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Pakistan Telecommunications Report Q1 2008

Including 5-year industry forecasts

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Including 4-year industry forecasts by BMI

Part of BMI's Industry Report & Forecasts Series

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Executive Summary

Much of the South Asia region is home to high levels of telecoms growth; but in Pakistan infrastructure and subscriber growth patterns seem unrivalled with the telecoms sector experiencing unusually high growth. Total teledensity of Pakistan's telecoms sector was 46.9% in June 2007, well ahead of Sri Lanka on 37%, India (perhaps surprisingly) on 17% and Bangladesh on 15%.

It is Pakistan's mobile market that is driving the vibrancy of the market, and in turn it is high levels of competition and investment, as well as low tariffs and great consumer demand that are powering mobile growth. By the end of 2007, **BMI** expects there will be about 77mn mobile subscribers in Pakistan, and this figure is likely to increase to 135mn by the end of our forecast period in 2012. This means that approximately 80% of the population will have access to a mobile handset in five years time.

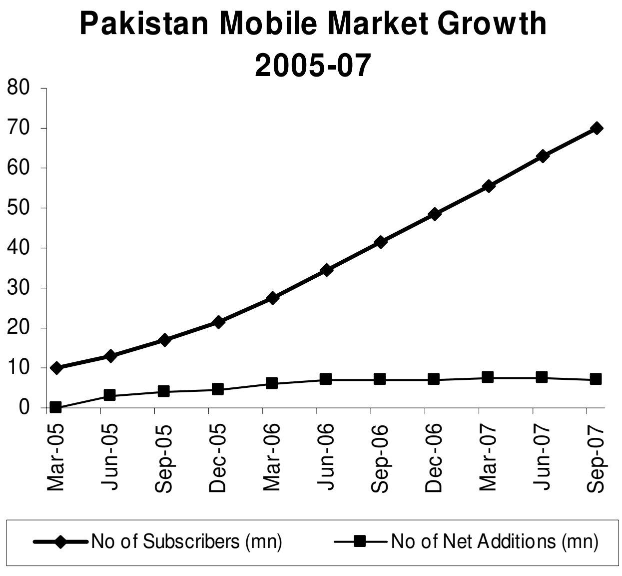
Orascom-owned **Mobilink** remains market leader with a 41% market share, as it continues to invest in its network, offer attractive promotions and offer new services (such as WiMAX). However, competition is becoming more intense, and **BMI** expects that sometime in 2008, **Telenor** will push **Ufone** hard for second place in Pakistan's mobile market. Although Ufone has a 22% market share compared with Telenor's 18%, the Norwegian company can boast approximately 6mn net additions during the first nine months of the year, some 500,000 more than Ufone.

There are few growth opportunities for Pakistan's fixed-line operators, but the increased deployment of WLL offers a glimmer of hope – the number of subscribers grew by 80% year-on-year (y-o-y) in 2006-2007. However, internet usage is also becoming more popular and although broadband services remain costly, we will watch closely the effect of **Pakistan Telecommunication Company Limited** (PTCL)'s privatisation, and how the operator could turn its attention towards a growing internet market in Pakistan.

Despite the rapid growth and the high levels of investment, Pakistan remains nearer the bottom than the top of **BMI**'s Business Environment Rankings. Aside from the surprising hike in taxation and regulatory fees on Pakistan's telecoms operators (up by 32% y-o-y in 2006-07), we maintain that Pakistan's telecoms market has an excellent business environment. However, there are concerns that inward investment could be moderated in the short-term at least, by political instability, which could cause economic uncertainties. The government will do all it can to ensure that Pakistan's telecoms sector retains its momentum, and this it hopes to do by encouraging investment from the world's largest handset manufacturers. Could Pakistan become a manufacturing base for the likes of **Nokia**, **Samsung**, **Sony Ericsson** and **Motorola**? The government points to an expectant market, highly-skilled and cheap labour and a convenient base for other high-growth markets in the region. It will be quite something if the Pakistani government pulls it off.

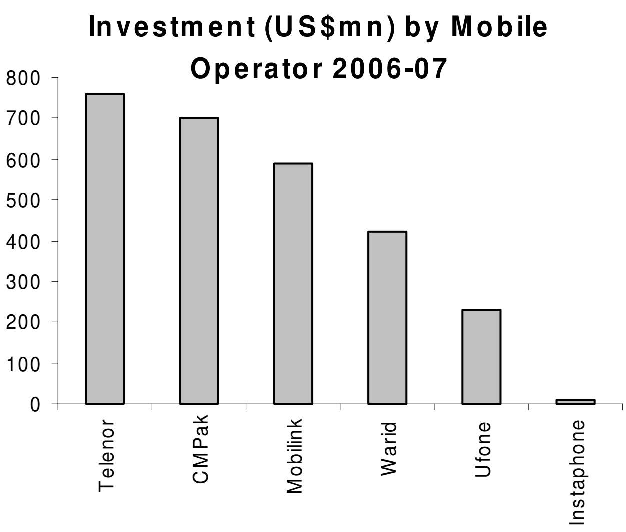
Market Data Analysis

Mobile



Source: BMI

Low tariffs, high consumer demand, intense competition and a government and regulator ready to welcome inward investment have created a powerful impetus for growth in Pakistan's mobile market. During the first nine months of 2007, there were 21.77mn net additions in Pakistan's wireless market, an average of 2.4mn per month. This took the aggregate total to just over 70mn by the end of September 2007, accounting for y-o-y growth of 69%. However, the third quarter of the year has witnessed a very slight slowdown in growth, as it was the first quarter of the year in which there were fewer than 7mn net additions. A total of 6.85mn new subscribers in a three-month period still represent substantial growth.



Source: PTA

The government must take its credit for encouraging inward investment from the likes of Telenor and **Warid Telecom** that has helped to drive mobile growth. The Pakistan Telecommunications Authority has also rightfully been the subject of plaudits in helping to create a transparent and well-regulated industry. And it has been this investment that has been so crucial to recent growth. Before 2005, when Telenor and Warid Telecom first entered Pakistan's mobile market, there was only one dominant operator – Mobilink – supported by a group of also- rans including Ufone, **Paktel** and **Instaphone**. Following the arrival of new operators in H105, Pakistan welcomed nearly 3mn new subscribers in the second quarter, while during the remainder of 2005, there were some 9mn new mobile customers added.

Investment levels continue to impress, as Pakistan's mobile operators now fight it out for market share amid network enhancement projects. A total of US$2.7bn was invested in infrastructure by Pakistan's mobile operators in the fiscal year ending June 2007. Meanwhile, total revenues amounted to PKR133bn over the year, accounting for 48% y-o-y growth. Low tariffs, however, did cause a fall in average revenue per user (ARPU), which at an average of US$3.2 is very low.

Table: Pakistan Mobile Market, September 2007

Operator	No. of Subscribers (mn)	Market Share (%)
Mobilink	28.572	40.8
Ufone	15.421	22.0
Telenor	12.578	18.0
Warid Telecom	11.867	16.9
CMPak	1.233	1.8
Instaphone	0.337	0.5
Total	**70.008**	**100**

Source: PTA, BMI

The first nine months of 2007 have been fascinating to monitor, with Telenor trumping its competitors during the first quarter (2.4mn net additions), only for Ufone surprisingly to come to life and add more new subscribers during the second quarter (2.4mn net additions) than any of its rivals. In the third quarter, the only operator to attract more than 2mn new subscribers was market leader Mobilink (2.1mn net additions). This it did through a variety of promotions, such as additional free SMS, and it ended September 2007 with more than 28.5mn subscribers and an approximate 41% share of the market. However, as a result of increasing pressure from its competitors, Mobilink has faced a steady decline in market share from the days when it boasted well over 60% of the market – the last time this happened was June 2005.

Table: Mobilink Market Share 2005-07

	Mar-05	Jun-05	Sep-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Jun-07	Sep-07
No. of subscribers (mn)	6.0	7.5	9.0	11.1	14.1	17.2	20.3	22.4	24.6	26.5	28.6
Market share (%)	61.0	58.7	53.1	51.3	50.8	49.7	48.9	46.3	44.3	41.9	40.8

Source: BMI

It is not just Mobilink's market share that has been in decline – its ARPU rate is also suffering as intense competition has caused the operator to cut its tariffs. And as a result, the operator's profitability is beginning to suffer with ARPU for the first time below the US$4 mark in September 2007.

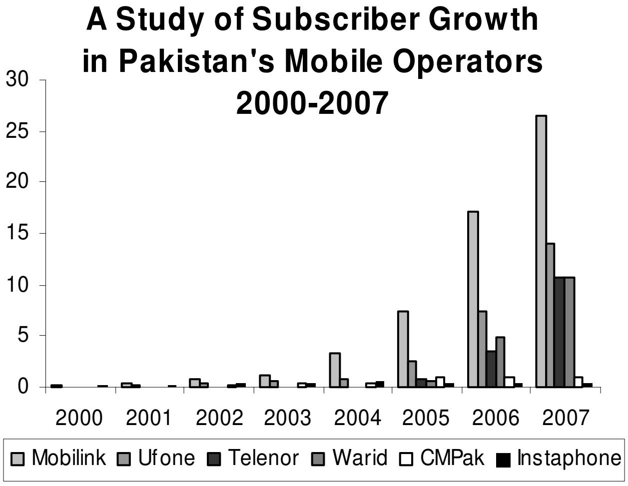
Ufone remains Pakistan's second-largest mobile operator with 15.4mn customers and a 22% market share, but it is coming under increasing pressure from Telenor. With its 12.6mn subscribers, it is now very doubtful that Telenor will overtake Ufone before the end of the year, as once looked likely, but **BMI** would not be surprised if this were to occur during the second half of 2008. **Etisalat** has promised to invest heavily in Ufone's broadband and mobile businesses, and network enhancement could continue to hold off the attentions of Telenor. Indeed, Ufone has contracted **Huawei Technologies** in a US$550mn deal to double its capacity, which forms part of Etisalat's plan to offset falling fixed-line revenues from PTCL with increasing levels of income from its mobile unit.

Table: Pakistan Mobile Market, Net Additions 9M07 – Leading Operators

Operator	No. of Net Additions (mn)	Market Share (%)
Mobilink	6.197	28.5
Telenor	5.917	27.2
Ufone	5.404	24.8
Warid Telecom	4.252	19.5
Total	**21.77**	**100**

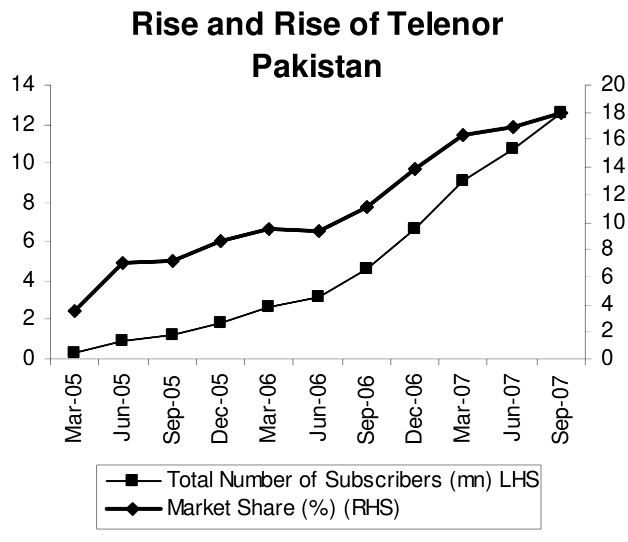
Source: PTA, BMI

BMI believes that **SingTel**'s purchase of a 30% stake in Warid Telecom at the end of June 2007 represents a hugely important development for Pakistan's mobile market. The arrival of SingTel should give the country's fourth-largest operator a huge boost. The company had done remarkably well to attract over 10.5mn subscribers in just two years of operation, but by its own standards had a difficult start to 2007, criticised by the regulator for the quality of its network, and adding just 4.2mn customers during the first nine months of the year. SingTel has an excellent reputation in making successful telecoms investments across the region, and nowhere has it done so more successfully than in India, where its associate **Bharti Airtel** controls the market. Indeed, Warid Telecom could learn from the successes of Bharti Airtel at a time when it must look to rural parts of the country for new subscriber growth, something that India's leading operator has done so well. And in order to do this, Warid must maintain its investment levels, provide extensive coverage and continue to offer attractive promotions, otherwise it will fall behind its rivals. SingTel's presence should ensure that this happens.



Source: BMI

Like Warid Telecom, Telenor has been hugely successful ever since its launch in early 2005, during which time it has managed to bring on 12.6mn wireless subscribers. What lies behind this surge from Telenor? Investment and network quality – Telenor has invested close to approximately US$1bn in Pakistan building up its network to the extent that it is now connected to over 1,000 cities, towns, villages and highways countrywide. Telenor Pakistan's CEO Tore Johnsen commented: 'No place [in Pakistan] is far enough for our customers to remain connected …[but] it is not just the pace of expansion but also the quality that matters to us'. As if to illustrate its investment plans, in February 2007, Telenor promised to increase its network capacity,



Source: BMI

and extended its service contract with Nokia until the end of 2009. The Finnish company will provide Telenor over these three years with more than 2,000 base stations, and will enhance the operator's network in Punjab, North-West Frontier Province, Pakistan Administered Kashmir and the northern regions of the country. And furthermore, Telenor is working on improving its service by adding value-added services (VAS) such as mobile TV.

Another to invest in Pakistan's mobile market is **China Mobile**. It completed its 100% acquisition of Paktel in June 2007, rebranding the failing company as CMPak. Back in 2000, Paktel had a 27% market share of Pakistan's then fledgling mobile market. Two years later, this had dropped significantly to 13%, and by September 2007, its share of the market was below 2%. It has just 1.23mn customers, and as yet China Mobile has made no progress in the revival of an ailing company.

China Mobile has, however, invested US$700mn on its Pakistani unit, and continues to expand its network. In August 2007, the operator won the opportunity to provide services to Azad Jammu and the Northern Areas of Pakistan for the first time. It has awarded network expansion deals to **Alcatel-Lucent** and Chinese manufacturers Huawei Technologies and **ZTE**. One wonders why China Mobile has sought to invest in such a competitive market. However, the company believes that if it can raise the company's profile, there is still the opportunity for dynamic growth. And, keen to export the Chinese home-grown 3G standard TD-SCDMA, for which it is likely to win a licence in China, China Mobile is eager to expand in overseas markets, and Pakistan provides the operator with just such an opportunity, especially at a time when the regulator is discussing the award of 3G licences.

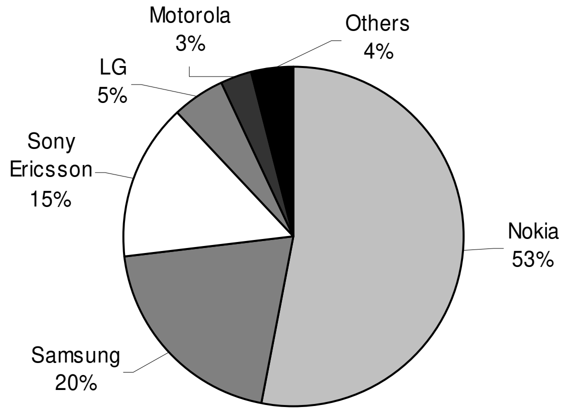
Table: Revenues from Data/Voice Services per Mobile Operator, 2007

Operator	Voice Revenues (PKRmn)	Data Revenues (PKRmn)
Mobilink	60,284	3,830
Ufone	20,308	1,559
Telenor	18,129	182
Warid	15,785	1,338
CMPak	2,749	148
Instaphone	472	0
Total	**118,267**	**7,057**

Source: BMI

The Pakistan Telecommunication Authority (PTA) did suggest that it would auction three 3G mobile licences by the end of 2007; this has not happened. Indeed, the PTA has recommended that the licensing of 3G services be delayed and that the mobile data market in Pakistan is insignificant (as the table above suggests, just 5% of mobile revenues came from data services in 2007). However, this is likely to remain the case until 3G services are launched, and 3G mobile telephony could suffer at the hands of WiMAX, which Mobilink and Ufone are already working on launching imminently.

Handset Manufacturer Market in Pakistan, 2006-07



Source: Mobile Zone

The growth in Pakistan's mobile market has, of course, resulted in a vibrant handset market. While Nokia remains market leader with 53% of the shipment market to Pakistan, Samsung on 20% and Sony Ericsson with 15% are also performing well. And, emerging into the marketplace are China's Huawei Technologies and ZTE, helped by a price sensitive market. Indeed, the most popular handset models in Pakistan do tend to be in the low-to-mid tier market with the following selling well – Nokia 1110/1112; Samsung E250; Sony Ericsson K750i; and the Motorola RAZR V3.

Fixed-Line

By the end of 2006-2007 (June 2007) there were 4.8mn fixed-line connections in Pakistan, with penetration dropping to just over 3%. PTCL retains its virtual monopoly of the fixed local loop in Pakistan (approximate 95% market share), but with limited incentive to improve services, quality and coverage remain poor. Indeed, PTCL lost over 450,000 fixed-line customers between June 2006 and June 2007 (latest data available), and a further 80,000 over the three-month period to September 2007, when it had just below 4.6mn customers.

The growing popularity of mobile telephony, and to a lesser extent of wireless local loop (WLL), has been the cause of this decline. Aside from the increasing popularity of mobile telephony (see above), the number of WLL subscribers increased by 80% between June 2006 and 2007. By the end of October 2007, there were just over 2mn subscribers to WLL networks with PTCL taking an approximate 59% market share, followed by **TeleCard** on 21.6% and **World Call** on 17% (see table below).

None of Pakistan's local loop operators have shown significant growth during 2006 and, out of 35 operators now licensed, just eight are in operation (PTCL, **NTC**, **Brain Ltd**, World Call, **Union Communications, Naya Telecommunications, Sohail Inam** and **Special Communication Organisation** (SCO). With its 196 exchanges, SCO operates in Azad Jamu & Kashmir and Pakistan's northern areas, and has approximately 120,000 subscribers, just ahead of NTC on 100,000. The remaining five operators have about 34,000 fixed-line customers between them.

Table: Pakistan Fixed-Line Market, September 2007

Operator	No. of Subscribers (mn)	Market Share (%)
PTCL	4.597	94.7
Others	0.256	5.3
Total	**4.853**	**100**

Source: PTA

Meanwhile, PTCL continues to focus on the expansion of its WLL network, for which it has approximately 1.2mn subscribers and a 59% share of the market, as of October 2007, having recorded a 70% y-o-y rise in its customer base. Although WLL has gone some way to bridging the digital divide between urban and rural Pakistan, the technology still remains expensive. Although currently popular, we would expect mobile telephony and the introduction of WiMAX networks to cause a slowdown in growth in the WLL market.

Table: Pakistan Wireless Local Loop Market, October 2007

Operator	No. of Subscribers (mn)	Market Share (%)
PTCL	1.185	58.6
TeleCard	0.437	21.6
World Call	0.345	17.1
Great Bear	0.054	2.7
Total	**2.021**	**100**

Source: PTA

Table: Pakistan Wireless Local Loop Market Net Additions, June 2006-October 2007

Operator	No. of Subscribers (mn)	Market Share (%)
PTCL	0.523	52.7
World Call	0.229	23.1
TeleCard	0.208	20.9
Great Bear	0.033	3.3
Total	**0.993**	**100**

Source: PTA

In spite of what may appear to be a stagnant fixed-line market, there have been signs of inward investment over the last few months. In November 2007, **Omantel** claimed that its US$204mn acquisition of a 65% interest in World Call, which now has been approved by shareholders and regulator alike, should boost profit in the carrier by 14% from 2009. Facing the loss of its fixed-line monopoly in its own domestic market, this represents a significant move from Omantel.

This acquisition followed the purchase of a 75% stake in local broadband wireless access and WiMAX operator **Burraq Telecom** by **Qatar Telecom** for US$12mn earlier in the year. Meanwhile, another acquisition on the cards involves TeleCard, Pakistan's largest payphone company with speculation mounting that an Asian operator is eyeing up a majority stake in a deal that could be worth as much as US$90mn.

Pakistan may have a thriving mobile market, but in contrast there has been very limited take-up for either dial-up internet access or high-speed broadband connection. With a limited fixed-line infrastructure, high tariffs and inadequate investment in this area, low penetration rates (below 1%) are hardly surprising, and yet broadband services have been available in Pakistan for the last five years. Aside from incumbent operator, PTCL, the main DSL providers are **Micronet**, **Dancom**, **CyberNet** and **MultiNet**. A total of about 70 ISPs, meanwhile, provide dial-up internet services.

The major reason behind the slow growth of broadband services (customer numbers increased by nearly 70% y-o-y in June 2007) is cost. Whilst in India, where the government is pushing for broadband growth, broadband services are available for US$8 per month, in Pakistan high-speed services (at the same speed) cost US$16 per month. There is some hope, however, that since the privatisation of PTCL, and now that it is under the control of Etisalat, the incumbent has announced reductions in IP bandwidth tariffs.

Regulatory Developments

The PTA introduced mobile number portability (MNP) to Pakistan in March 2007. Initially there was a disappointing response, with MNP attracting just 18,000 transfers in the first three months. Customers were complaining that the system was too unwieldy to use. Nevertheless, the PTA still regards MNP as a key element of deregulation in any telecoms market as a way of ensuring competition, and it appears to be doing just this, with Telenor appearing to be the main beneficiary taking subscribers away from Ufone, CMPak and Instaphone. Not only does it make the market more competitive, but it encourages operators to improve the quality of their networks, perhaps a reason for Warid (often criticised for traffic congestion) signing a three-year managed services deal with Ericsson. Indeed, such is the importance of MNP that both Telenor and Warid insisted on receiving a promise from the regulator that MNP would be introduced into Pakistan’s market before finalising their investment plans.

A key issue currently in Pakistan’s mobile market is the high level of phone activation tax being paid by carriers. Indeed, all of the country’s wireless operators have lodged a complaint at the PKR500 tax, which they claim is hindering growth. Trade association the GSMA is also involved in the dispute and after discussions with the operators and the Pakistani government declared that ‘the activation tax is a significant barrier for people looking to own a mobile phone and represents a constraint for operators seeking to expand into rural areas.’

The operators claim that the rise in tax is unnecessary as previous reductions had actually corresponded with a rise in handset owners and therefore an increase in taxation revenues. In the last financial year a total of US$2bn was paid to the Pakistani exchequer through a mixture of tax payments and inward investment. The GSMA recently commissioned a report on taxation levels on mobile phone ownership, which claimed that in countries such as Pakistan, where tax levels have always been low, a rapid increase in penetration has caused an increase in tax revenues. However, it is possible that the government believes that the Pakistani mobile market has seen the best years of subscriber growth and therefore needs to raise tax levels. If it does believe this, it is not taking into account the huge potential remaining for subscriber growth across rural Pakistan.

The PTA continues to take very seriously its regulation that proof of identity of a new mobile subscriber is required before being allowed to sign up for a mobile service. This was made abundantly clear by the decision of the PTA to force Mobilink, Ufone, Warid, Telenor and CMPak to terminate partnerships with 11 franchisees located across the country for selling mobile connections without enforcing the PTA's standard procedure of requiring customers to provide proof of identity.

Mobile Operator Data

Table: Mobilink

	Sep-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Jun-07	Sep-07
Subscriber Numbers (mn)									
Total number	9	11.1	14.1	17.206	20.316	22.375	24.649	26.466	28.572
Type: Prepaid	na	na	na	na	na	na	na	25.928	28.043
Type: Postpaid	na	na	na	na	na	na	na	0.538	0.529
Tech: GSM (2G)	9	11.1	14.1	17.206	20.316	22.375	24.649	26.466	28.572
Market share (%)	53.1	51.3	50.8	49.7	48.9	46.3	44.3	41.9	40.8
No. of net additions	1.5	2.1	3	3.106	3.11	2.059	2.274	1.817	2.106
Market share of net additions (%)	35.8	44.8	49.2	45.0	45.1	30.3	31	24.1	30.7
Subscriber usage									
Blended ARPU (US$)	7.5	6.7	6.2	5.7	4.5	4.1	4.0	4.1	3.9
ARPU (Prepaid) (US$)	6.5	5.9	5.5	5.0	4.0	3.7	4.0	na	na
ARPU (Contract) (US$)	41.7	33.1	33.5	33.8	28.2	23.3	22.6	na	na
Financial/Structure									
Operating revenue (US$mn)	522.0	733.0	236.0	500.0	750.0	1017.0	282.0	597.4	918.7
Net profit (US$mn)	na	na	na	na	na	na	na	na	na
EBITDA (US$mn)	219.0	293.0	88.0	193.0	298.0	407.0	111.0	257.0	398.0
Capital expenditure (US$mn)	na	615.0	na	na	na	693.0	na	na	na

na = not available.

Table: Telenor

	Sep-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Jun-07	Sep-07
Subscriber Numbers (mn)									
Total number	1.2	1.868	2.627	3.205	4.597	6.661	9.071	10.701	12.578
Type: Prepaid	1.188	1.836	2.495	3.165	4.555	6.621	9.049	10.625	12.486
Type: Postpaid	0.012	0.032	0.132	0.04	0.042	0.04	0.022	0.076	0.092
Tech: GSM (2G)	1.2	1.868	2.627	3.205	4.597	6.661	9.071	10.701	12.578
Market share (%)	7.1	8.6	9.5	9.3	11.1	13.8	16.3	16.9	18.0
Market penetration (%)									
No of net additions	0.304	0.668	0.759	0.578	1.392	2.064	2.41	1.63	1.877
Market share of net additions (%)	7.3	14.2	12.4	8.4	20.2	30.4	32.9	21.6	27.4
Subscriber Usage									
Blended ARPU (NOK)	25.0	30.0	32.0	30.0	27.0	28.0	28.0	28.0	25.0
ARPU (Prepaid) (NOK)	24.0	29.0	31.0	30.0	27.0	28.0	28.0	28.0	24.0
ARPU (Contract) (NOK)	99.0	72.0	59.0	59.0	51.0	60.0	74.0	58.0	70.0
Financial/Structure									
Operating revenue (NOKmn)	125.0	265.0	215.0	480.0	818.0	1,304.0	686.0	1,527	2,414
Net profit (NOKmn)	na	na	na	na	na	na	na	na	na
EBITDA (NOKmn)	-445.0	-578.0	-77.0	-194.0	-281.0	-328.0	-3.0	56.0	206.0
Capital expenditure (NOKmn)	na	na	na	2,653.0	na	na	na	na	na

na = not available.

Table: Ufone

	Sep-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Jun-07	Sep-07
Subscriber Numbers (mn)									
Total number	3.84	5.18	6.21	7.487	8.86	10.017	11.597	14.014	15.421
Tech: GSM (2G)	3.84	5.18	6.21	7.487	8.86	10.017	11.597	14.014	15.421
Market share (%)	22.6	23.9	22.4	21.6	21.3	20.7	20.8	22.2	22.0
Market penetration (%)									
No of net additions	1.27	1.34	1.03	1.277	1.373	1.157	1.58	2.417	1.407
Market share of net additions (%)	30.4	28.6	16.9	18.6	19.9	17	21.6	32	20.5

Table: Warid Telecom

	Sep-05	Dec-05	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Jun-07	Sep-07
Subscriber numbers (mn)									
Total number	1.513	2.07	3.276	4.863	5.937	7.615	8.956	10.62	11.867
Tech: GSM (2G)	1.513	2.07	3.276	4.863	5.937	7.615	8.956	10.62	11.867
Market share (%)	8.9	9.6	11.8	14.1	14.3	15.8	16.1	16.8	16.9
No of net additions	1.004	0.557	1.206	1.587	1.074	1.678	1.341	1.664	1.247
Market share of net additions (%)	24.0	11.9	19.8	23.1	15.6	24.7	18.3	22.1	18.2

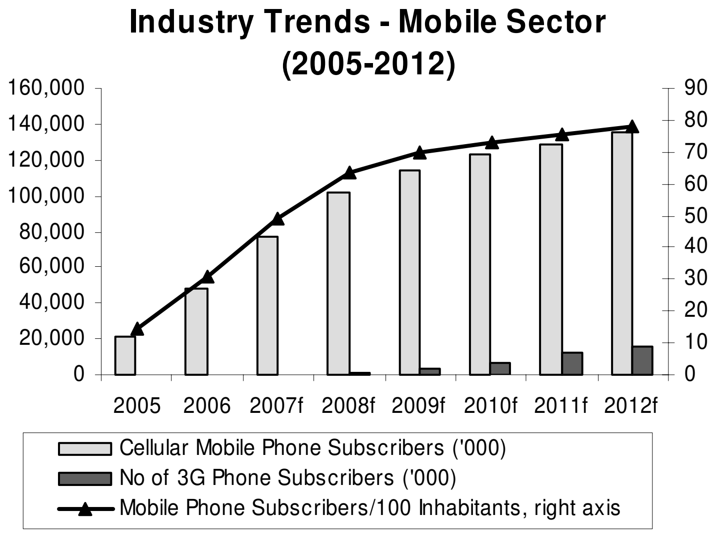
Industry Forecast Scenario

Mobile

Table: Pakistan Telecoms Sector – Mobiles – Historical Data & Forecasts

	2005	2006	2007f	2008f	2009f	2010f	2011f	2012f
No. of mobile phone subscribers ('000)	21,636	48,289	77,100	102,340	114,620	122,640	128,770	135,500
No. of mobile phone subscribers/100 inhabitants	14.2	31.1	49.2	63.3	69.6	73.1	75.4	77.9
No. of mobile phone subscribers/100 fixed line subscribers	390.3	703.1	1,168.2	1,574.5	1,833.9	2,078.6	2,239.5	2,398.2
No. of 3G phone subscribers ('000)	0	0	0	900	3,100	7,200	11,800	16,100
3G market as % Of entire mobile market	0.0	0.0	0.0	0.8	2.7	5.9	9.2	11.9

Source: PTA, ITU, Operator Results; f = BMI forecast



Source: BMI Research

Our end-of-year forecast has been amended slightly – our initial suggestion of 80mn mobile subscribers by the end of 2007 may have been too bullish, and we have revised this figure to just over 77mn, which would still represent y-o-y growth of 60% and a penetration rate of 49%.

However, there is no reason for any kind of sustained slowdown in growth, but we do note with some caution that activation tax levels on handset ownership in Pakistan are rising. All six of Pakistan's wireless operators have issued a complaint about this. Furthermore, with ownership increasingly commonplace in urban areas, we do expect take-up in rural Pakistan to be a little slower, partly because in some cases operators have not invested enough in network rollout, and partly because consumers in these areas are less able to commit to the required tariffs.

Nevertheless, growth in Pakistan's mobile sector has been nothing short of extraordinary, powered by continued expansion from the market leader Mobilink, but also by the entrance of new investors Warid Telecom and Telenor at the beginning of 2005. Investment projects, including network builds from all five of Pakistan's leading mobile operators, suggests that growth will indeed continue, and implies, in particular, real commitment to growth in rural Pakistan. The entrance of SingTel to Pakistan, via its 30% acquisition of Warid Telecom, is particularly telling.

Growth will slow down partly as the market becomes saturated and partly as it reaches less accessible parts of the country. **BMI** forecasts that there will be 100mn mobile subscribers at the end of 2008, and that by the end of our forecast period in 2012, there should be more than 135mn customers, accounting for a penetration rate of around 78%. This would still represent an annual average growth rate of 8% between 2008 and 2012.

With regards to our 3G forecasts, it seems likely that the PTA will run an auction for three licences no earlier than towards the beginning of 2008, with commercial deployment either later that year, or maybe early in 2009. With GSM the main mobile technology in use in Pakistan, the preferred 3G technology would be UMTS, although China Mobile may be tempted, if it were to win a licence, to usher in its home-grown TD-SCDMA standard.

Third-generation mobile telephony is unlikely to take off in the immediate term. However, the ambition and competition is very much present to fuel a small 3G market, and we know that Telenor's network in Pakistan is already W-CDMA compatible. The introduction of WiMAX services and the popularity of WLL may hinder the development of 3G, but **BMI** forecasts that by the end of 2012, about 12% of all mobile subscribers in Pakistan will have a 3G handset. This, however, remains very much in the hands of the PTA, the operators themselves and of course Pakistan's consumers.

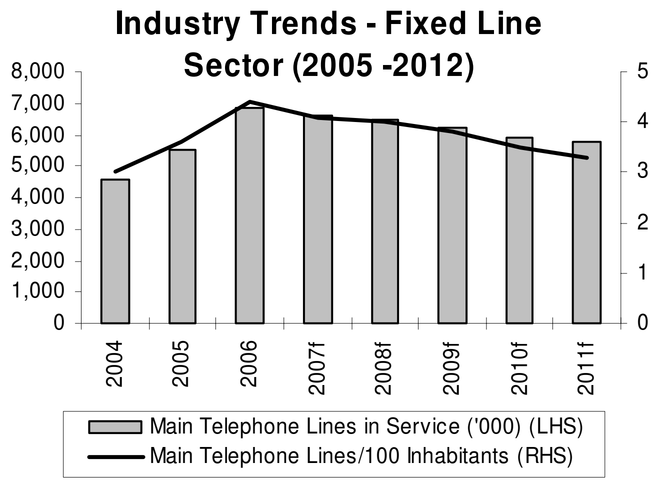
Fixed-Line

Table: Pakistan Telecoms Sector – Fixed-line/WLL – Historical Data & Forecasts

	2005	2006	2007f	2008f	2009f	2010f	2011f	2012f
No. of main telephone lines in service ('000)	5,543	6,868	6,600	6,500	6,250	5,900	5,750	5,650
No. of main telephone lines/100 inhabitants	3.6	4.4	4.1	4	3.8	3.5	3.3	3.3

Source: PTA, ITU and Operator Results; f = BMI forecast

The continued slowdown in Pakistan's fixed-line market means that we have made no changes to our rather gloomy forecasts. Even more worrying for Pakistan's alternative operators is that although still in growth mode, we would expect the rise in Pakistan's WLL market to dip. Mobile telephony and the rising popularity of WiMAX networks will ensure this.



Source: BMI Research

By the end of 2007, our forecast for fixed-line/WLL penetration stands at just over 4%, and our projections suggest that this will continue to fall to 3.3% by the end of 2012.

There is simply no potential for growth in Pakistan's fixed-line telephony despite the increase in investment likely to result as a consequence of PTCL's privatisation (although it is likely to put much of this investment towards its mobile unit Ufone). Increased investment in World Call, TeleCard and Burraq Telecom networks could boost growth in the fixed-line market, but it is likely to affect the country's non-voice data markets rather than voice traffic.

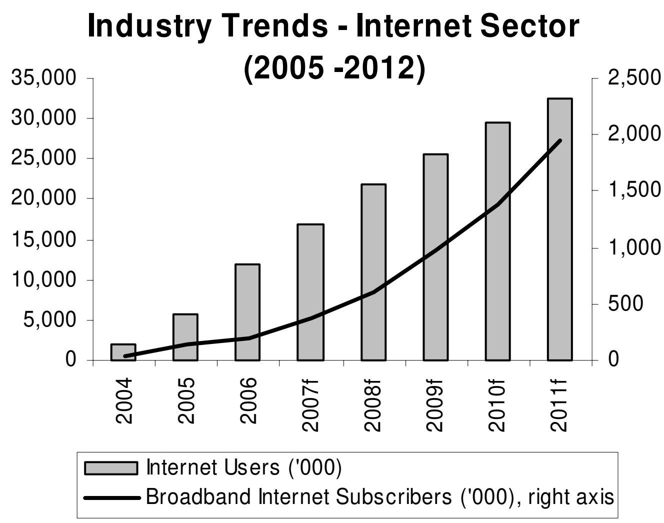
Internet

Table: Pakistan Telecoms Sector – Internet – Historical Data & Forecasts

	2005	2006	2007f	2008f	2009f	2010f	2011f	2012f
No. of internet users ('000)	5,600	12,000	17,000	21,900	25,600	29,440	32,600	33,900
No. of internet users/100 Inhabitants	3.7	7.7	10.8	13.6	15.5	17.6	19.1	19.5
No. of broadband internet subscribers ('000)	150	200	380	600	970	1,390	1,950	2,600
No. of broadband internet subscribers/100 inhabitants	0.1	0.1	0.2	0.4	0.6	0.8	1.1	1.5

Source: International Telecommunications Union (ITU), BMI; e/f = BMI estimate/forecast.

Internet usage is growing all the time in Pakistan. We expect there to be 17mn internet users at the end of 2007, with penetration at 11%. And this is despite the fact that ownership of PCs remains rare in Pakistan.



Source: BMI Research

Furthermore, a poor fixed-line infrastructure suggests that dial-up usage is very common, resulting in very slow download speeds. The increasing popularity of broadband services, matched by the determination of PTCL to improve the standards of its internet business is likely to change this in time. However, high costs of broadband services in Pakistan mean that this change could be very slow, and **BMI** forecasts that penetration will remain at below 1% until well into 2012. Given the phenomenal growth in recent years of Pakistan's mobile sector, this is somewhat surprising, but it does fall to the incumbent and the increasing number of alternative operators and ISPs to accelerate the speed of growth.

Business Environment

Asia

This quarter sees the unveiling of **BMI**'s new business environment rankings system. The new rankings are based on a revised methodology, which we believe offers an industry-leading insight into the prospects and risks for companies operating in the global telecoms market. Our approach has been threefold. First, we have redefined the risks that we rate, in order to capture more accurately the operational dangers to companies operating in the telecoms field. Second, we have attempted, where possible, to identify objective indicators that may serve as proxies for issues and trends that were previously evaluated on a subjective basis. Finally, we have used **BMI**'s proprietary Country Risk Ratings in a more nuanced manner to ensure that only the aspects most relevant to the telecoms industry have been included.

The new ratings system breaks down into two distinct areas. First, the *Limits of Potential Returns* section evaluates the size (in terms of subscriber numbers and revenues) and growth potential of the telecoms sector in each country. In addition, this section looks at broader characteristics that may affect the sector's development, such as average wealth and demographic factors. Second, *Risks to Realisation of Returns* examines industry-specific dangers and those emanating from the state's political and economic profile that could reduce the likelihood of anticipated returns being realised. In particular, we examine the independence of the industry regulator and the transparency and efficiency of its decision-making processes, as well as factors such as government policy continuity, the country's legal framework and the incidence of corruption.

The most obvious change to our rankings is the emergence of India at the top. This is almost wholly due to its high score for telecoms market structure. India, despite low penetration rates of around 20%, already has a very large market – 185mn subscribers in June 2007 – while we project growth in 2007 to be 55%, followed by an average growth rate of 36% over the next four years, ended 2012. This is combined with a highly competitive market, with no fewer than nine mobile operators, while some 70% of the population lives in rural communities; there remains plenty of opportunity for further growth. India also scores particularly highly in the regulatory category. The TRAI is a well-developed regulator, as can be seen by its consultative decision-making processes and its surprisingly dynamic consultations on issues such as 3G licensing, roaming and infrastructure sharing.

Next in line is Japan, formerly at the top of our rankings. Much like India, it enjoys a strong regulatory framework. The Ministry of Information and Communications is attempting to introduce greater competition by stipulating under the terms of its WiMAX tender that major mobile operators bid for the licences as part of a consortium. Where Japan scores exceptionally highly compared with its regional peers is country risk; in particular, it remains largely unaffected by externally induced economic shock, while corruption in terms of affecting companies' ability to compete remains intact.

Singapore and Malaysia remain toward the top half of the table. Like Japan, Malaysia retains a strong state-run regulatory body. The Ministry of Energy, Water and Communications has sought to encourage the four WiMAX licence holders to share infrastructure costs and deployment, which could cost up to MYR2bn. This should enable operators to offer WiMAX services quicker to market, while the government is also placing pressure on the incumbent **Telekom Malaysia** to open up its trunking fibre to other operators. Singapore's position is buoyed by its country structure score – highest among other countries in the table – it is supported by a wealthy population, which cannot be divided into urban and rural, thanks to its status as an island nation.

Unmoved in mid-table is Hong Kong. The poor score it receives is for telecoms growth potential, thanks to penetration rates in excess of 130%; this was offset by an attractive country structure profile. On a par with Singapore, with no urban-rural split on account of its geographic layout and GDP per capita of around US$28,000, the country scores only second to the latter in terms of country structure. Hong Kong also scores well for country risk, aided by less corruption and policy continuity.

China finds its position much improved from our earlier ratings, although it could have seen a similar placing to India, given the strength of its telecoms market structure. There are now over half a billion mobile subscribers in China, representing penetration rates of just under 40%, and there is plenty of opportunity for future growth. This is increasingly being led by the take-up of mobile services in rural areas, although its impact on ARPU rates is negative. However, China has been prohibited from rising further in large part due to the poor score for its regulatory body. Government-run, the state continues to retain shares in all of the country's major telecoms operators, while there are delays relating to the highly anticipated award of its three 3G licences.

Next in line is Australia, which is placed considerably lower down the rankings than had been the case previously. While Australia does well in country structure and country risk, (comparable to countries such as Taiwan, which are higher up the ratings), this is offset by limited potential growth in the telecoms market. Here, there were just 1.249mn net additions last year, shared among four mobile operators, culminating in the country breaking through the 100% penetration rate barrier. Subsequent growth is expected to slow down because of this, while a weakened regulatory score relates in part to the lack of success in relation to the deployment of a national broadband network.

Pakistan provides an impressive score for independence of regulator, better than Indonesia, despite coming behind it in 11th place. The roles of government and regulator have been important to the development of the Pakistani telecoms sector, and should not be underestimated. Between them, they have created a conducive investor- and user-friendly telecoms market, one which has attracted considerable foreign direct investment (FDI) in the last three years. This is helping to create a situation in which there are approximately 2-2.5mn new mobile subscribers each month, as the country's operators offer low tariffs and quality services.

As before, the Philippines, Thailand, Bangladesh and Vietnam are at the bottom of our regional rankings. Their low score for country structure, combined with retaining some of the poorest regulatory scores, has led to the retention of their position. It is not surprising therefore that these countries also hold some of the lowest scores for telecoms market. Vietnam for example, despite offering plenty of room for growth (not to mention a large youthful population) and competitively-priced tariffs, has some of the lowest penetration rates; expected to reach 32% by YE07, according to **BMI** forecasts. However, since joining the WTO, Vietnam commands a great deal of attention from foreign investors keen on entering the telecoms industry. Here, the government is also expected to partially sell stakes in the country's three mobile operators, which could open the gates to greater competition.

In the case of Bangladesh, the authorities ordered all mobile network operators to shut down their networks, albeit on a temporary basis, which is a concern for potential investors in the country's wireless market. The government is clearly concerned at security risks encouraged by mobile telephony given its recent order that all customers subscribing before February 2007 must now re-register their subscription, providing further proof of identification. Having said that, independent regulator the BTRC has been instrumental to Bangladesh's status as a high-growth market, making significant restructuring moves such as the introduction of limited fixed-line competition, and has gone some way to encouraging further competition, especially in the Dhaka Metropolitan region, where no fewer than 19 operators have been granted licences.

Pakistan

On the face of it, Pakistan has a much-improved business environment, as can be seen by the evidence of considerable inward investment in the telecoms sector over the last few years. And yet, Pakistan still lies nearer the bottom of our Business Environment Ranking table in 11th position. On the one hand, Pakistan's regulator scores very well for its role in encouraging investment, and the market is hugely competitive, offering huge potential for growth, not only in the mobile market, but also high-speed internet, both fixed and wireless. However, the country remains in political difficulties and does not offer the most stable of markets, either politically or economically (as seen by very low GDP per capita, and from the telecoms point of view, ARPU rates).

On the positive side, Pakistan's telecoms sector currently contributes about 2% of the country's GDP and total revenues reached PKR236bn in 2006-2007. The sector received US$1.8bn of FDI in the last fiscal year, accounting for 35% of total FDI in Pakistan. These are all figures that go to suggest Pakistan's telecoms sector is in great shape and offers the investor huge opportunities. So much so that the government, having seen a number of carriers enter and transform Pakistan's mobile market in recent years, now aims to offer incentives for the manufacturers of handsets and other telecoms equipment, to make Pakistan a popular manufacturing base. A highly competitive market could well tempt a number of handset manufacturers to set up a base in Pakistan. And the market will continue to be competitive, as long as the country's carriers continue to invest in their networks and bring down their tariffs, and as long as the regulator encourages competition through such measures as introducing MNP. The regulator does, however, have to be careful not to allow growth to be stunted by monitoring carefully the sort of increases in taxation on mobile operators, that has been notable in 2006-07, with the total revenue collected by the government in the form of taxes and regulatory fees amounting to more than PKR100bn, up by 32% on the previous fiscal year.

Pakistan's government is watching carefully as the levels of imports to Pakistan accelerate. Import activity was set to decline by 2% in 2006-2007, but instead, it rose by nearly 7% to US$30.5bn. The rise of the telecoms sector, and in particular, the mobile market was partly responsible for this setback – over the last four years, mobile handsets worth US$1.7bn have been imported, and in the last fiscal year more than 4% of all the country's imports came from the telecoms sector. Not only does the government want to change this, but it believes it can force something of a turnaround by encouraging handset manufacturers to set up manufacturing bases, on the back of a lucrative market, and of course, Pakistan's cheaper labour. It also hopes that the fact that about one fifth of all mobile users in Pakistan change their handsets as often as three times a year will encourage manufacturers to take up this opportunity.

Although economic growth is likely to remain robust in the immediate term, we are concerned at Pakistan's growing political uncertainty along with a tighter monetary policy that is likely to constrain growth in the current fiscal year. We forecast real GDP to grow by 6.6% this fiscal year (ending June

2008), more conservative than the expectations of Pakistan's government, which expects to witness GDP growth of 7.2%. However, **BMI**'s view is that FDI flows will begin to moderate, remittance growth will slow and domestic consumption will become rather more constrained. All this will have some effect on growth in Pakistan's telecoms sector, and indeed its business environment.

Table: Business Environment Rankings

	Limits of Potential Return		Risks To Realisation of Potential Returns			
Country	**Telecoms Market**	**Country Structure**	**Independence of Regulator**	**Country Risk**	**Telecoms Rating**	**Rank**
India	75	35.7	80	61.6	64.1	1
Japan	44	63.3	90	87.2	62.1	2
Singapore	37.5	93.3	80	66.1	61.9	3
Malaysia	46.3	63.3	90	74.2	61.4	4
Taiwan	42	66.7	90	76.4	60.4	5
Hong Kong	34	76.7	80	81.9	58.5	6
South Korea	40	70	70	75.5	57.2	7
China	71.5	31.7	40	70.6	56.9	8
Australia	38	66.7	70	77.3	55.7	9
Indonesia	50	66.7	60	43.2	54.6	10
Pakistan	**50**	**39.3**	**80**	**33.5**	**49.4**	**11**
Philippines	42.5	36.7	60	51.8	45.1	12
Thailand	45	32.7	40	52.6	42.4	13
Bangladesh	37.5	30	60	37.4	39	14
Vietnam	22.5	35.7	60	59.1	36.8	15

Source: BMI

Pakistan Telecoms Business Environment SWOT Analysis	
Strengths	▪ Pakistan's fixed-line, WLL and internet markets are increasingly competitive ▪ Healthy competition in mobile market, with the emergence of Telenor and Warid Telecom ▪ Presence of key strategic regional investors in the market – Orascom, Telenor, Etisalat, Warid Telecom, China Mobile and most recently SingTel
Weaknesses	▪ Fixed-line services still unavailable in several of Pakistan's more remote areas ▪ Poor fixed-line infrastructure has a negative impact on the take-up of internet and broadband usage ▪ High levels of taxation and regulatory fees on operators, if unchecked, could lead to a stunting of mobile growth
Opportunities	▪ Alternative fixed-line providers are starting to offer WLL and ILD services in competition to PTCL, providing opportunities for infrastructure suppliers ▪ Growth in mobile market set to continue with Telenor and Warid likely to help push penetration rate to over 50% in 2007 ▪ Growth of VAS – Mobilink and Ufone are piloting WiMAX networks, whilst Telenor and Warid Telecom are looking to launch mobile TV services
Threats	▪ Network capacity, particularly in mobile market, could struggle to keep up with demand ▪ Intense competition could have the effect of causing operators to enter into new price wars, which could in turn cause a deterioration in service quality as congestion of traffic becomes more common ▪ Political instability could turn into economic uncertainty, which could moderate future inward investment plans

Company Profiles

Vendor Profile: India, China Remain Top Priorities For Ericsson

Selling just under 26mn mobile handsets during Q307, Sony Ericsson, the joint venture established between Japan's Sony and Sweden's Ericsson in 2001 to manufacture handsets for the global market, reported a global market share of 9%. This puts Sony Ericsson in fourth place in the market, behind Nokia (38.6%), Samsung (14.7%) and Motorola (12.9%). Despite a substantial difference in market share size among the top four handset vendors, Sony Ericsson has noted a significant increase in demand for its handsets, reporting a 30.8% y-o-y increase, which led to a 1.3 percentage point (pp) gain in market share.

Table: Top Five Mobile Phone Vendors By Shipment Q307

Vendor	Q307 Shipments (mn)	Q307 Market Share (%)	Q306 Shipments (mn)	Q306 Market Share (%)	y-o-y Chg %
Nokia	111.7	38.6	88.5	34.8	26.2
Samsung	42.6	14.7	28.9	11.4	47.4
Motorola	37.2	12.9	53.7	21.1	-30.7
Sony Ericsson	25.9	9	19.8	7.8	30.8
LG Electronics	21.9	7.6	16.6	6.5	31.9
Others	49.8	17.2	46.5	18.3	7.1
Total	**289.1**	**100**	**254**	**100**	**13.8**

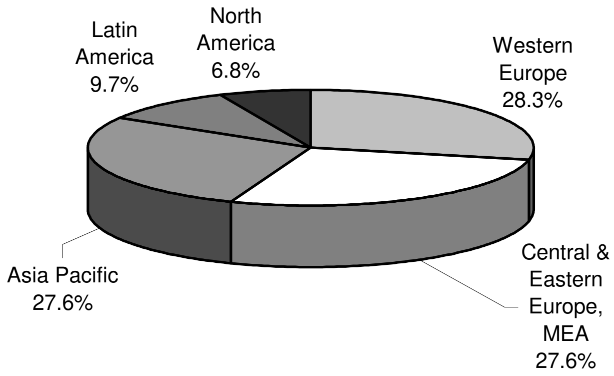
Source: IDC Worldwide

Shipment volumes at Sony Ericsson have been on the rise since mid-2006 on account of the vendor's push into emerging markets. It is not surprising therefore to learn that having defected from its well-known high-end handsets, including its P1 smartphone and the W580 slider Walkman handsets to low/mid-range priced handsets, the average selling price has taken a plunge, down by 18% y-o-y to EUR120 as of Q307. Although Sony Ericsson continued to sell high-end handsets, this was not sufficient to offset the imbalance with lower-priced handsets, therefore negatively impacting on net profits, which fell by 10% y-o-y to EUR267mn in Q307.

Asia Pacific continues to remain an integral part of Ericsson's sales. The region accounted for 27.6% of total Q307 sales at SEK43.5bn – on a par with Central and Eastern Europe, and the Middle East and Africa (CEE & MEA), but just behind Western Europe on 28.3%. Interestingly, on a nine-month basis, Asia Pacific became Ericsson's most important revenue contributor, with sales of SEK40.9bn, rising by

21% y-o-y. This was higher than Western Europe and CEE & MEA, which reported net sales of SEK37.3bn and SEK34.4bn respectively.

Ericsson Net Sales By Market Area - Q307 (%)



Source: Ericsson

In terms of sales, China is Ericsson's largest market worldwide, having in the year-to-date contributed 7% of total sales. The vendor has been awarded some lucrative contracts recently with China's leading mobile operator China Mobile. In June 2007, Ericsson reached an agreement to supply US$1bn worth of telecoms network equipment in 19 regions across the country. This partnership has extended from an earlier agreement in May, that Ericsson would supply CMPak with a complete GSM network covering 319 cities located across the south of the country. However, Ericsson faces two potential threats in China. The first is the challenge the vendor faces from home-grown talents such as Huawei Technologies, which has an ability to offer lower cost equipment; impacting international and local sales. Secondly, local vendors are likely to be in favour for China's preferred TD-SCMDA standard. China Mobile is carrying out tests of the local home-grown 3G technology, but only allocated Ericsson a 1.4% share of its total TD-SCDMA contract, with Huawei Technologies and ZTE benefiting the most from the deal. Furthermore, in the case that TD-SCDMA does become the favoured technology over GSM, this could see Ericsson lose out given its dominance in the Chinese GSM handset market, where it has a 35% share.

Table: Top 10 Markets In Sale

	YTD Share of Total Sales	Q3 Share of Isolated Total Sales
China	7%	5%
India	6%	6%
US	5%	6%
Italy	5%	6%
Spain	5%	4%
UK	5%	4%
Sweden	4%	4%
Indonesia	3%	3%
Japan	3%	2%
Australia	3%	3%

Source: Ericsson

Next in line is India, accounting for 6% of Ericsson's total sales to date. The country has been trialling a mobile broadband project since early September 2007, across 18 villages and 15 towns near Chennai in Tamil Nadu. Using W-CDMA/HSPA technology, the vendor has sought to provide these rural communities with high-speed internet so that they are able to access a range of new services including telemedicine, e-education, e-governance, online local information, voice and video call services, as well as live TV and entertainment. With some 70% of India's population living in rural areas, Ericsson continues to delve deeper into such communities. Past projects have also included helping operators use local crops such as cotton and fish oil to power phone transmitters in areas devoid of national electricity grids. Such rural projects come in addition to contracts awarded by some of the country's largest mobile operators. In early September, Ericsson was awarded a turnkey contract valued at US$1.3bn to supply GSM and W-CDMA/HSPA equipment to **Bharat Sanchar Nigam Ltd** (BSNL), India's leading mobile operator.

Operators

Pakistan Telecommunications Company Ltd (PTCL)

SWOT Analysis

Strengths

- Country's leading telecoms operator with presence in fixed-line, mobile and internet sectors
- Second-ranked mobile operator (Ufone)
- Etisalat likely to increase investment funds, especially towards mobile and broadband units

Weaknesses

- PTA has ended monopoly in local, DLD and ILD sectors
- Marked fall in revenues and profit for 2006-2007, due to intense competition and tariff reductions
- Fixed-line market in decline with number of subscribers dropping to below 4.6mn (September 2007)

Opportunities

- Rise in WLL market should reduce network roll-out costs in rural areas
- Mobile market expected by BMI to grow to over 120mn overall by the end of 2010
- PTCL could take lead on Pakistan's growing broadband market by bringing down cost of services

Threats

- Alternative operators, TeleCard and World Call encroaching in local marke
- Introduction of competition in contracting ILD/DLD markets likely to result in price war
- Ufone coming under threat from surging mobile operators Telenor and Warid Telecom

Overview

In 1990, PTC took over the operations of the Pakistan Telephone and Telegraph Department, as legislated under the Pakistan Telecommunications Corporation Act 1991. In 1996, PTC became PTCL following the part privatisation of the operator. PTCL lost its monopoly status in December 2002, with deregulation of the telecommunications sector starting in earnest in 2003.

Following the privatisation of PTCL, started in 2006, UAE-based Etisalat now controls the largest stake in Pakistan's incumbent operator. The carrier plans to restructure PTCL's pricing and marketing policies so as to enhance the operator's competitiveness in the broadband and mobile markets, via Ufone.

Recent Financial Performance

Annual profits fell markedly to PKR15.6bn for 2006-2007 (fiscal year ending in June), with the operator blaming this decline on the rise in competition within Pakistan's alternative telecoms market. Revenues for the year fell by 5.5% y-o-y to PKR65.3bn, which was mainly due to what the operator regarded as an

Contacts

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Key Statistics

- Annual Revenues (Group – FY2004-05): PKR76bn
- Annual Revenues (Group – 2005-06): PKR69bn
- Annual Revenues (Group 2006-07): PKR65.3bn
- Net Profit (Group – FY04-05): PKR26.6bn
- Net Profit (Group – FY05-06): PKR20.8bn
- Net Profit (2006-07): PKR15.6bn

enforced reduction in tariffs. Despite these poor results, PTCL remains in control of Pakistan's fixed-line and WLL markets with 95% and 59% market shares respectively.

Meanwhile, revenues for the first quarter of FY 2007-2008 showed that net profit continued to fall (by 39% y-o-y) to PKR3.3bn.

However, PTCL can point to the fact that it remains the only unified service provider in Pakistan's telecoms market with a product portfolio including voice, broadband and mobility. Indeed, the operator plans to focus much of its attention on its broadband services, preparing to launch bundled services such as IPTV so it can become a triple-play operator. With the operator trialling WiMAX services, PTCL has plans also to launch wireless broadband services.

PTCL already has 25,000 broadband subscribers, and it is confident that by the end of the year, this figure will double. The carrier's first target, however, is 2.5mn broadband connections, and has pledged investment to increase its network coverage.

Mobile Services

PTCL's mobile unit Ufone is the country's No.2 cellular operator, with over 15mn subscribers at the end of September 2007, representing a 22% share of the market. During the first nine months of 2007, Ufone picked up about 5.4mn net additions, equating to just over below one quarter of Pakistan's 21.8mn new subscribers during the period.

Facing increasing amounts of pressure from Pakistan's third and fourth largest mobile operators Telenor and Warid Telecom, Ufone announced another US$150mn network expansion deal with Huawei Technologies, a long-standing partner. Under the terms of the deal, Ufone's network will reach an additional 1,000 cities and highways, and the operator estimates that by the end of June 2008, its network coverage will consist of 4,500 cities, towns, villages and all the country's major highways.

- Revenues (Q107-08): PKR19.9bn (21.4)
- Net Profit (Q107-08): PKR3.3bn (5.8)
- No. of Fixed-Lines Subscribers (July 2006): 5.128mn
- No. of Fixed-Line Subscribers (December 2006): 5.075mn
- No. of Fixed-Line Subscribers (March 2007): 4.885mn
- No. of Fixed-Line Subscribers (June 2007): 4.676mn
- No of Fixed-Line Subscribers (September 2007): 4.597mn
- No. of WLL Subscribers (June 2006): 662,000
- No. of WLL Subscribers (December 2006): 915,000
- No of WLL Subscribers (June 2007): 1.128mn
- No of WLL Subscribers (September 2007): 1.185mn
- No. of Mobile Subscribers (June 2006): 7.487mn
- No. of Mobile Subscribers (October 2006): 9.033mn
- No. of Mobile Subscribers (December 2006): 10.017mn
- No. of Mobile Subscribers (March 2007): 11.597mn
- No. of Mobile Subscribers (June 2007): 14.014mn
- No. of Mobile Subscribers (September 2007): 15.421mn
- Year Established: 1990

TeleCard

SWOT Analysis

Strengths

- Licences for fixed local loop, WLL and DLD/ILD services
- Existing CDMA network of wireless and wire-line payphones

Weaknesses

- Network deployment requires further substantial investment
- Recorded a net loss of PKR54mn for fiscal 2006, caused mainly by the operator's tariff reduction
- ILD market already showing signs of contracting

Opportunities

- Potential buyout by as yet unnamed Asian telco could see a much-needed increase in investment
- Existing payphone user base provides initial market for long-distance services

Threats

- Introduction of competition in contracting ILD/DLD markets likely to result in price war
- Fast expanding mobile market will provide competition for new subscribers

Overview

TeleCard is Pakistan's leading privately-owned payphone operator, and is publicly listed on the Karachi and Islamabad Stock Exchanges. Its WLL payphone network currently covers 100 cities and towns, using more than 225 cell sites and three switching centres in Karachi, Islamabad and Faisalabad.

In 2004, TeleCard acquired licences to offer fixed local loop (FLL), WLL and ILD/DLD services. In the key WLL auctions, TeleCard obtained licences in all 14 regions, including nine in the key 1.9GHz range and 3.5GHz spectrum in all regions, at a total cost of PKR3.12bn. By the end of September 2007, TeleCard had more than 430,000 subscribers to its WLL network, accounting for annual growth in its customer base of 73%.

Strategy

The company's strategy is to capitalise on existing WLL investments to maximise its lead over other new entrants, while providing ILD services with a focus on captive traffic generated by its payphone and WLL customers.

TeleCard hopes to enter Pakistan's mobile market through the use of a CDMA network. This would, however, not hinder the operator's continued growth in the WLL segment.

Currently providing payphone and WLL services as well as ISP services,

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  www.telecard.com.pk

Key Statistics

- Annual Revenues (YE June 2005): PKR2.416bn
- Annual Revenues (YE June 2006): PKR2.56bn
- Net Profit (YE June 2005): PKR244.34mn
- Net Loss (YE June 2006): PKR54.331mn
- No. of WLL Subscribers (June 2006): 230,000
- No. of WLL Subscribers (December 2006): 376,000
- No. of WLL Subscribers (June 2007): 397,000
- No. of WLL Subscribers (September 2007):

TeleCard aims to become a truly integrated telecoms player. Indeed, its GO CDMA WLL service provides voice, data and internet services.

Recent Financial Performance

For the year ended June 30 2006, TeleCard recorded revenues of PKR2.56bn, up by 6% y-o-y. These results fell below TeleCard's expectations and caused a substantial fall in profits, with the operator actually recording a net loss for the fiscal year of PKR56mn. Intense competition in Pakistan's WLL market forced the operator to reduce its tariff. However, TeleCard can point to a 95% increase in network traffic growth.

Ownership Speculation

It seems likely that an unnamed Asian telco (possibly SK Telecom – the carrier has expressed an interest in Pakistan) will buy a majority control in TeleCard imminently. Analysts suggest that a 55% share in TeleCard would fetch approximately US$90mn.

437,426

- Year Established: 1992

Mobilink

SWOT Analysis

Strengths

- Pakistan's leading mobile operator with 28.6mn subscribers in Sept 2007
- EBITDA up by 34% y-o-y during the first three quarters of the year to US$398mn

Weaknesses

- As the operator extends its reach to rural Pakistan, ARPU continues to fall to below US$4, representing 13% y-o-y fall in Q3 2007
- Although still dominant as Pakistan's largest mobile operator, its market share has fallen by 8pp to 41% in the last 12 months

Opportunities

- With mobile penetration in Pakistan still below 50%, there remains huge potential for growth, and especially in rural parts of the country
- Deployment of 3GPP compliant mobile softswitch in conjunction with Nokia Siemens should spark movement towards more mobile data service offers

Threats

- Pakistan is an ultra competitive mobile market with Telenor and Warid Telecom pushing Ufone for second position – all three operators are making ground on Mobilink
- Mobilink needs to maintain investment programme, despite fall in capex in order to hold off rivals

Overview

Operating from its 100% digital GSM based network, Mobilink is Pakistan's dominant mobile operator, with 28.6mn subscribers as of September 2007 and a market share of approximately 41%. The operator's customer base grew by 6.2mn during the first nine months of 2007, accounting for 28.5% of all net additions during the period, more than of its rivals. As a result of Pakistan's increasingly competitive mobile market, Mobilink has suffered a decline in market share, given that the operator controlled about 50% of Pakistan's mobile market in June 2006.

Mobilink is a wholly-owned subsidiary of Egyptian telecoms giant Orascom. In June 2007, Orascom acquired Rayshield Investments' 11.3% stake for US$290mn.

Operating a GSM network, Mobilink provides a range of prepaid (Jazz) and postpaid (Indigo) voice, data and multimedia services. As of the end of September 2007, about 98% of Mobilink subscribers (just over 28mn) had access to the company's prepaid Jazz service, with its postpaid subscriber base actually falling.

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Key Statistics

- Revenues (2005): US$732.6mn
- Revenues (2006) US$1.017bn
- Revenues (Q107): US$236mn
- Revenues (H107): US$597.4mn
- Revenues (9M 2007): US$918.7mn
- EBITDA (2005):

Recent Financial Performance

Throughout the whole of 2006, Mobilink attracted in excess of 11mn new mobile customers to its network. During the first nine months of 2007, it has added 6.2mn subscribers, and is therefore likely to fall short of last year's net addition total.

Mobilink has some 6,000 cell sites and 63 mobile switching centres, covering over 6,000 cities, towns and villages. With these figures, it is therefore not that surprising that capital expenditure has actually fallen by 34% y-o-y in the first nine months of 2007 to US$353mn.

Financial results from the first nine months of the year show a 22% y-o-y increase in Mobilink's revenues to US$918.7mn and a 34% y-o-y rise in EBITDA to US$398mn. Certainly, this rise in earnings has been helped by the fall in capex. However, there is more investment required, with only 60% of the entire population covered by Mobilink's network, and a highly competitive market demands a sustained investment programme. Mobilink has pledged to spend US$700mn in network enhancements over the next 15 months.

Mobilink continues to suffer from a drop in ARPU, which fell to US$4.1 in June 2007 and then to US$3.9 in September 2007, accounting for a 13% y-o-y fall. This will have an effect on profitability. Mobilink may have to start working on migrating more customers away from pre-paid packages, but it is making no progress on that front.

Mobile Services

In an effort to introduce more VAS and differentiate its services from that of its competitors, as well as increase ARPU rates, Mobilink launched personalised ring-tones under the Mobitunes brand, as well as a voice SMS service under the name of Bolo SMS. These will allow the operator to increase the proportion of its non voice revenue stream. Mobilink also became the exclusive provider of BlackBerry services in Pakistan, giving it a distinct advantage in selling to the corporate market. The carrier has also launched a new mobile commerce solution Mobilink Genie, which allows subscribers to pay their bills and make other financial transactions.

Finally, Mobilink signed a contract with Alcatel-Lucent to deploy a WiMAX network, allowing the use of mobile broadband services.

US$297.6mn

- EBITDA (2006): US$406.5mn
- EBITDA (Q107): US$88mn
- EBITDA (H107): 257mn
- EBITDA (9M07): US$398mn
- No. of Subscribers (June 2006): 17.1mn
- No. of Subscribers (December 2006): 22.5mn
- No. of Subscribers (March 2007): 24.6mn
- No. of Subscribers (June 2007): 26.5mn
- No. of Subscribers (September 2007): 28.6mn
- Year Established: 1994

Telenor Pakistan

SWOT Analysis

Strengths

- In just two-and-a-half years of operation, Telenor Pakistan has attracted over 12.5mn subscribers and is now a serious challenger to Ufone, the country's second-largest mobile operator
- Revenues have nearly tripled to NOK2.4bn over the first nine months of the year, with profitability also improving

Weaknesses

- As the operator extends its reach to rural Pakistan, ARPU continues to fall to about US$4.5, hit by high numbers of prepaid customers and reduction in tariffs
- Net additions during the third quarter of the year (1.9mn), although up on the last quarter, still unable to replicate the heights of the first quarter of the year, when there were 2.4mn net additions

Opportunities

- With mobile penetration in Pakistan still below 50%, there remains huge potential for growth, and especially in rural parts of the country
- Launch of mobile TV services presents chance for operator to increase non-voice revenues

Threats

- Pakistan is an ultra-competitive mobile market, with Warid Telecom pushing Telenor for third position
- Continued high capex, as a result of the need to invest in network deployment, is still causing operating losses

Overview

Telenor launched mobile services in Pakistan in March 2005, 11 months after winning a tender for a national mobile licence. Telenor paid US$291mn for the licence, and has said that it aims to invest around US$1bn by 2013 towards the development of its network. In its first two years of operation, Telenor had managed to gain in excess of 9mn subscribers, and by the end of September 2007 had more than 12.5mn customers, reporting 173% y-o-y growth. In just over two years, Telenor has built up a 18% share of Pakistan's fast-growing mobile market.

Recent Financial Performance

Announcing its Q307 financial results, Telenor was able to highlight Pakistan as a success story. Revenues for the first nine months of the year nearly tripled to NOK2.4bn, and this in spite of operating in an extremely competitive market. Even more pleasing for the operator is that its EBITDA for the first nine months of the year was NOK206mn, compared with a negative EBITDA of NOK280mn in September 2006, caused by Telenor's heavy investment programme. Telenor Pakistan is still producing an operating loss, but at NOK292mn for the year to date, it is likely to be much less than the NOK777mn loss at the end of 2006. Capital expenditure continues to grow, as

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Key Statistics

- Revenues (2005): NOK265mn
- Revenues (2006): NOK1.3bn
- Revenues (Q1 2007): NOK686mn
- Revenues (H1 2007): NOK1.527bn
- Revenues (9M 2007): NOK2.414bn
- EBITDA Loss (2005):

Telenor builds on its network, with the Norwegian telecoms company spending NOK2.7bn in 2007, as much as the company invested in the whole of 2006. And the operator's monthly ARPU continues to decline to just NOK25 by September 2007, down by 7% q-o-q. With 99% of its subscribers prepaid, this low ARPU is hardly surprising, whilst lower prices and an increasing amount of packages (such as Friends & Family) is also to blame.

Latest Contracts & Agreements

In February 2007, Telenor announced with Nokia the extension of their GSM agreement so that the Finnish company will supply Telenor with over 2,000 base stations, with a new focus on extending its operations to North-West Frontier Province, Pakistan Administered Kashmir and the country's northern regions, including Islamabad.

In April 2007, Telenor launched mobile TV services, enabling customers to watch live TV including local and international channels on their handsets. This service is delivered on the operator's GPRS/EDGE platform.

In September 2007, Telenor announced the opening of its network operations centre, which will enable the pinpointing of outages anywhere across the operator's network. Quality of services is high on the carrier's agenda, especially at a time when the regulator is determined to improve customer satisfaction in Pakistan, something that appears to have slipped in general amidst the intensification of competition.

NOK572mn

- EBITDA Loss (2006): NOK328mn
- EBITDA Loss (Q1 2007): NOK3mn
- EBITDA (H1 2007): NOK56mn
- EBITDA (9M 2007): NOK206mn
- Operating Loss (2005): NOK798mn
- Operating Loss (2006): NOK777mn
- Operating Loss (Q1 2007): NOK158mn
- Operating Loss (H1 2007): NOK264mn
- Operating Loss (9M 2007): NOK292mn
- No. of Subscribers (June 2006): 3.574mn
- No. of Subscribers (December 2006): 6.625mn
- No. of Subscribers (June 2007): 10.701mn
- No. of Subscribers (September 2007): 12.578mn

Warid Telecom

SWOT Analysis

Strengths

- In two-and-a-half years of operation, Warid Telecom has attracted nearly 12mn subscribers
- News that SingTel is to partner Warid Telecom signifies that the operator can use the experience of a partner that has a reputation for making successful telecoms investments

Weaknesses

- PTA has been critical of Warid Telecom's network and its quality of service at times of heavy congestion
- Net additions during the first three quarters of the year (just over 4.2mn) less than Telenor and Ufone, which both recorded more than 5mn new customers during this period, and Mobilink, which recorded 6mn

Opportunities

- With mobile penetration in Pakistan still below 50%, there remains huge potential for growth, and especially in rural parts of the country
- Mobile TV service agreement with ROK Entertainment provides the operator with an entry to WVAS market

Threats

- Pakistan is an ultra-competitive mobile market, with Telenor remaining just ahead of Warid Telecom, and the operator still well behind Mobilink and Ufone
- Continued high capex, as a result of the need to invest in network, especially in rural Pakistan

Overview

Launched in May 2005, Warid Telecom has become a key part of growth in Pakistan's mobile market, picking up 11.9mn subscribers in its first two-and-a-half years of operation. Until earlier in 2007, Warid Telecom was Pakistan's third-largest mobile carrier, but its rival Telenor has relegated it into fourth position. Both operators have been successful in grabbing market share away from Ufone (22%) and even dominant player Mobilink (41.5%). It is entirely possible that both Warid and Telenor will be pushing Ufone for second place in Pakistan's mobile market in 2008, although Warid has started to fall a little behind Telenor with a 17% share of the market. If so, Warid will have to improve the quality of its network, as the PTA has suggested that there have been an increasing number of complaints on this issue.

To this end, Warid Telecom signed a loan agreement for US$500mn to finance its EDGE-compliant mobile network expansion. The project, estimated to cost US$140mn, will be complete by June 2009. It is a significant deal for the Abu Dhabi-based operator, led by HH Sheikh Nahayan Mabarak Al Nahayan, the Minister for Higher Education and Scientific Research in the UAE, as it needs to consolidate its position in the Pakistan market as Telenor looks to enhance its own investment programme. In an effort to retain its custom in an increasingly competitive market, in February 2007, it launched its 'Talky' Voice SMS service.

In April 2007, Warid announced that it would almost double its texting capacity with Intelligent SMS routing from Telsis. It hopes, as a result, to capture some of the ever-growing TV broadcast text-voting market, as well as roll out other advanced texting services.

The Abu Dhabi consortium has several other finance, hospitality, property, oil exploration and automobile-related investments in Pakistan, while its telecoms division is about to roll out other mobile networks in Bangladesh, Uganda and the Republic of Congo.

In June 2007, SingTel acquired a 30% equity stake in Warid Telecom for over US$750mn, valuing the company at US$2.9bn. The deal makes sense for SingTel as it allows the operator not only to operate for the first time in the high-growth market of Pakistan, but also to redouble its efforts in Bangladesh as well as launch services in Africa.

In an exciting development, Warid Telecom signed an agreement with UK-based ROK Entertainment in September 2007 to provide streamed mobile TV over the operator's 2.5G network. ROK already provides such services in a number of emerging markets including Thailand, Turkey, South Africa and indeed Pakistan (with Telenor).

Meanwhile, Ericsson has announced a new three-year managed services agreement with Warid in addition to the existing partnership in which the Swedish vendor manages the operation of Warid's GSM/GPRS network. The new agreement will include network optimisation services, to ensure the quality of the operator's network.

Appendix: Competitive Landscape

Market Overview

The telecommunications sector in Pakistan is regulated by the PTA, which was established in 1996, following the passage of the Pakistan Telecommunication (Re-organisation) Act into the statute book. PTA's functions include:

- To regulate establishment, operation and maintenance of telecoms systems and services in Pakistan;
- To receive and dispose of applications for the use of radio-frequency spectrum;
- To promote and protect the interests of users of telecoms services in Pakistan;
- To promote the availability of a wide range of high quality, efficient, cost effective and competitive telecoms services in Pakistan;
- To promote the modernisation of telecoms systems and services;
- To investigate and adjudicate on complaints and claims made against licensees arising out of alleged contravention of the provisions of the above Act;
- To make recommendations to government on policies with respect to international telecoms, the provision of support for participation in international meetings and arrangements to be executed in relation to the routing of international traffic and accounting settlements.

The PTA has helped Pakistan's telecoms industry to attract rising levels of FDI both from existing operators looking to enhance networks, and from foreign companies looking to enter Pakistan's telecoms market via acquisition. In the last year alone, there have been five major acquisitions, as illustrated in the table below.

Table: Key Companies – Key Acquisitions in Pakistan Telecommunications Sector

Foreign Company Acquiring Shares	Local Company Selling Shares	Shares Acquired (%)	Amount Paid (US$mn)
SingTel	Warid Telecom	30%	758
China Mobile	Paktel	100%	477
Orascom	Mobilink	11.31%	290
Omantel	World Call	60%	220
Qtel	Burraq	75%	12.3

Source: BMI

Competitor Analysis

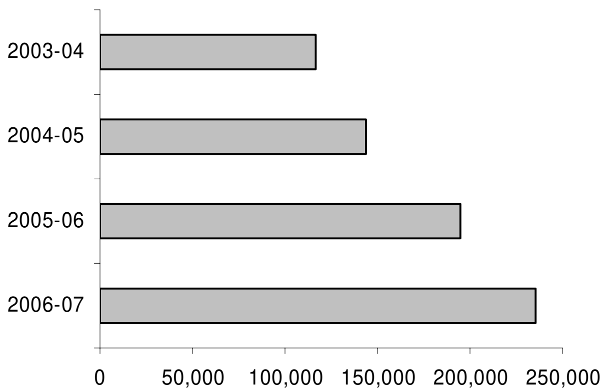
Table: Key Companies – Pakistan Telecommunications Sector

Company Name	Ownership	Market
Pakistan Telecommunication Co Ltd (PTCL)	Etisalat	Fixed-line telephony (local, domestic long-distance), data, internet
Pakcom (Instaphone)	Arfeen Group	Mobile
CMPak	China Mobile (100%)	Mobile
Mobilink	Orascom Telecom (100%)	Mobile
Ufone	PTCL (100%)	Mobile
Telenor Pakistan	Telenor (100%)	Mobile
Warid Telecom	Abu Dhabi Group, SingTel	Mobile
TeleCard	Gates International (20.46%), International Communication Group (7.32%), Arfeen International (4.07%)	Local telephony (WLL), DLD, ILD

Source: BMI

Telecoms revenues rose dramatically in Pakistan during fiscal year 2007 (by 21% y-o-y) on the back of an increase in traffic in the country's mobile and WLL market. Compared with 2003-2004, revenues increased by 100% in 2006-2007, with the mobile market alone responsible for growth in the last year of 57% y-o-y. Over the last four years, wireless revenues have grown by a staggering 378%.

Pakistan Telecoms Revenues (PKRmn) 2003/04-2006/07



Source: PTA

Key Players

Fixed-Line

Fixed-line services in Pakistan were initially offered through the Posts and Telegraph Department (PTT) until 1990, when its telecoms operating functions were devolved to the Pakistan Telecommunications Corporation (PTC). The following year the government announced plans to part-privatise PTC, and in 1994 issued 6mn vouchers exchangeable into 600mn shares of the would-be plc**,** PTCL, in two separate placements. PTCL was duly created in 1996 under the Pakistan Telecommunication (Re-organisation) Act. PTCL's monopoly of the fixed-line market was officially removed in 2002, but it still holds a virtual monopoly, although some alternative operators, including TeleCard, started to offer WLL and international long distance (ILD) services in 2007.

At the end of 2005, there were 5.4mn lines in service, representing a penetration rate of below 3.5%, the lowest of all Asia Pacific countries profiled by **BMI** and among the lowest in the world. By 2006, fixed-line teledensity was above 4%, and Pakistan was off the bottom of our rankings table.

Table: Regional Fixed-Line Penetration Overview

Country	Fixed-line Penetration 2006 (%)	Regional Rank 2006 (2005 Rank)
Taiwan	57.6	1 (1)
Australia	52.0	2 (2)
Hong Kong	54.0	3 (3)
South Korea	46.1	4 (4)
Japan	44.1	5 (5)
Singapore	42.0	6 (6)
China	28.2	7 (7)
Malaysia	16.8	8 (8)
Thailand	11.0	9 (9)
Vietnam	10.9	10 (10)
Indonesia	6.3	11 (11)
Pakistan	**4.4**	**12 (14)**
Philippines	4.0	13 (13)
India	3.6	14 (12)

Source: BMI

Mobile

The first mobile phone services in Pakistan were introduced in the early 1990s by Mobilink, a subsidiary of Orascom Telecom of Egypt. Subsequently, services were introduced by **Instaphone** and Paktel (now CMPak), at that time two operating subsidiaries of **Millicom International Cellular** (MIC), and by Ufone, owned by PTCL. Two additional operators – Telenor and Warid Telecom – were licensed in May 2004, with both launching services in March 2005. All operators are now licensed to offer digital services. In February 2007, China Mobile formalised the acquisition of an 88.9% stake in CMPak for US$284mn, before extending this to 100% ownership four months later.

Despite experiencing growth of more than 100% during both 2003 and 2004, Pakistan's mobile penetration at the end of that year – just 3.3% – was again among the lowest in the region, marginally higher than that of neighbouring India. This has changed, with 48mn mobile subscribers at the end of 2006 representing 124% y-o-y growth, and a penetration rate of about 31%.

Table: Regional Mobile Penetration Overview

Country	Mobile Penetration 2006 (%)	Regional Rank 2006 (Rank 2005)
Hong Kong	133.0	1 (1)
Singapore	105.0	2 (2)
Australia	100.1	3 (3)
Taiwan	91.5	4 (4)
Malaysia	88.0	5 (6)
South Korea	84.0	6 (5)
Japan	78.6	7 (7)
Philippines	51.1	8 (9)
Thailand	50.8	9 (8)
China	34.9	10 (10)
Pakistan	**31.1**	**11 (12)**
Indonesia	28.2	12 (11)
Vietnam	21.7	13 (13)
India	13.4	14 (14)

Source: BMI

Internet

Despite substantial growth in Pakistan's internet market over the past three years, the user baser of 2.4mn in 2006 represented a penetration rate of just 1.5%, among the lowest in the world. There are around 110 ISPs in Pakistan, of which 70 are operational. However, the overwhelming majority of customers subscribe to services offered by PTCL. Total bandwidth in the country has also increased dramatically, from just 10 megabytes (MB) in 2000 to 230MB in 2002.

Table: Regional Internet Penetration Overview

Country	Internet Penetration 2006 (%)	Regional Rank 2006 (2005 Rank)
South Korea	73.3	1 (1)
Australia	68.6	2 (2)
Japan	65.1	3 (4)
Singapore	64.9	4 (5)
Taiwan	62.2	5 (4)
Hong Kong	56.0	6 (6)
Malaysia	43.8	7 (7)
Thailand	21.6	8 (8)
Vietnam	18.9	9 (9)
Indonesia	11.2	10 (11)
China	10.0	11 (12)
Philippines	9.6	=12 (10)
India	9.6	=12 (13)
Pakistan	**1.5**	**14 (14)**

Source: BMI

Macroeconomic Forecast Scenario

Mounting Challenges To Maintaining Robust Growth

BMI View: Pakistan's economy was among the fastest growing in Asia during FY2006/07 after real GDP expansion accelerated to 7.0% y-o-y. However, as the government strives to maximise economic growth, the economy is coming under increasing pressure. An uncertain political outlook is another factor which will weigh upon Pakistan's economic prospects.

Real GDP growth of 7.0% y-o-y in FY2006/07 (July-June) propelled average economic expansion in Pakistan over the past five years to 6.9%, the highest level of sustained growth since the FY1978/79-FY1982/83 period, according to the **State Bank of Pakistan** (SBP). However, while the government remains optimistic that last year's 7.0% expansion can be bettered in FY2007/08, targeting y-o-y real GDP growth of 7.2%, we remain much less sanguine on the prospect. Macroeconomic imbalances are threatening to derail the economy, with Pakistan showing increasing signs of overheating. As such, we believe that Pakistan will be forced into stepping up efforts to cool its economy in FY07/08, meaning that growth will likely fall back towards its new higher trend path of between 6.5% and 7.0%.

We are forecasting economic growth in FY07/08 of 6.6% y-o-y, and subsequently for a gradual acceleration towards 6.8% over the duration of our five-year forecast period. However, with Pakistan's government intent on maximising economic growth, we recognise that there are upside risks to these forecasts. In the SBP's annual report for FY06/07, it noted that during the five years up to and including FY82/83, the country witnessed an appreciable reduction in poverty levels, and that there is evidence that Pakistan's recent spell of high growth is having a similar impact. As such, the report suggests that 'it is important to maintain the elevated growth rates in the medium to long term'.

We believe that this is an attainable goal. It appears that Pakistan has now moved onto a new, higher growth trend, as the initial consumption-led growth boom makes way for more sustainable investment-led growth. Gross fixed capital formation grew 20.6% y-o-y in FY06/07, having risen 17.6% and 13.5% in the previous two years, and the ratio of investment-to-GDP reached a record 23%, according to the central bank. While we do not expect to see these growth rates continuing to accelerate at their current pace over the medium term, we do expect investment levels to remain robust, forecasting gross fixed capital formation to average annual growth of around 12% throughout our forecast period.

In addition to this, private consumption looks set to remain stable throughout the duration of our forecast period, growing at an expected average 3% y-o-y over the coming five years. This will continue to make it a key contributor to economic growth, even as investment overtakes it as the economy's main engine. Nevertheless, we recognise that downside risks to our consumption forecasts exist. With inflation remaining stubbornly high, we expect to see further tightening from the SBP going forward, and furthermore, we believe that the bank's most recent tightening moves are still yet to fully feed into the economy. As such, consumer spending will likely be more constrained than during previous years, going forward.

Inflation spiked to a nine-month high of 8.37% y-o-y in September 2007, having fallen to a 15-month low just two months previously. A slowdown in price growth witnessed in the first two months of FY07/08 (annual inflation came in at 6.37% and 6.45%, respectively, in July and August) had raised hopes that inflation would continue to moderate throughout the current fiscal year, and that consequently the central bank could begin to entertain the thought of ending its current tightening cycle and cut rates in 2008. However, with food prices and money-supply growth remaining stubbornly high, we expect the SBP to retain its tight monetary policy stance, until inflation is brought down closer to the government's 6.5% target. This will consequently continue to negatively impact upon both consumption and investment.

Furthermore, elevated price growth continues to erode the competitiveness of the country's exports. Pakistan recorded a current account deficit of 5.3% of GDP in FY06/07, driven largely by the country's US$9.94bn merchandise trade deficit. While remittances and capital inflows have thus far largely been able to cover the country's trade deficit, on a longer-term basis this will ultimately prove unsustainable, especially given the volatile nature of capital inflows, and the susceptibility of remittances to global economic downturns. Indeed, with US economic growth forecast to slow to 2.1% in 2008, we are anticipating a slowdown in remittance growth in Pakistan after reaching a record US$5.49bn in FY06/07. Failure to improve the competitiveness of Pakistani exports will increasingly weigh upon economic activity going forward, as the current-account deficit widens towards our end-of-period forecast of 8.5% of GDP.

Monetary Policy Suffering At The Hands Of Fiscal Policy

A key issue which must be addressed if the central bank is to be able to effectively attain its goals however, is the country's incongruous mix of fiscal and monetary policy. While the central bank struggles to keep inflation under control, the government is concurrently embarking on an expansionary fiscal policy to encourage growth. This is consequently muting the impact of the central bank's monetary tightening, which thus constrains the SBP's ability to keep a tight lid on inflation. Government spending jumped by almost 50% y-o-y in FY2005/06, and remained at this elevated level in the following fiscal year. However, in light of its conflicting effect upon monetary policy, and its contributory impact on inflation, and in view of the country's poor tax-GDP ratio, we believe that this recent increase in government spending will prove to be unsustainable. As such, our growth forecasts are based upon the assumption that government spending will normalise to levels seen prior to FY05/06, but recognise that this may not be the case, especially if the government opts to pursue populist policies in order to recoup some of its lost popularity.

Indeed, the uncertain political outlook in Pakistan remains the key downside risk to our current growth forecasts. Pakistan's recent high growth rates can be largely attributed to strong FDI inflows. Pakistan attracted US$4.873bn worth of FDI (excluding privatisation) in FY06/07 (July-June), a massive 146% y-o-y expansion, with total investment into Pakistan (including privatisation receipts and portfolio investments) increasing 79.7% y-o-y to US$6.960bn. However, while the economy has remained largely resilient to the rising political headwinds of the past year, President Pervez Musharraf's decision to impose emergency rule on November 3, and the assassination of Benazir Bhutto at the end of 2007, may well prove to be a step to far in the eyes of investors.

Table: GDP And Population

	2004/05	2005/06	2006/07	2007/08f	2008/09f	2009/10f	2010/11f	2011/12f
Population (mn)	152.5	155.4	156.8	161.6	164.7	167.7	170.8	173.9
Nominal GDP (PKRbn)	6,500	7,594	8,707	9,890	11,202	12,631	14,196	15,922
Nominal GDP (US$bn)	108.8	125	143.7	160.6	179.5	200.5	223.9	250.4
GDP per capita (US$)	714	805	916	994	1,090	1,195	1,311	1,439
Real GDP growth (% y/y)	9	6.6	7	6.6	6.7	6.7	6.8	6.8

f = BMI forecast; Source: Ministry of Finance.

BMI Forecast Modelling

How we generate our industry forecasts

BMI's industry forecasts are generated using the best-practice techniques of time-series modelling. The precise form of time-series model we use varies from industry to industry, in each case being determined, as per standard practice, by the prevailing features of the industry data being examined. For example, data for some industries may be particularly prone to seasonality, meaning seasonal trends. In other industries, there may be pronounced non-linearity, whereby large recessions, for example, may occur more frequently than cyclical booms.

Our approach varies from industry to industry. Common to our analysis of every industry, however, is the use of vector autoregressions. Vector autoregressions allow us to forecast a variable using more than the variable's own history as explanatory information. For example, when forecasting oil prices, we can include information about oil consumption, supply and capacity.

When forecasting for some of our industry sub-component variables, however, using a variable's own history is often the most desirable method of analysis. Such single-variable analysis is called univariate modelling. We use the most common and versatile form of univariate models: the autoregressive moving average model (ARMA).

In some cases, ARMA techniques are inappropriate because there is insufficient historic data or data quality is poor. In such cases, we use either traditional decomposition methods or smoothing methods as a basis for analysis and forecasting.

It must be remembered that human intervention plays a necessary and desirable part of all our industry forecasting techniques. Intimate knowledge of the data and industry ensures we spot structural breaks, anomalous data, turning points and seasonal features where a purely mechanical forecasting process would not.

Telecommunications Industry

There are a number of principal criteria which drive our forecasts for each telecoms variable:

Subscriber numbers

Subscriber data are derived in the majority of instances from individual operators and/or national regulators. Subscriber forecasts are then based on a range of variables including:

- stated network rollout and capex plans;
- level of maturity of a given market;
- competition from alternative technologies (ie ADSL/wireless vs PSTN);
- potential regulatory developments (increased liberalization, etc.)
- cost of technology in relation to GDP/capita;
- and political/economic factors.

Expenditure per capita/% of GDP/% of fiscal budget are calculated using **BMI**'s own macroeconomic and demographic forecasts.

Sources

Sources used in telecoms reports include national ministries and media/telecoms regulatory bodies, officially-released company results and figures, national and international industry organisations (such as the CTIA, the GSM Association and the ITU), and international and national news agencies.