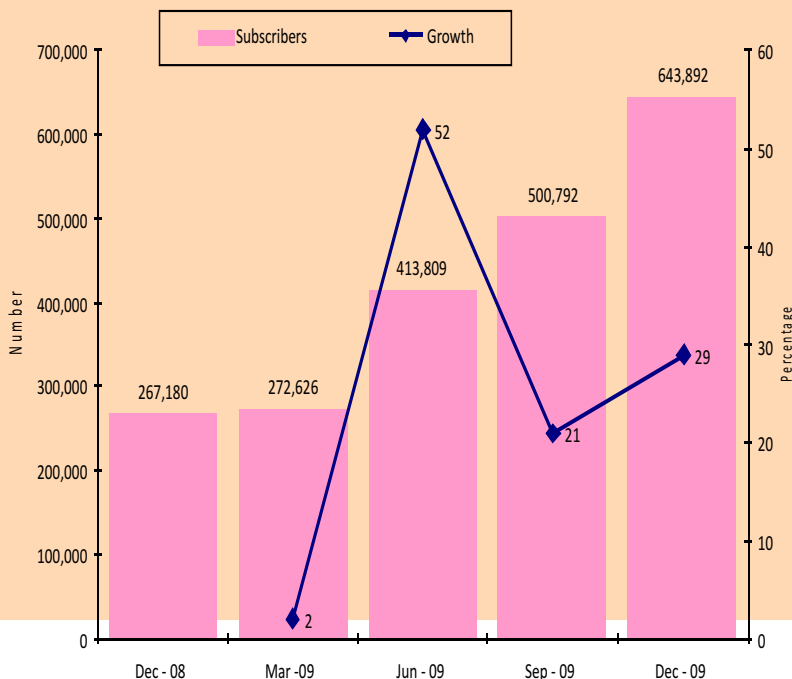
Broadband Initiatives

PTA as a regulator is actively involved in nurturing this new born field by providing a common platform for broadband experts via establishment of Broadband Stakeholder's Group (BSG) and facilitating the new entrants in every possible way. One of the main barriers to broadband's proliferation in Pakistan is the lack of local content/killer applications. To address this issue, PTA in collaboration with Motorola organized an exclusive conference on "Promoting ICT Sector" on 25th February, 2010 in Islamabad. Content developers and leading ICT experts of the country gathered at this elite platform to discuss the ideas, applications and latest innovations in developing local content/applications. Leading content developers displayed their applications which could directly benefit the local community and eventually increase the broadband penetration.

Also as active member in USF board, PTA has mandated the broadband projects for rural areas. Billions of Rupees are being invested in the broadband projects for rural areas via USF since 2007. The first results of the tenacious work by PTA, USF and industry has brought 1-Mbps PTCL broadband connection for only Rs. 299/- to far furlong areas of Faisalabad and Multan like Jhang, Sargodha, Toba Tek Singh, Khushab, Bhakkar, Bahawalpur, D.G Khan, Khanewal, Rahim Yar Khan etc. Such a low price tag for broadband connection is unmatched anywhere in the world. To maintain fairness, these are subsidized rates only for rural areas where no broadband services were previously available. This step will also encourage a shift in people's dependency on dial up internet in these areas and eventually convert this huge pool of 'internet users' into 'broadband internet users'. Other projects of USF like laying optical fiber in rural areas and establishment of "Educational Broadband Centres" and "Community Broadband Centres" will not only propagate broadband in these areas but also bring about more awareness and elevate the power of Broadband among masses. However, it is also a fact that extensive awareness campaigns and aggressive advertisement of such amazing facilities should also be the priority of It is anticipated that with such initiatives, broadband will soon be present in every nook and cranny of the country. PTA has already provided input on the upcoming Broadband Policy to Ministry of IT & T (MoIT) and it is expected that the policy will hopefully be announced this year. Moreover, Broadband Stakeholder's Group (BSG) has also submitted its recommendations regarding broadband proliferation measures to MoIT. Recently developed Broadband Key Performance Indicators (KPIs) for monitoring the

Quality of Service (QoS) of Fixed Broadband Services will ensure that high quality access is provided to the consumers and quality is not compromised in any way.

Broadband Subscribers



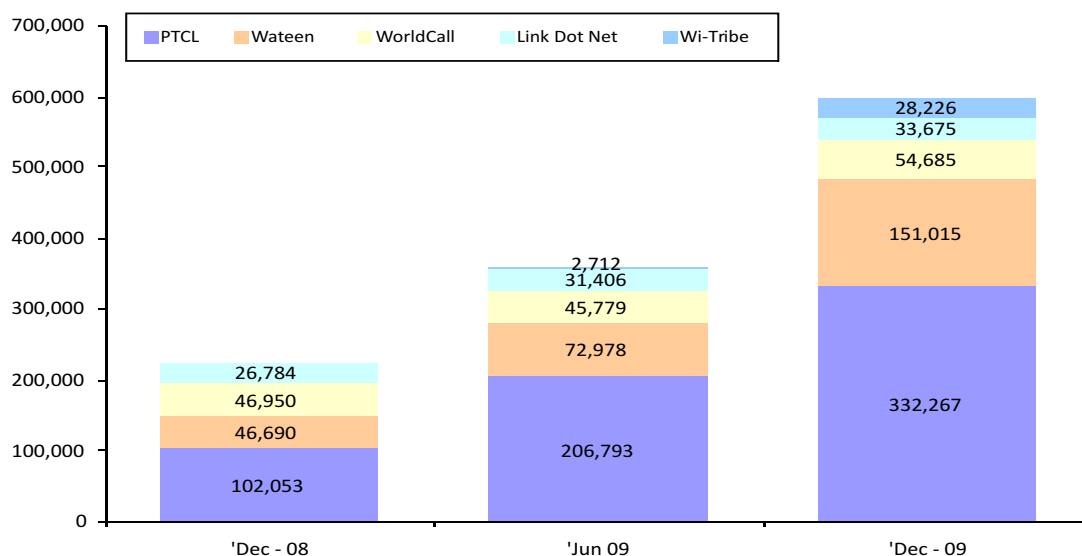
Broadband Growth

At the end of December 2009, Broadband subscribers have reached 643,892 with a growth rate of 29% in the last quarter. Compared with December 2008, a remarkable growth rate of 141% and 376,712 net additions depict the unmatched success of the sector. Broadband penetration level has also been steadily improving and stands at 0.39%, up from 0.16% from December 2008. Pakistan has been ranked 6th in terms of quarterly growth and 10th in terms of annual growth in the global broadband market (Source: Point Topic). However, industry statistics as collected by PTA place Pakistan at the top of both the lists when compared with other country's figures in the said report.

PTCL and Wateen are the two major operators of broadband in Pakistan while other companies like

Worldcall, Link dot net, Link direct and Wi-Tribe are catching up fast. With 332,267 subscribers, PTCL is the market leader with more than double the subscribers of its main competitor, Wateen which stands at 151,015. Figure given below depicts the rise of major broadband players in the last one year i.e. December 2008 till December 2009. PTCL, the market leader, is

**Major Broadband Players
(December 2008 to 2009)**



leading with 332,267 broadband and EvDO subscribers and a growth rate of 226% in last one year. Wateen holds the subsequent position with 151,051 subscribers and 223% growth rate, strikingly similar to PTCL. Worldcall and Link dot net are also steadily growing and depict a better position than in December, 2008. Wi-tribe has added 25,514 subscribers in a very short span of time and promises a bright prospect by putting up strong ad campaigns and attractive packages.

Broadband Tariff

Tariff is one of the most important factors in the development and proliferation of any technology and same is the case with broadband in Pakistan. Over the years, broadband tariff had been declining thanks to improved awareness, more coverage and introduction of new companies. Table given below provides a look at the comparison of lowest charges of 1-Mbps connection in Pakistan.

Broadband Tariff Comparison

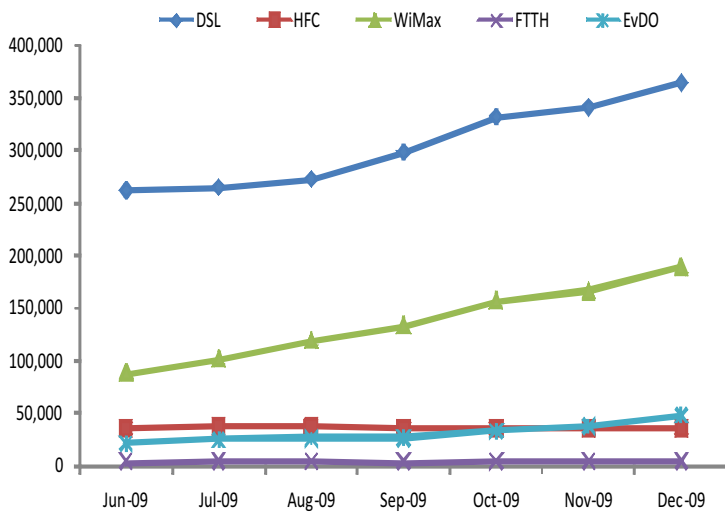
Technology	Company	Price (Rs/month)	Data Volume (GB)	Additional Cost (Rs)	
				Installation	CPE/Device Charges
DSL	Micronet*	749	Unlimited	750	2,494
	PTCL**	839	Unlimited	Free	Free
WiMax	Wateen	499	5	2499	99
	Wi-Tribe	650	5	Free	Free
FTTH	Nayatel***	1199	10	--	--
EvDO	PTCL	2000	Unlimited	Free	3,999

* 128 Kbps from 8am to 8pm, 1 Mbps is from 8pm to 8am and Sundays

** PTCL is offering 30% discount on its retail packages to all students, faculty members and admin staff of HEC recognized Universities

*** 1 Mbps from 8am to 8pm with 10GB limit, 3 Mbps from 8pm to 8am with unlimited Download

Tariff comparison of broadband in Pakistan can be a tricky affair because there is a variety to choose from. Although the monthly charges may seem comparable among all the companies especially for 1-Mbps unlimited packages, the real difference remains with the CPE charges. Referring to the table again, we can analyze that although Micronet is providing broadband at lesser charges than PTCL but the lucrative option of no additional cost may divert the consumers towards PTCL. Similarly, Wateen has lower charges than Wi-tribe for the same package but incurs a heavy additional cost to the consumer with the CPE charges. Companies must take into account such scenarios and come up with competitive offers so that a level playing field is maintained.

Broadband Subscribers

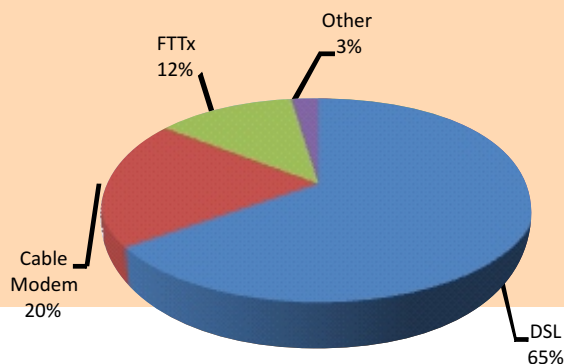
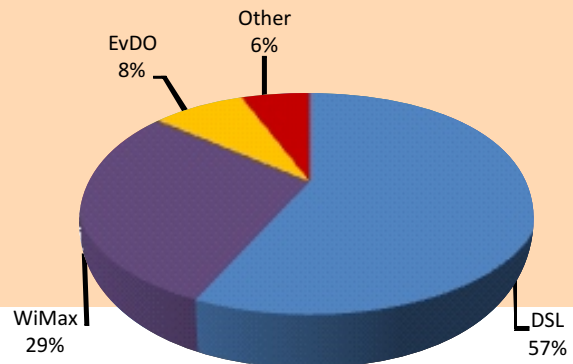
Broadband Technology Trends

Pakistan broadband market is truly unique as it hosts a wide array of technologies- both wired and wireless. Pakistan has limited copper infrastructure with only 3.5 M fixed line subscribers and installed capacity of approx 6.5 M. This limitation of fixed lined subscribers means that DSL alone cannot be a viable solution to meet the set targets for broadband proliferation. Unless the incumbent starts to expand the existing infrastructure to unexplored areas, DSL's propagation will eventually reach its threshold of 6.5 M. This fact has turned the new investors towards adopting wireless technologies like WiMax and EvDO.

The strong presence of PTCL in the broadband market is the main reason of DSL's dominance in the overall technology share as 86% of DSL subscribers belong to PTCL. WiMax has been a huge hit in Pakistan's broadband market and within two years of its introduction, its growth trend is very much similar to DSL which is relatively a veteran technology now. Although the figure may give the impression that only DSL and WiMax are propagating in Pakistan, the fact is that EvDO is also rising sharply since its introduction in 2008. Such a trend is highly suitable for Pakistan's broadband market as most of the population is concentrated in rural areas where poor or non-existent wire line infrastructure requires the availability of wireless solutions like WiMAX and EvDO.

Way Forward

While addressing coverage issues, it is imperative to delineate What can broadband do for Pakistani users? while listing out the the benefits of Broadband for Pakistani users, number of issues are needed to be addressed including need for local content and killer applications, e-portals such as e-health, e-education, e- shopping etc. Broadband potential must be utilized in a way that people use it for convenience rather than mere entertainment. Nations around the world are utilizing broadband as a learning medium to educate its citizens and provide online business opportunities to aspiring young minds. Online shopping, an everyday routine in other countries is almost non-existent in Pakistan and serious efforts in this regard can have a strong impact on broadband demand. It must be realized that broadband is not just a communication medium, it has economic incentives associated with it as well. Most of the world is becoming more and more oriented towards online connectivity of its services, using internet to contribute to their economic betterment, social networking and Government-public interaction.

World Technology Share**Pakistan Technology Share**

The growing stake of wireless services also points to a possibility that wireless may take over the wired broadband subscribers within next few year which will be a truly amazing achievement seldom seen anywhere in the world. Figure given below compares the global technology share with Pakistan's broadband market and it is evident that Wireless media has a 37% stake in the Pakistan broadband market as opposed to 3% worldwide.

United Nations Conference on Trade and Development (UNCTAD)'s Report on Information Economy 2009 shows some interesting facts about Pakistan's Internet and broadband status as depicted in table below: -

Penetration Comparison

Country	Internet User Penetration (2008)	Change in Penetration (2003-2008)	Fixed Broadband Penetration (2008)	Change in Penetration (2003-2008)
Pakistan	11.38	10.04	0.10	0.10
India	4.81	3.06	0.46	0.45
Bangladesh	2.77	2.47	--	--
Sri Lanka	6.70	5.53	0.31	0.30

Note- Sri Lanka's fixed broadband penetration and change in penetration is up till 2007
(Source: UNCTAD)

The report shows that Pakistan has a better Internet user penetration rate of 11.38% as compared to 4.81% of India, 2.77% of Bangladesh and 6.7% of Sri Lanka (till 2007) by the end of 2008. But at the same time, its broadband penetration level is lowest among the neighbouring countries which mean that Pakistan does have a sizeable

pool of internet users but people are yet to realize the power of broadband. It is absolutely essential that this difference among internet and broadband internet users be minimized so that people are better connected to refined information and instant services.

Pakistan may lag behind in terms of penetration and availability of e-services but broadband continues to attract new subscribers with every passing month and the growth trend is likely to continue as the competition between wired and wireless technologies forces the companies to lower the tariffs and improve service quality. PTA has kept a special focus on the development of broadband sector in Pakistan and has achieved set targets for broadband proliferation. BMI forecasts that there will be 59.65 million subscribers by the end of 2014 in Pakistan.

Telecoms in AJK & NAs

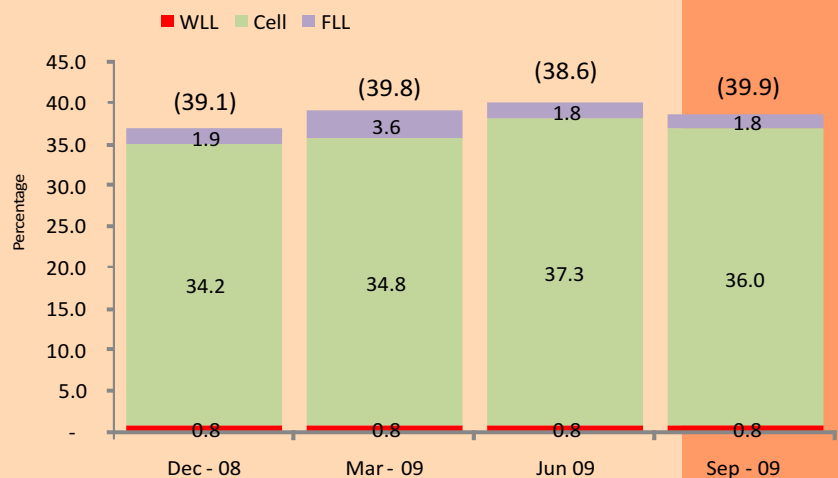
Overview

After independence, Azad Jammu and Kashmir (AJK) could not receive the requisite attention with regard to planning and provision of telecom facilities, which resulted in inadequate telecom infrastructure. In 1976, total telecom assets in AJ&K were 400 lines exchanges in Muzaffarabad and Mirpur. However, in 1990s telecom indicators improved many folds with more telecom facilities available in the far flung areas of AJ&K. Till deregulation, Special Communication Organization (SCO) was the only service provider in AJ&K and NAs. After introduction of competition, new operators started their service and all segments of the sector witnessed rapid growth. With a teledensity of 2.6% in the Year 2005-06, the region lagged far behind from the rest of the country in terms of telecom services. After deregulation, mobile penetration reached 36% followed by 1.8% FLL and 0.8% WLL. Total teledensity of all segments of telecom services in December, 2009 stands at 39.9%.

PTA issued WLL licenses to PTCL (TR-1, TR-2 and TR-3) and Wateen (TR - 2 & Tr3) on May 28, 2008 and June 3, 2009 respectively. Out of these two, PTCL successfully commenced its services in June 10, 2009 and stands fully operational in the areas of AJK (TR-1). It is expected that wateen will complete roll out of its network in the near future and healthy competition between the operators (i.e. SCO, PTCL and Wateen) will improve the status of telecom services in AJK & NAs.



Teledensity in AJK & NAs



Cellular Subscription in AJK & NAs

Market liberalization has played a positive role in the growth of mobile telephony in AJK & NAs. There was a substantial growth of cellular mobile services in the region. Cellular subscribers rose from 1,805,883 in December 2008 to 1,968,107 in December 2009 with a growth of 9%.

Cellular Subs in AJK & NAs

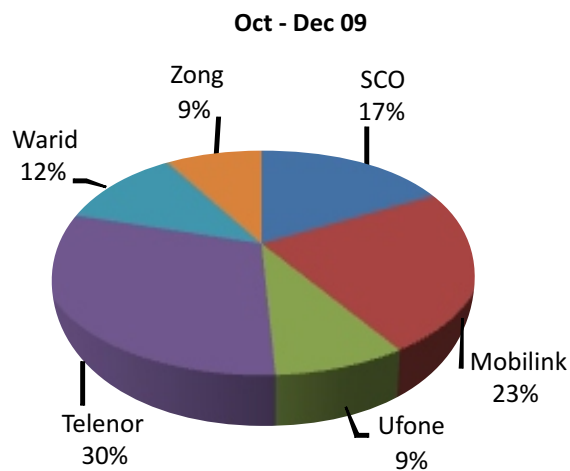
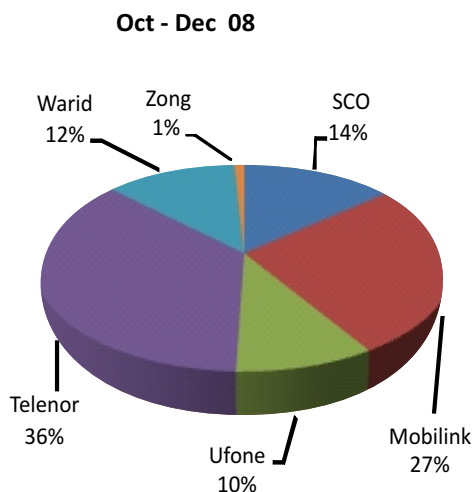
	Dec - 08	Mar - 09	Jun - 09	Sep - 09	Dec - 09
SCO	250,000	285,072	285,072	285,072	336,737
Mobilink	488,286	464,800	474,147	457,906	462,057
Ufone	174,813	177,647	181,253	173,327	167,870
Telenor	661,400	701,700	699,600	597,500	598,800
Warid	215,384	219,363	224,298	229,774	233,394
Zong	16,000	18,500	109,372	162,812	169,249
Total	1,805,883	1,867,082	1,973,742	1,906,391	1,968,107

others who gain it. Telenor and Mobilink have been leading the cellular market of AJK & NAs, however, companies have been dropping market share drastically during the last four quarters. Telenor and Mobilink lost its share up to 6% and 4% since December 2008. In December 2009 Mobilink and Telenor own 30% and 23% of total subscribers in the market followed by SCO with 17% share. Warid is maintaining its share of 12% for almost a year, however, Ufone dropped its share by 1% in the market in relation to previous reported period and stands at 9%. Zong has been penetrating the market quite aggressively with its share jumping from 1% to 9% in December 2009.

Market Share

While following up the competition levels, market share is an authentic parameter that shows how some companies lose their share in relation to

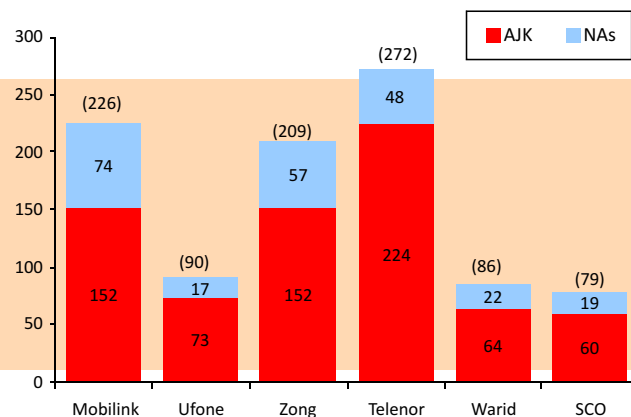
Cellular Subs Share in AJK & NAs



Network Coverage

Coverage by the mobile operators was very low before deregulation in AJK & NAs. All mobile operators are trying to increase their services in the region despite difficulty for the operators to go into certain areas. These include hilly and far-flung areas, however, all operators are putting in their best efforts for reaching out in these areas for constructing new towers. There were 962 cell sites uptill December 2009 by all operators. Most of the cell sites are installed in AJK, and hopefully cell sites in NAs shall increase in coming years, however, operators are aggressive for not

Cell Sites by Company in AJK & NAs (Dec 09)



only increasing their presence but also increase their subscribers base in NAs. Currently, 725 cell sites in AJK and 237 cell sites in NAs are installed by the all cellular operators.

Almost 80% of AJK and 55% of NAs land area is covered by the Cellular Operators. 270 Cities/Towns/Villages are covered by cellular operators of which 200 are in AJK and 70 in NAs. The companies are also increasing their presence in the cellular market of AJK & NAs by increasing their franchises. Currently there are total 71 franchises by all operators of which 62 in AJK and 9 in NAs.

SCO in AJK & NAs

The provision of telecom facility in AJK & NAs remained the responsibility of the Special Communication Organization (SCO) until the deregulation in year 2006. SCO started operations in 1976 with a total of 400 lines and is providing services through FLL, WLL and Cellular in both of the telecom regions of the area. Currently, SCO boasts a network of about 92,536 Fixed Local Lines, 336,737 cellular mobile connections and 47,097 Wireless Loop Connections.

AJ&K share in total subscribers of SCO (Fixed +WLL and Cellular) is 72% while only 28% connections are working in NAs.

Apart from FLL and WLL, SCO is also providing telecom facility through

PCOs in the far flung areas of the region which provide service to people who cannot afford telephone at home. Distribution of PCOs is not different to that of fixed line across the two regions. Approximately 86% PCO are working in AJ&K while 14% PCO are working in NAs.

Cities/Towns/Villages Covered by company in AJK & NAs (Dec - 09)

	AJK	NAs	Total
Mobilink	100	4	104
Ufone	57	14	71
Zong	200	48	248
Telenor	43	5	48
Warid	31	22	53
SCO	73	70	143

SCO Subscribers in AJK & NAs (Dec - 09)

	AJK	NA	Total
FLL	71,922	20,614	92,536
WLL	43,802	3,295	47,097
Cell	228,200	108,537	336,737
Total	343,924	132,446	476,370

SCO Subscribers by Service

	Dec - 08	Mar - 09	June - 09	Sep - 09	Dec - 09
FLL	99,886	92,537	92,536	92,536	92,536
WLL	41,051	40,836	40,836	40,746	47,097
Cell	250,000	285,072	285,072	285,072	336,737
Total	390,937	418,445	418,444	418,354	476,370

SCO Subscribers by Service

	AJK	NA	Total
FLL	165	310	475
WLL	1,681		1,681
Total	1,846	310	2,156



Consumer Protection and complaint Handling

Overview

The telecom sector of Pakistan has been an exemplary model of success in the regional and international perspective. But, such a phenomenal growth is also often accompanied with errors/complaints and QoS issues of relatively more popular services. PTA has been making utmost efforts to provide a reliable platform to consumers for quick and efficient resolution of their complaints via establishment of a dedicated Consumer Protection Department at Headquarters and Zonal Offices at all

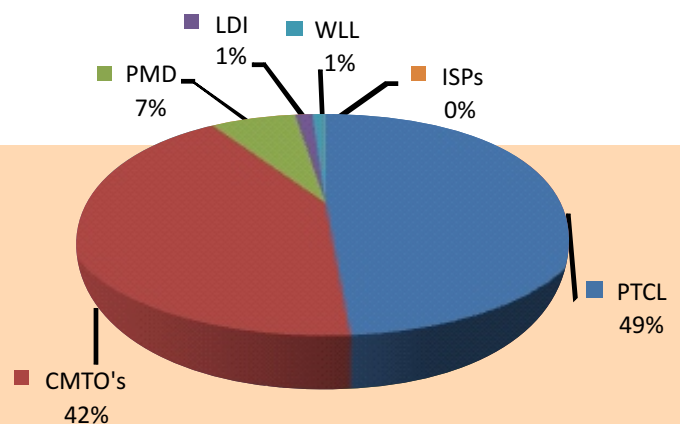
provincial capitals. The purpose of establishing the department had not only been resolution of individual customer complaints but also the formation of effective complaint handling and analysis mechanisms. The constitution of 'Consumer Protection Regulations, 2009' and SPAM Regulations (2009) on 'Measures against SPAM, unsolicited, obnoxious and fraudulent Communications 2009' have been a major achievement of PTA in this regard.

The analysis of complaints and feedback from the general masses revealed a need for better awareness of the consumers regarding their rights and modes of recording complaints to the Authority. In this regard, PTA held a joint press conference with mobile operators at the launch of complaint handling mechanism in July, 2009 in Lahore. Apart from this, PTA also held consumer forums at Karachi and again in Lahore for launch of 'SIM Information System 668 service' to better educate the general public about complaints resolution procedures.

Complaint Analysis

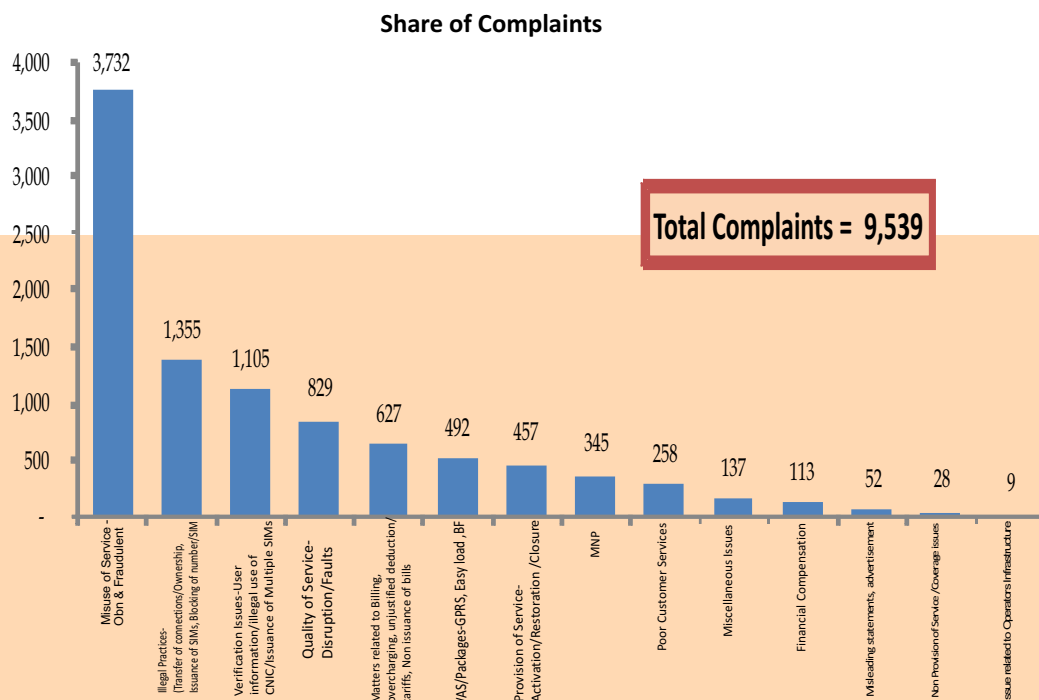
During the last two quarters (July-Dec 09), a total of 11,816 complaints had been received out of which 6,155 belonged to PTCL while 4,726 were made against (Cellular Mobile Telephone Operators) CMTO's. Pakistan Mobile Database (PMD), WLL, LDI and ISPs combine to form the rest of complaints. Although Mobile cellular services have almost 94% stake

Share of Complaints



in the total telecom teledensity of Pakistan, almost half of the complaints pertain to incumbent PTCL. Mobile industry consists of a total of around 96 million subscribers and it has a 42% share in total complaints while PTCL has only 3.5 million subscribers and yet 49% of total complaints are against its services and network. It is an alarming situation for this giant of Pakistan's telecom industry which requires immediate attention from the right quarters. Of all the complaints received PTA claims to resolve almost 89% the percentage thus depicts PTA's total commitment to protect consumer interest.

In terms of nature of complaints during Jan-Dec 09, almost 75% of CMTO complaints were related to misuse of Service - Obnoxious & Fraudulent calls/SMSs, illegal practices-transfer of connections, blocking of number/SIM without notification etc, quality of Service and Billing Issues. PTA has been in continuous liaison with the operators for speedy resolution of complaints; this consistent effort of the Authority has produced a remarkable 94% complaint redressal rate for the calendar year 2009.



Mobilink, being the SMP, had the highest number of complaints lodged against it during Jan-Dec 09. Out of 2,254 complaints, Mobilink managed to resolve 2,407 of them achieving a remarkable 94% redressal rate. Ufone had the second largest share in the total complaints with 2,378 out of which 2,315 complaints had been successfully resolved by the operator with the highest redressal rate of 97%. Telenor and Zong were complained 1951 and 1447 times respectively in the last year and they resolved 97% and 95% of the total complaints. Warid had the lowest number of complaints with 1209 of which it managed to resolve 1149 of them.

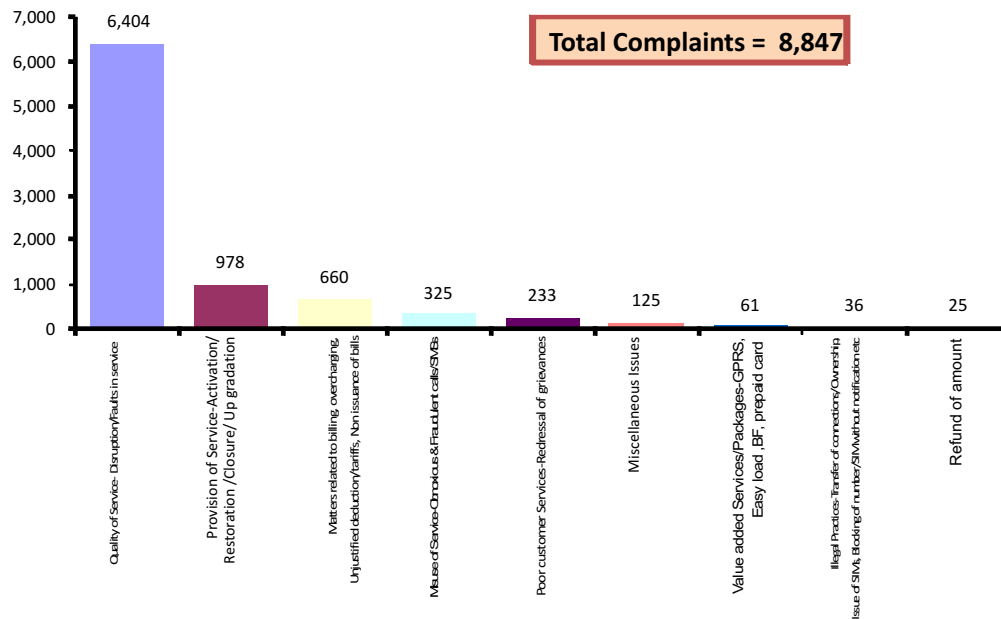
PTCL's network again came under fire from the consumers as Quality of Service- Disruption/Faults in service remained the biggest worry among the masses. All other complaints like billing issues, activation of

Summary Of Consumer Complaints (CMTOs) Operator Wise Redressal January - December 2009

Mobile Operators	Received Complaints	Resolved Complaints
Ufone	2,378	2,315
Mobilink	2,554	2,407
Telenor	1,951	1,899
Zong	1,447	1,373
Warid	1,209	1,149
Total	9,539	9,143

numbers etc collectively form only 30% of the total complaints. Out of total 8,847 complaints received by PTA, 7509 have been resolved which accounts to 85% redressal rate. Compared with 6,407 during 2007-08, a net increase of 2,440 complaints has been observed in this year. With wireless services rapidly growing all around Pakistan, PTCL must elevate its QoS standards and satisfy consumers in order to keep the interest of consumers in the local loop services.

Analysis Of Consumer Complaints (M/s PTCL) January - December 2009



Annex - 1

Telecom Revenues

Rs. Million

	Sep 07	Dec 07	Mar-08	Jun 08	Sep 08	Dec 08	Mar-09	Jun - 09	Sep 09	Dec 09
Cellular	39,963.4	41,873.2	48,525.9	51,718.7	49,260.7	54,829.0	53,127.0	55,206.3	55,266.2	58,189.3
Fixed	20,791.4	21,957.7	20,830.4	24,723.7	26,639.0	37,178.0	25,806.3	23,584.2	24,032.2	24,922.2
VAS (Estimated)	1,851.0	1,931.5	2,092.4	2,172.9	1,881.1	1,962.9	2,126.5	2,208.3	2,040.4	2,550.5
Total	62,605.8	65,762.3	71,448.8	78,615.3	77,780.9	93,970.0	81,059.8	80,998.7	81,338.9	85,662.0
Growth	35.7	5.0	8.6	10.0	(1.1)	20.8	(13.7)	(0.1)	0.4	5.3

*Oct – Dec 2009 Figures are Estimated



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