

OVERVIEW OF THE TELECOM SCENARIO IN INDIA



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On 30th August, 2008

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INDIAN ECONOMY- OVERVIEW

- GDP growing @ 9% p.a.
- Second largest emerging economy in the world.
- Industry growth at 8.5% & Services Sector growth at 10.8%.
- Service Sector contributing 55% to GDP.

INDIAN TELECOM MARKET



- Approx. 334.85 Million Telephone Customers (As on 31.07.2008)
- Teledensity is less than 30%.
- Second Largest Mobile Country.
- Fastest Growing Telecom Nation in the world – growing @ 8-9 million connections per month.
- Compounded customer growth of around 40.68% p.a. for the last 5 years

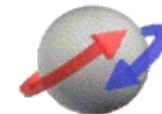
INDIAN TELECOM MARKET.. Contd.



- Rising Mobility, Declining fixed line.
- VAS emerging as major Revenue Earner.
- Growing popularity of Internet and Broadband.
 - Approx. 77.18 million internet customers [As on 31.03.2008]
 - Approx. 3.87 million Broadband Customers [As on 31.03.2008].

Growing Teledensity

- Teledensity has increased from 1.57 in March, 1997 to 29.08 in July 2008
- Rural Teledensity is still much less than Urban Teledensity.
- As of March 2008, Urban Teledensity is 65.9 % and Rural Teledensity 9.21%.

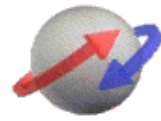


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Growing Teledensity

Year [End of March]	RURAL	URBAN	TOTAL
1999	0.52	6.94	2.32
2000	0.68	8.36	2.86
2001	0.93	10.37	3.58
2002	1.21	12.2	4.29
2003	1.49	14.32	5.11
2004	1.57	20.74	7.02
2005	1.73	26.88	8.95
2006	1.86	39.45	12.74
2007	5.88	48.52	18.31
2008	9.21	65.9	26.19

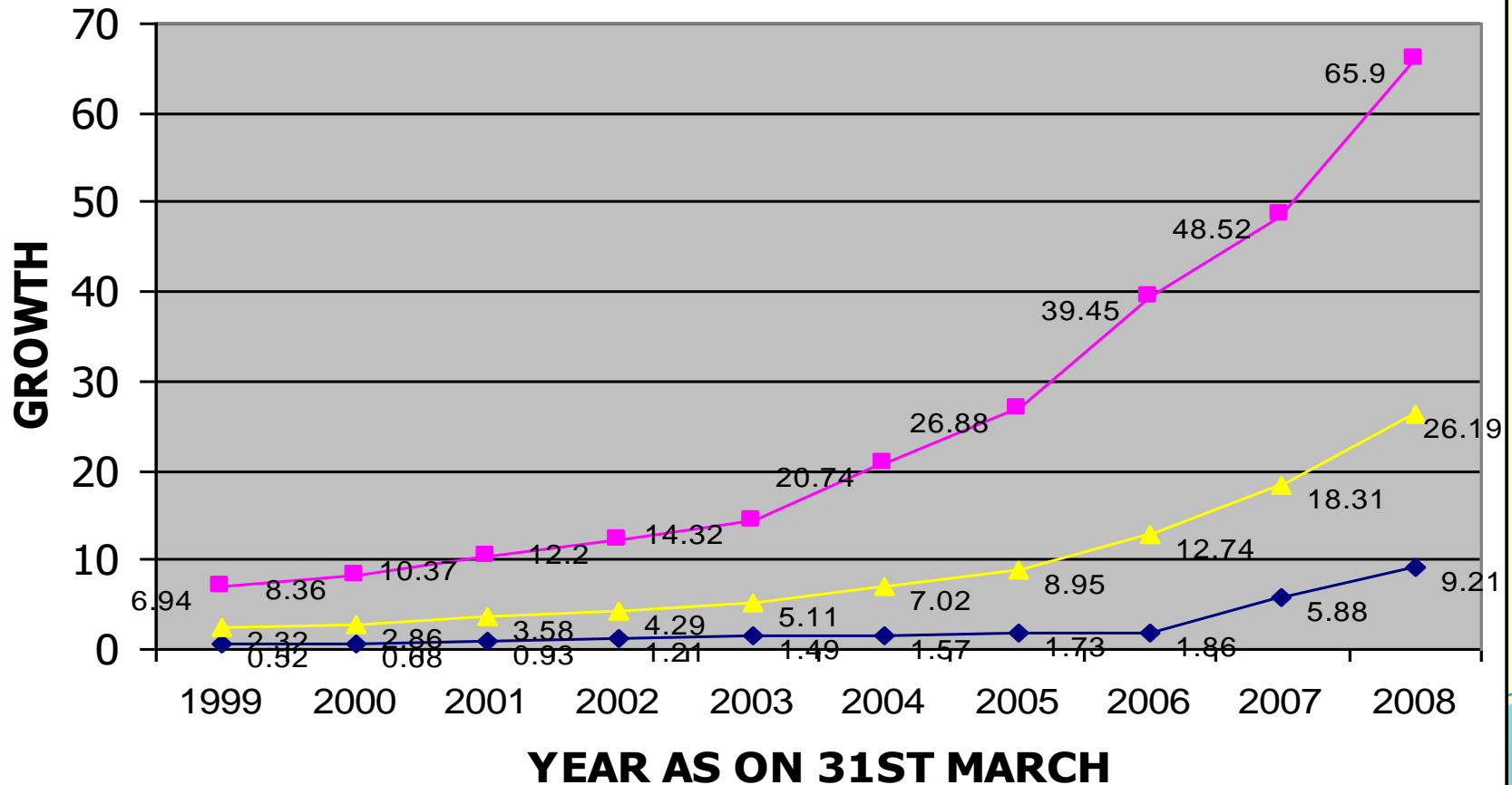
TELEDENSITY : RURAL & URBAN



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TELEDENSITY

—◆— RURAL —■— URBAN —▲— TOTAL



INDIAN TELECOM MARKET

Size & Opportunities

Updated upto 31.07.2008

- Population - Approx. 1.15 Billion
- Teledensity
 - Overall - 29.08%
 - Internet - 6.82 % [Upto 31.03.2008]
 - Broadband - 0.397%

Expected Base by 2010:

- Telephone Connections- 500 Million
- Broadband Connections - 20 Million
- Annual Revenue - \$45 Billion

GROWTH OF TELECOM IN INDIA

- **1994** National Telecom Policy – 1994 announced
- **1995 (Aug)** Kolkata became the first metro to have a cellular network
- **1997** Telecom Regulatory Authority of India was setup
- **1999** Tariff rebalancing exercises gets initiated
- **1999 (Mar)** National Telecom Policy – 99 announced

Growth of Telecom in India [Contd..]



- **1999 (Aug)** License fee (revenue share) reduced from provisional 15% to 12%, 10% & 8% on Circle wise basis (A type, B type & C type circles)
- **2000** TRAI Act amended & separate tribunal proposed
- **2001 (Jan)** TDSAT started functioning
- **2001 (Jan)** Policy announced for additional licenses in Basic and Mobile Services
- **2001 (Jan)** Limited mobility allowed to Basic Services
(CDMA spectrum allotted to Basic Service Operators)

Growth of Telecom in India [Contd...]



- **2002 (Oct)** BSNL entered in to GSM cellular operation w.e.f 19th October, 2002. Made incoming call free & initiated tariff equalization process Tariff for GSM cellular mobiles reduced.
- **2003 (Nov)** Unified Access (Basic & Cellular) Service License (USAL) introduced as a first step towards Unified License Regime.
Technology neutral and allows provisioning any kind of service.
- **2004 (Apr)** License fee reduced by 2% across the board for all the access licenses.

Growth of Telecom in India [Contd..]

- **2004 (Oct)** Announcement of Broadband Policy to provide high speed always on internet service.
- **2005 (Nov)** FDI limit increased from 49% to 74% in Telecom Sector.
- **2005 (Dec)** ILD & NLD Annual License fees reduced from 15% to 6%.
- **2007 (Oct)** Dual technology allowed.
- **2008 (Feb)** 120 new UASL licenses granted by DOT.

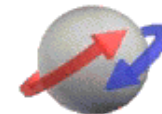
Growth of Telecom in India [Contd..]

- **2008 (Aug)** Issue of 3G guidelines for spectrum allocation through auction. Foreign players allowed to bid.
- **2008 (Aug)** Guidelines for auction & allotment of spectrum for BWA services issued
- **2008 (Aug)** Guidelines for Mobile Number Portability Service License issued

Growth of DELs in India

- From 14.8 million in March 1997, DELs grew to 334.85 million in July 2008.
- Substantial change in Wireless Vs Wireline and Public-Private participation.
- Mobile subscribers seven times more than wireline subscribers.

Subscribers (in Millions)

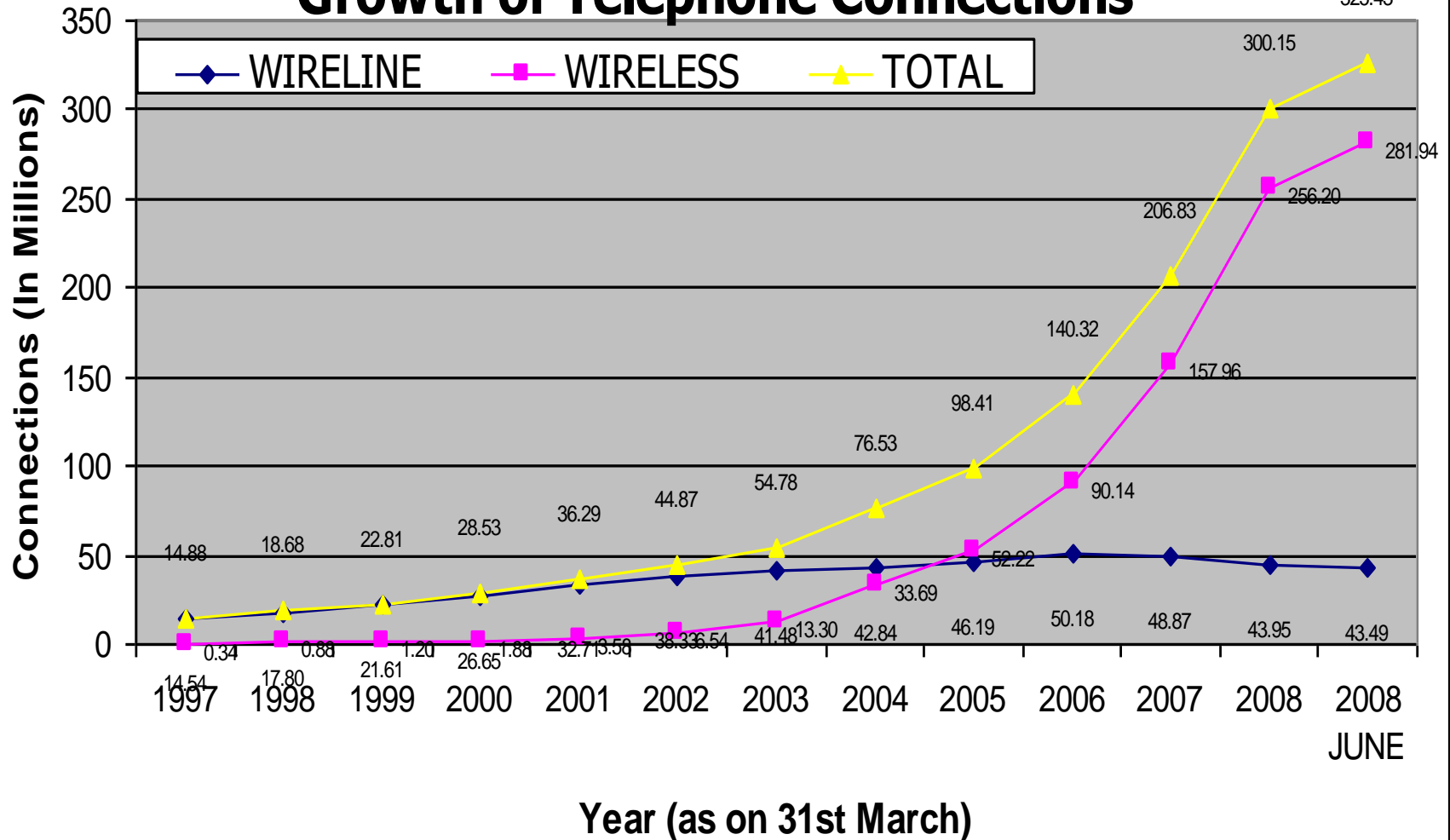


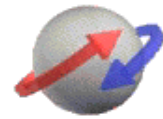
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Year [End of March]	Fixed line including WLL(F)	Mobile (GSM+WLL(M))	Total	Annual Growth (%)
1997	14.54	0.34	14.88	--
1998	17.80	0.88	18.68	25.54
1999	21.61	1.20	22.81	22.11
2000	26.65	1.9	28.55	25.16
2001	32.71	3.58	36.29	27.11
2002	38.33	6.54	44.87	23.64
2003	41.48	13	54.48	21.42
2004	42.84	33.69	76.53	40.47
2005	46.19	52.22	98.41	28.59
2006	50.18	90.14	140.32	42.59
2007	48.87	157.96	206.83	47.40
2008	43.95	256.2	300.15	45.12
July-08	43.35	291.50	334.85	--

Exponential Growth

Growth of Telephone Connections

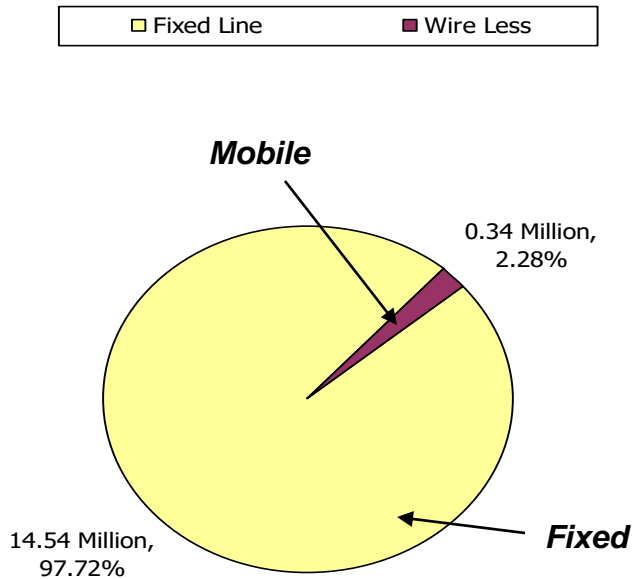




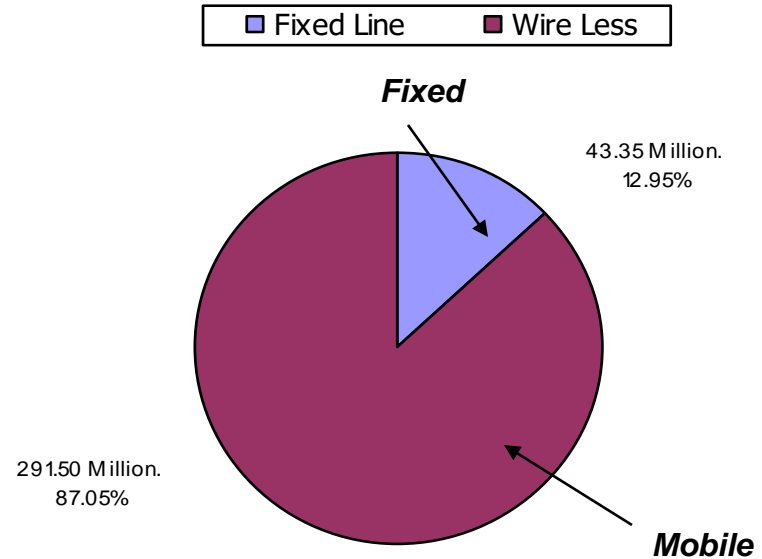
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Mobile Service : Fuelling the Growth

March - 1997



July - 2008



**Total telephone connection as on March 1997: 14.88 Million,
July 2008: 334.85 Million.**

Mobile Services

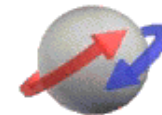


- Mobile connections are provided on GSM and CDMA technology
- GSM Connections increased from 12.68 Million in March 2007 to 219.297 Million in July 2008.
- CDMA connections rose from 0.31 Million in March 2003 to 76 Million in July 2008.
- Ratio of GSM and CDMA subscribers is 3:1

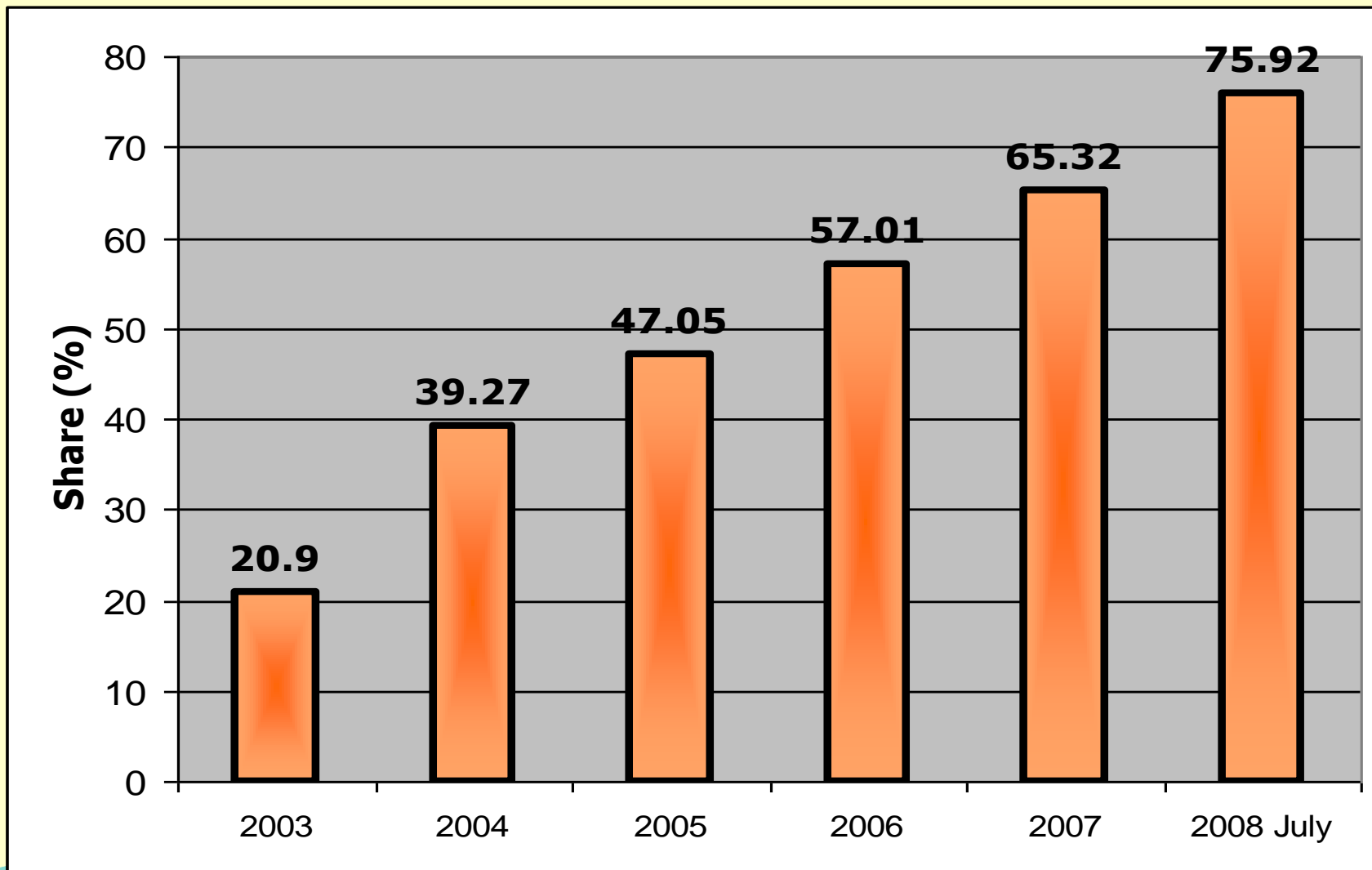
Growing Share of Private Sector

- Share of private sector in total Connections has steadily increased from 20.9% in 2003 to 75.92% in July 2008.
- Private Sector is mainly active in Wireless Segment.
- Private Sector's contribution in Wireline Segment is just 11.6%.

Growing Share (%) of Private Sector



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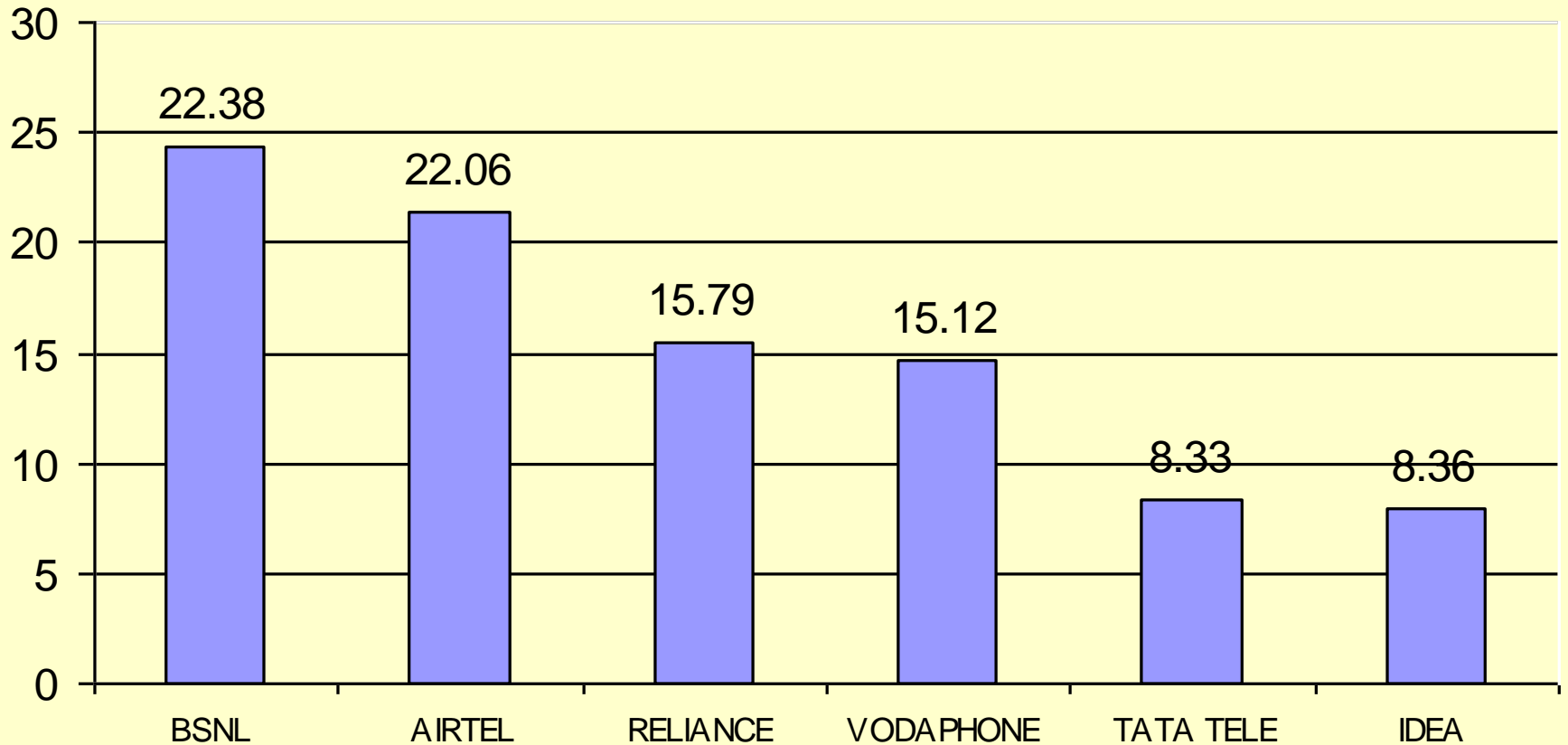


TELECOM SERVICE PROVIDERS



- There are 23 Licensed Service Areas.
- 12 Service Providers are providing phone services in these areas.
- Two Public Sector Operators are MTNL and BSNL.
- MTNL providing service in Delhi + Mumbai only.
- BSNL providing service in 21 out of 23 LSAs excluding Delhi and Mumbai.
- There are six major Telecom players i.e. BSNL, Airtel, Reliance, Vodaphone, Tata Tele & Idea.

PERCENTAGE MARKET SHARE OF MAJOR TELECOM PLAYERS IN INDIA

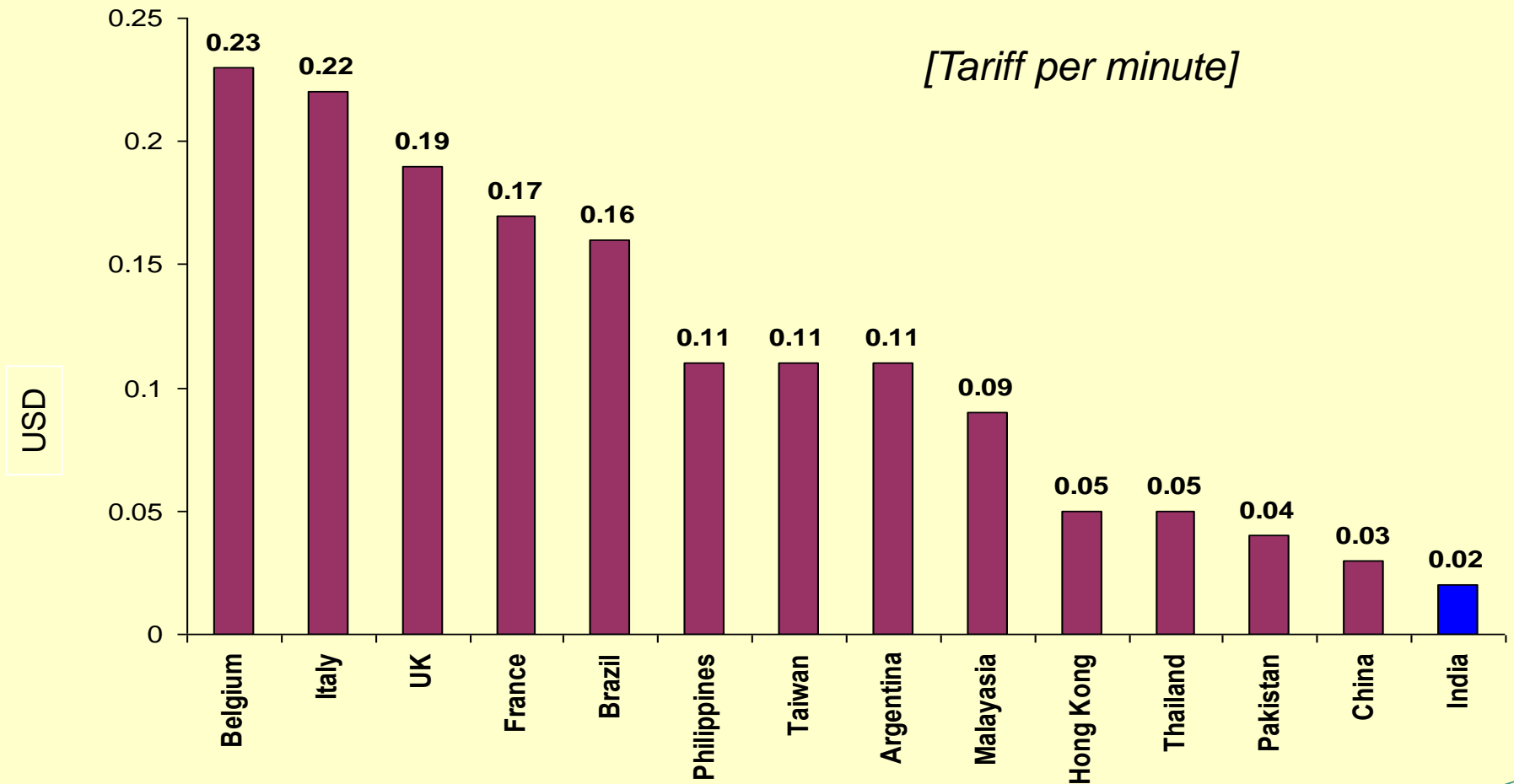


MAJOR PLAYERS' DATA

[Updated upto 30.06.2008]

	BSNL	AIRTEL	RELIANCE	IDEA
Customer Base (in millions)	72.8	71.8	51.4	27.2
Annual Revenues (in US \$ bn)	10	6.9	3.75	1.1
Annual Profit (in US \$ bn)	1.9	1.7	1.3	0.1

Mobile Tariffs in India one of the Lowest



TELECOM TARIFF & REVENUES



- Telecom Tariffs have fallen to very low level during past five years.
- Local call tariff from mobile calls has seen steady decline from Rs. 16 per minute to Rs. 0.50 per minute
- Public Sector has played crucial role in bringing down mobile tariff.

TELECOM TARIFF & REVENUES



- Despite low tariffs, telecom sector has shown positive financial results.
- Gross revenues for the sector have grown at compound annual rate of about 21% and stands at US \$ 26 Billion – 34% contribution of Public Sector and 66% of Private Sector.

REGULATORY REGIME

- Tariff under forbearance except for fixed rural line services, National roaming in mobile service and Leased Circuits.
- Operators to report tariff plans to TRAI within 7 days from the date of implementation.
- Tariff once offered can not be hiked for minimum period of 6 months
- Lifetime / unlimited tariff plans to be available to subscribers during the period of current / renewed license.
- No chargeable Value Added Services to be provided to a customer without explicit consent.

REGULATORY REGIME

- Publication/advertisement of tariff for consumer information shall contain minimum essential information.
- Websites of the service provider to contain complete details of the tariff plans as well as financial implications for various usage slabs.
- Customers to be informed in writing, within a week of activation of service, the complete details of his tariff plan.
- Quality of Service Standard bench marks to be ensured by Operators.

Opportunities & New revenue streams

- BPO & KPO business is growing fast: Telecom can ride on it.
- As globalization is increasing, more percentage of global business for Indian telecom.
- Technologies like NGN, 3G, Wi-MAX, will open up new frontier of business.

Services Through 3 G



Broadband Access
through 3 G Device



Personal Digital
Centre



Share the Family
Photo and Video
With members on
The move



E Governance
E Hospital
E Education



VoIP, traditional
Telecom services



Enterprise CUG/ VPN

■ Services: ON DEMAND DATA / VOICE

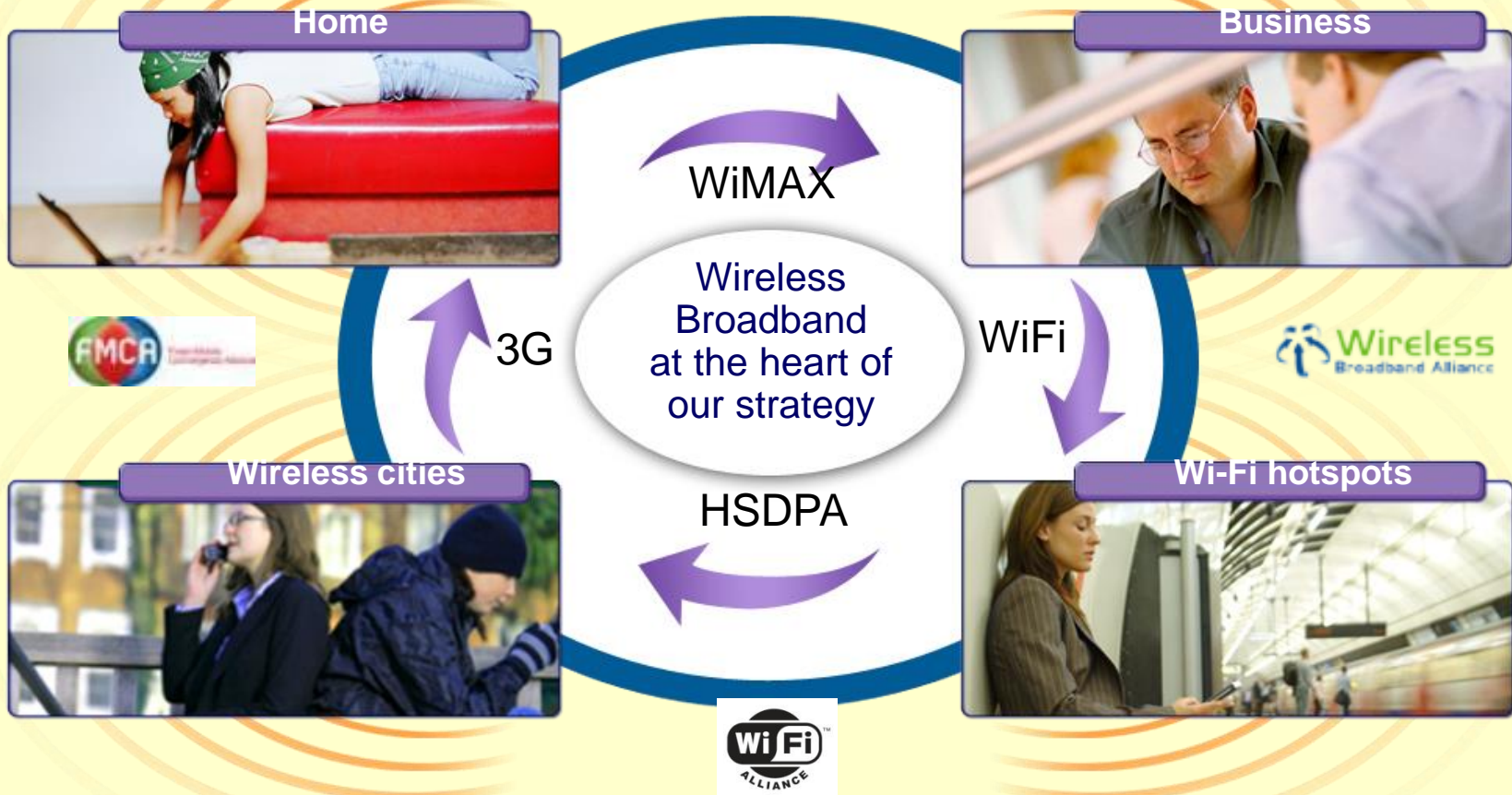
- ❖ Data connectivity on the move
- ❖ Quad play i.e Voice, Video, Data and mobility with suitable core network.
- ❖ E-mail and Web services on demand for SME
- ❖ VPN service for group of customers
- ❖ Gaming, Video Services like Live TV,
- ❖ E-governance, E-health, E-education
- ❖ Internet Access on the move
- ❖ Video Messaging and rich data applications

■ Service Performance Guarantee

- ❖ IP services with QoS, and support concurrently 3 types of QoS for one subscriber.
- ❖ Class of service: Support for different types of data delivery services which are-UGS,RT-VR,NRT-VR,BE and ERT-VR
- ❖ Bandwidth management: support flexible bandwidth assignment and the inter-user QoS.

Mobility and Convergence Vision

- anywhere, anytime, anyplace



Wireless Broadband is about taking Broadband Mobile

NEW OPPORTUNITIES - VAS



- Value added services like M-Commerce, M-Marketing, Special Information, Ring tones, etc. offer venues of additional revenue.
- Annual Revenue US \$ 1.2 billion (approx.)
- VAS contributes 10 – 14% of total telecom revenue [source Voice-Data].
- Non-voice revenue increasing.
- Present contribution > 50% through SMS (P to P).
- Revenue from other value added services growing [IVR, PRBT, Games, Data].

PROJECTIONS:

- Revenue Expected by 2010 US \$ 2.2 Billion.
- Applications which can ride on
 - SMS
 - Mobile Commerce (Bill Payment, Prepaid top-up, ticket booking)
 - Search (on Voice, SMS, WAP)
 - Location Based Services
 - Music based Services
 - IVR

MNP – OPPORTUNITY as well as THREAT for Operators

- It will change the market dynamics.
- The perception of ownership of customer will have a paradigm shift.
- New innovations will be needed for keeping customer attached to service
- Enterprise business will be the key target and will face intense competition

MNP-Liberation of Mobile Customer

WHO IS LOOKING FOR CHANGE

60-80% go because of tariff plan



5-15% go because of VAS and CUG related reasons

19% of customers have problems with mobile coverage at home

Internet & Broadband Services

- No. of Broadband Connections have grown from 0.02 Million in March 2004 to 4.57 Million in July 2008.
- BSNL is the largest Broadband Internet Service Provider with 53 % Market Share.
- 589 District Hqrs., 2698 Block Hqrs., 3261 Cities & 30124 Villages have been covered by Broadband.
- In INDIA, ISPs are providing Broadband Service on DSL, Cable Modem, Ethernet LAN, Fibre, Radio, Leased Line etc.

Telecom Growth- the way ahead

- **Network expansion**
 - 250 million by 2007 - Already achieved
 - 600 million by 2012
- **Rural connectivity**
 - 100 million by 2010
 - 200 million by 2012
- **Broadband**
 - 20 million broadband connections and 40 million internet connections to provide by 2010
 - Broadband connections to provide on demand across the country by 2012.

Challenges in Telecom Sector

- No. of operators are increasing per circle.
- ARPUs are going down.
- Cost/ Customer is very high in rural areas.
- Spectrum – a scare commodity.
- Infrastructure readiness in rural.
- PC prices are very high.
- Availability of Contents in local language.
- International Bandwidth is costly.

Broadcasting & Cable Services

- Like Telecom Sector, Broadcasting & Cable Services have been opened for Private participation.
- Broadcast & Cable services being provided through All India Radio, FM Channels, Community Radio Stations, Cable TV, Satellite TV Channels, DTH & IPTV.
- Multi System Operators (MSOs) across the country providing Cable TV services.
- MSOs are carrying maximum 133 Free-to-Air Channels, 95 Pay Channels & 8 Local Channels on their networks .

Broadcasting & Cable Services

- CAS (Conditional Access System) implemented in certain notified areas of Delhi, Mumbai, Kolkata & Chennai 6.08 Lakhs Set-Top Boxes installed in these Cities by March 2008.
- 6 Licences have been issued to Private Operators to provide DTH Services out of which presently 3 licensees are offering pay DTH Services.
- Doordarshan is providing Free-to-Air DTH Service.
- BSNL is providing IPTV Service in Cities namely Pune, Kolkata, Bangalore, Jaipur, Jodhpur.

Broadcasting & Cable Services



- IPTV Service has been recently soft launched in Gurgaon, Faridabad & Noida by BSNL.
- BSNL plans to launch IPTV Service in 100 Cities by March 2009.

RADIO SERVICE:

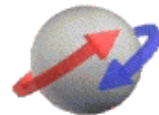
- FM Radio Services are being provided by FM Radio Stations of All India Radio and 205 Private FM Radio Channels.
- 49 Licences have been issued to operate Community Radio Stations (CRSs) out of which 35 CRSs are working.

CONCLUSION

- India is second largest emerging economy of the world.
- GDP growth 9% & Services Sector growth 10.8%.
- Fastest growing Telecom Market in the World.
- Teledensity is still less than 30% with rural teledensity just around 10%.
- Wireless technologies to play crucial role in providing connectivity in rural, remote & far flung areas.

CONCLUSION

- Mobile Number Portability to change Market Dynamics & ensure improved standards of service.
- With launch of VOIP telephony, Long Distance call charges slated to fall further.
- IPTV & DTH are providing digital experience to users.
- High Growth in Mobile, Internet & Broadband foreseen till 2012.



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THANK YOU