



A large, solid red silhouette of the map of India is centered on the slide. Overlaid on this map is the title text.

Future of Mobile VAS in India

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- **Nitin Brahmankar** – Director, IDT



- India's telecom market is experiencing explosive growth
 - Crossed 217 mn subs by Oct 07 with net adds of nearly 8 mn subs / month over last 4 months
 - Despite continued record growth over last 12 months, only 23% of 1.1 bn population owns a phone
 - There are 6-7 telcos operating in each of 23 license areas. Airtel, Reliance, Vodafone & BSNL, who are "the Big 4" have 74% market share
 - Growth is expected to continue and even accelerate, reaching a projected 496 mn mobile subs by 2010
- Near term outlook shows a continuing focus on acquiring new low end customers
 - Improved regulatory structure has lead to increased competition, and operators aggressively tailoring strategies to acquire customers across all segments by making mobile services more affordable and increasing coverage
 - Prepaid users comprise over 85% of total subs and over 95% of net new additions, further adding to the impact of tariffs on falling ARPU
 - Almost half of Indian mobile subs use low cost handsets and this is expected to increase further with new additions
 - Further innovation in entry-level handsets and call tariffs will continue to drive growth
 - Operators will need to look at alternative revenue streams like VAS as they mature
- Traditional VAS has been primarily SMS-based, with Bollywood and Cricket the largest content drivers
 - VAS services contribute approx 7% of total wireless telecom revenues for Indian operators
 - Total market size of VAS was USD 678 mn in 2006, projected to touch USD 926 mn at the end of 2007
 - Most VAS services are provided over SMS, IVR and WAP. Revenue growth has been driven by SMS (including P2P, A2P, P2A), contributing over 55% of total VAS revenues in 2006
 - Bollywood & cricket remain the killer content, whether for SMS alerts, ringtones / CRBT, games, wallpapers, etc.
 - Rural applications initiatives have launched in pilots, and are likely to grow quickly in less developed geographies because of the willingness to spend on services which enhance livelihood



	Current Challenges to Growth	Overcoming These Challenges
Revenue Challenge	<ul style="list-style-type: none"> Revenue share between telcos & content providers / aggregators is 70:30, substantially more skewed in favor of telco than in other countries Lack of payment mechanisms increases reliance on telcos, though VAS players are looking at advertising to support service. This is at a nascent stage given the unfamiliarity of advertisers with mobile as a medium 	<ul style="list-style-type: none"> Advertisements can be a major new revenue avenue for VAS players compensating for low rev share from operators
User Challenge	<ul style="list-style-type: none"> Awareness remains a major challenge as operators spend more on subscriber acquisition than educating customers about VAS Users are also confused about tariff structures for premium SMS, IVR and data usage 	<ul style="list-style-type: none"> Traditional VAS – SMS, CRBT & ringtones – will continue to grow with increased awareness and larger low end user base Awareness will remain a problem for advanced VAS services unless marketing is done by VAS companies themselves
Device Challenge	<ul style="list-style-type: none"> Supporting VAS requires an increase in feature set at lower price points GPRS enabled low cost handsets are still in the making 	<ul style="list-style-type: none"> Low-cost, feature-rich devices are being introduced more widely as GSM players have started adopting handset bundling Additionally, VAS players and handset vendors are forming partnerships to provide embedded applications
Content Challenge	<ul style="list-style-type: none"> Bollywood and cricket works! Not much innovation is seen beyond these Given diversity and literacy rates in India, providing content in the many local languages is a requirement 	<ul style="list-style-type: none"> IVR will be a quick solution to providing content / services in local language But, creating locally relevant content (e.g. for directory listing, maps) will still require substantial investments
Operator Challenge	<ul style="list-style-type: none"> Delay in spectrum policy has resulted in congested networks leaving no bandwidth for data efficient applications 	<ul style="list-style-type: none"> Regulatory uncertainty around spectrum will continue to hinder promotion of VAS Higher end apps, including internet apps being ported to mobile will have more traction once 3G is introduced



- Offerings like next generation SMS, IVR and mobile music will become more widespread, while others will still face a number of hurdles to growth
 - **SMS:** The next generation of SMS will offer users an enhanced messaging experience
 - **Mobile Music:** growth will increase with better bandwidth enabling full music download / streaming
 - **IVR:** In areas of low literacy rate, IVR will see large scale adoption due to ease of use and local language support
 - **Internet Applications:** Internet apps ported to mobile may have slow take-up at first, but will draw higher end users. IM on mobile will be driven by the youth. Enterprises will be the key driver for the adoption of mobile e-mail
 - **Search:** SMS based search and search on WAP portals will be popular applications as users can access requisite information on the move, but lack of local information will still remain a challenge to be overcome
 - **UGC/SNC:** User generated content & social networking communities will see limited adoption due to user experience and format of interactivity
 - **mCommerce:** Mobile Commerce also is not promising for mass markets given low levels of electronic transactions and vendors' and consumers' resistance to adopt combined with unfamiliarity of this platform
- With overall CAGR of 44% (2007 – 2010), VAS revenues will reach USD 2,744 mn
 - In medium term most of the current challenges will be addressed by both operators and VAS players
 - But growth during near term will flatten as operators do not shift focus from customer acquisition to VAS promotion quickly enough, thus new low end users will drag down the per capita consumption
 - Growth can be impacted substantially in either direction depending on outcome of various major regulatory and non-regulatory factors, including MNP, 3G, advertiser uptake of mobile advertising
 - Growth acceleration will begin in 2009, as various challenges are overcome, size of mature user base increases, and telco focus on high end user VAS heightens
 - Share of traditional VAS declines to less than 50% in 2010. Mobile data / internet access, e-mail, and IVR based services will achieve the highest growth rates

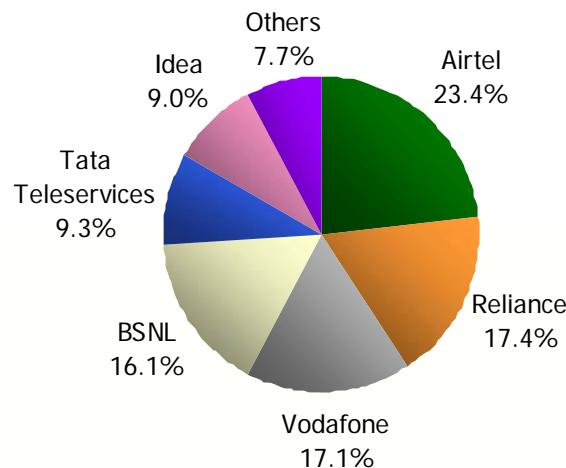


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- Near Term Industry Outlook
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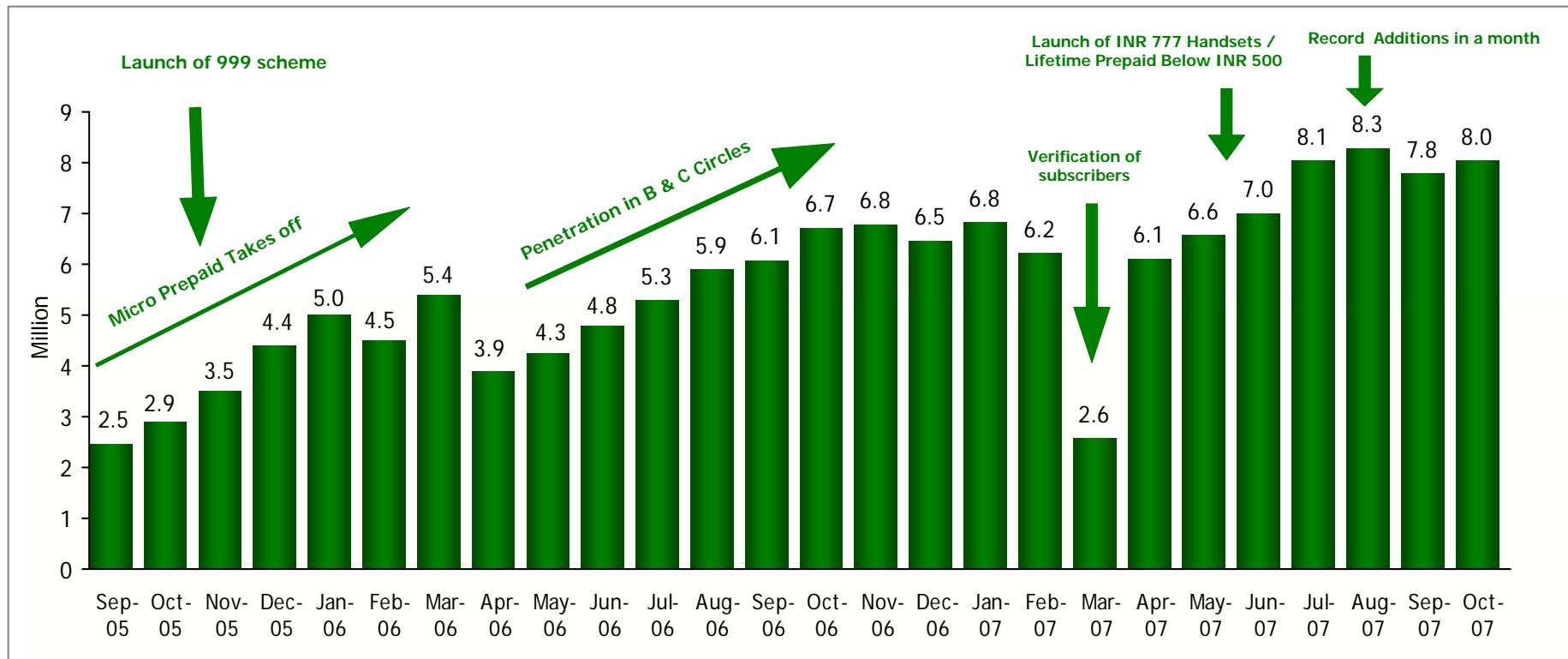
Population	1.112 billion
Fixed Subs	39.41 million (Oct 2007)
Mobile Subs	217.14 million (Oct 2007)
Internet Subs	9.22 million (Jun 2007)
Broadband Subs	2.67 million (Sept 2007)

Operator Market Share (Oct 2007)



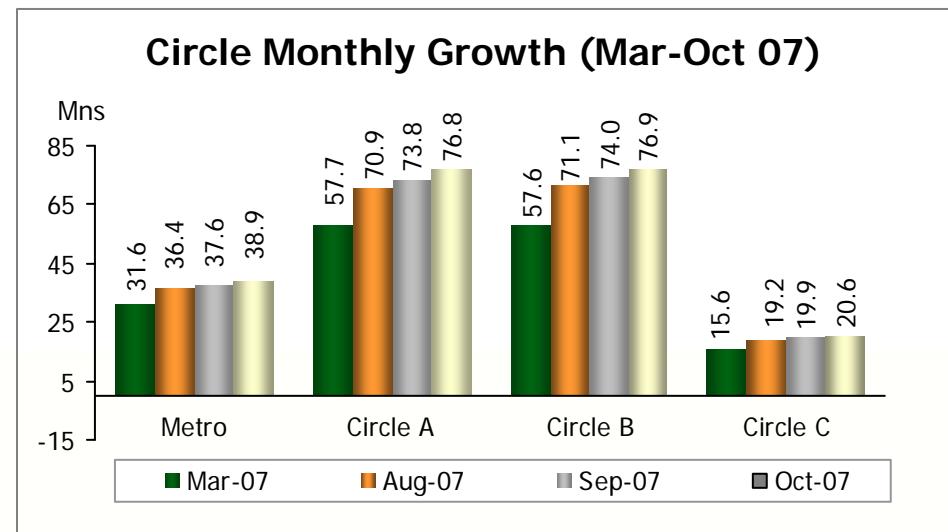
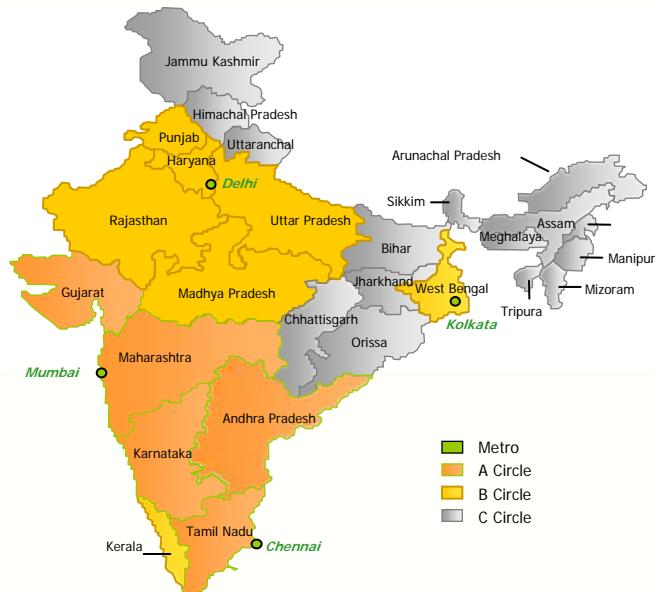
Interesting Market Facts

- Despite the continued record growth over the last 12 months, only 23.07% of the country's 1.1 bn population owns a telephone, which points to a situation where growth is expected to continue and even accelerate
- The Big 4 continue to lead in market share, but BSNL is losing ground to the other 3 quickly



- Net monthly additions of nearly 8 mn in the last 4 months
- With aggressive rollout targets by operators such as Airtel who plan to expand coverage to rural areas, the trend of new subscribers additions will continue

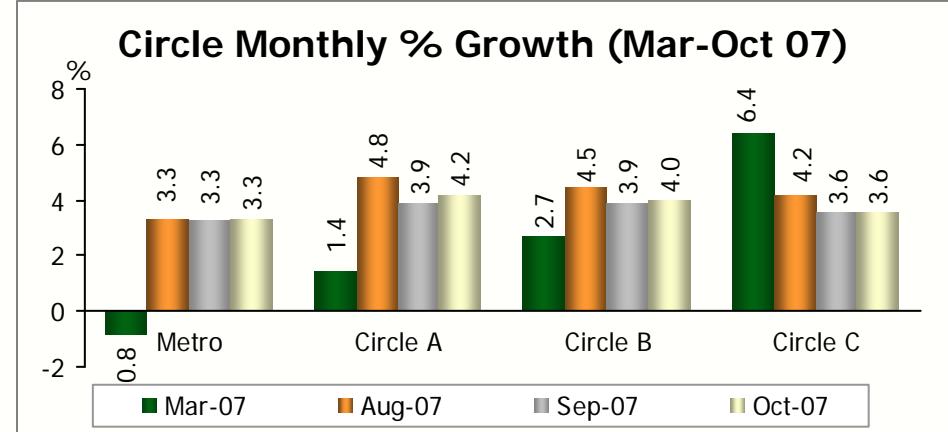
Growth in August has been steady in the 3-5% range across all circles with A and B Circles* leading both percentage and actual net additions



- At the end of October the mobile teledensity

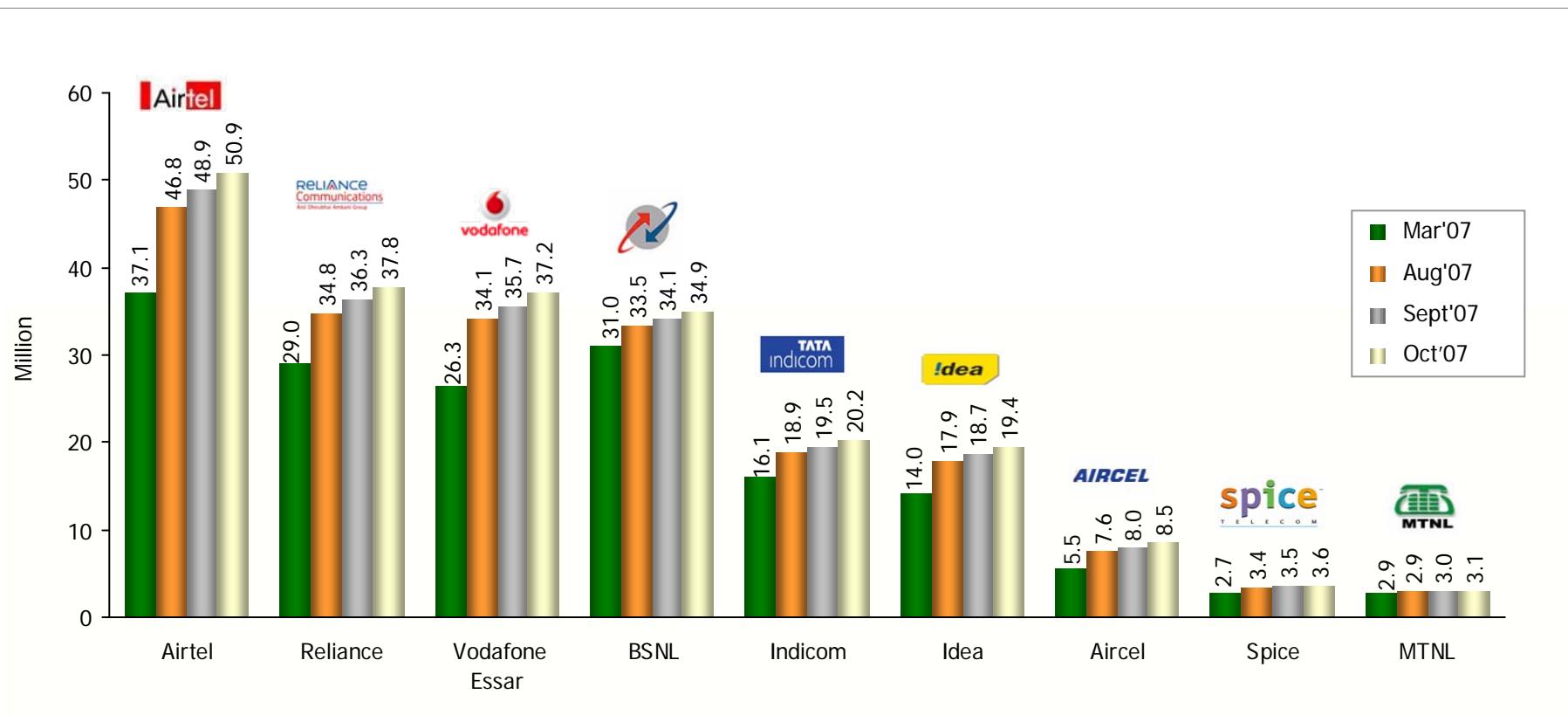
Metros	74.09%
Circle A	22.17%
Circle B	10.91%
Circle C	9.33%

- The growth is distributed across the circles, even though the net adds are the highest in Circle A and B



* A Circle is the operating area defined by a license & are categorized based on census and socio-economic data

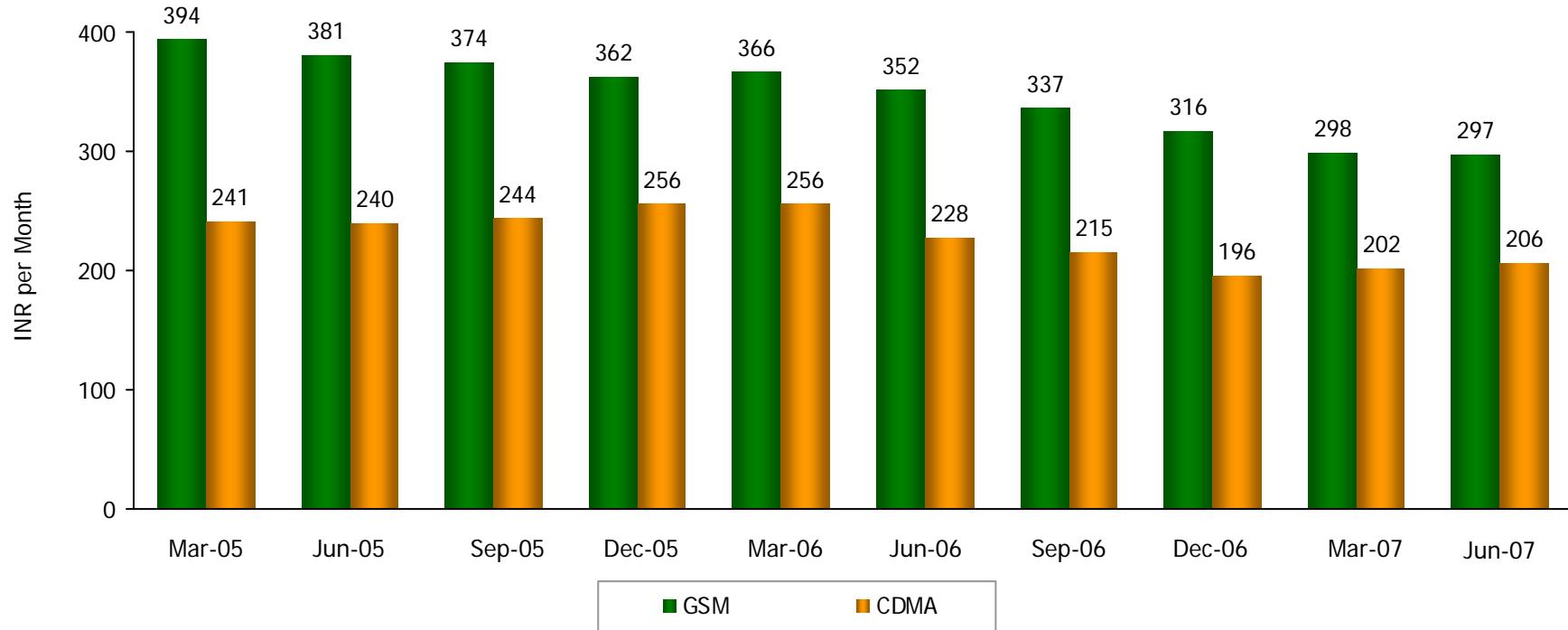
Airtel, Vodafone and Reliance added the highest number of subscribers



- Vodafone is quickly closing the gap between itself and Reliance, having overtaken BSNL recently. With handset bundling being offered in Oct, high growth is expected to continue
- Airtel, Vodafone and Reliance added the highest number of subscribers with 2.03 mn, 1.57 mn & 1.51 mn new additions respectively



Trends in all India Monthly ARPU



- GSM operators have nearly stabilized ARPUs declining only by INR 1 over the last quarter, mostly on higher MoUs and higher lifetime prepaid additions
- CDMA operators have been able to increase their ARPUs as the all India average subscriber outgo per minute increased to INR 0.85 in June 2007 from INR 0.81 in March 2007, while for GSM operators it declined from INR 1.15 in Mar-07 to Rs. 1.11 in June-07



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Improved
Regulatory Structure

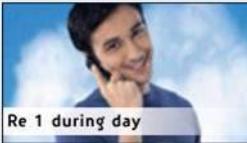
भारत सरकार
दूरसंचार विभाग



Government of India

Telecom Regulatory
Authority of India
(An ISO 9001-2000 Certified Organisation)

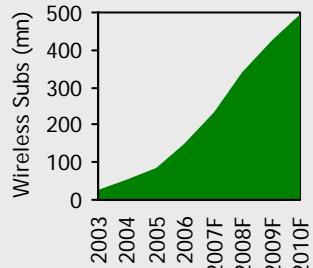
Declining Tariff



Innovative Pre-Paid Tariff Plans



Declining Handset Prices

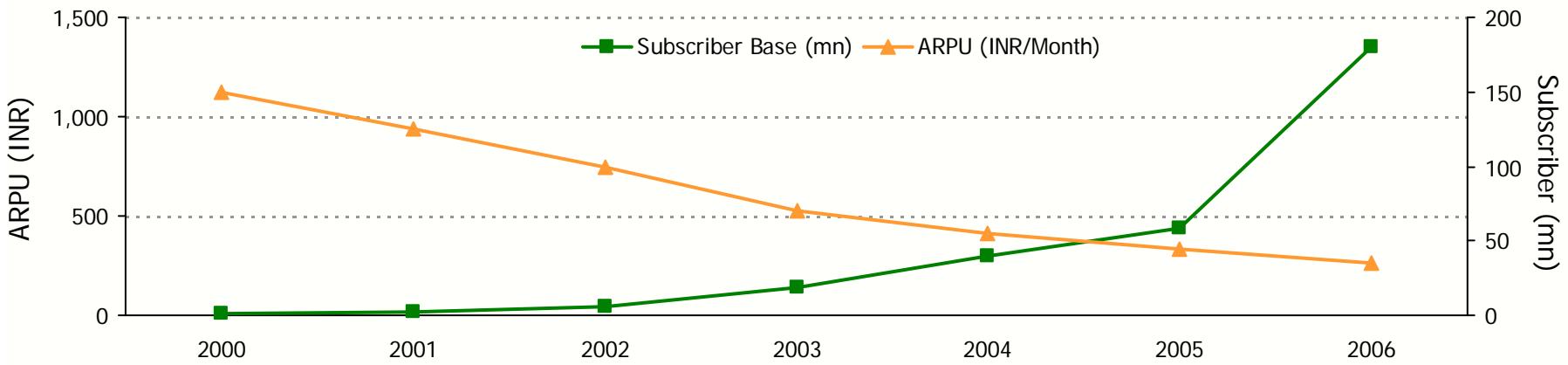


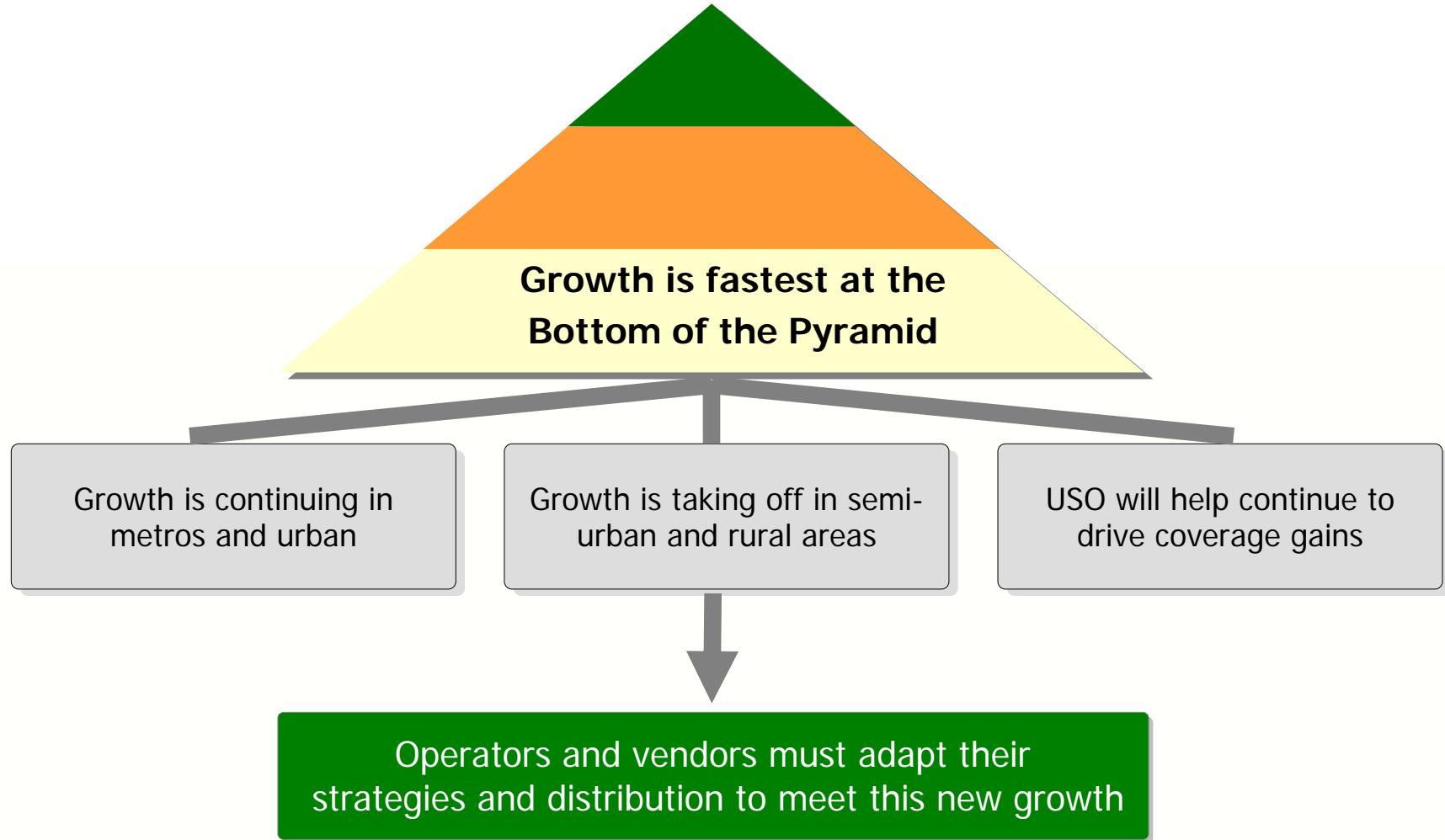
Unprecedented Growth



- ARPUs are dropping as volumes increase
 - With increased competition, tariffs of voice calls have gradually declined over the years
 - Most of the subscribers added are from the bottom of the pyramid with low usage resulting in reduced ARPU
- Operators are focused on acquiring customers. The fall in ARPU will continue unless operators look at alternative revenue streams like VAS
 - It is unlikely tariffs will increase given aggressive competition between operators to add subs
 - Minute of Usage (MoU) in India is already the second highest in the world at 476 (Jun 07), behind only USA

Mobile ARPUs are Declining Precipitously





Operators are tailoring service packages for low-end users making mobile service more affordable



Micro Prepaid Cards



Recharge options as low as INR 10 (USD 0.25)

Life Time Validity

All operators offer a "lifetime prepaid" plan which maintains the phone number for life for free incoming calls if recharged every 3 or 6 months



Full Value Recharge

Talktime of value equal to the recharge amount



Free In-Network Calls

Some operators have started free unlimited local in-network calls



Group Calls



Unlimited calls among a limited set of people at a particular cost

Bulk SMS Pack

Plans customized for bulk SMS within a specified area at a much lower cost



Prepaid in India comprises of over 85% of total subscriber base and over 95% of net new additions

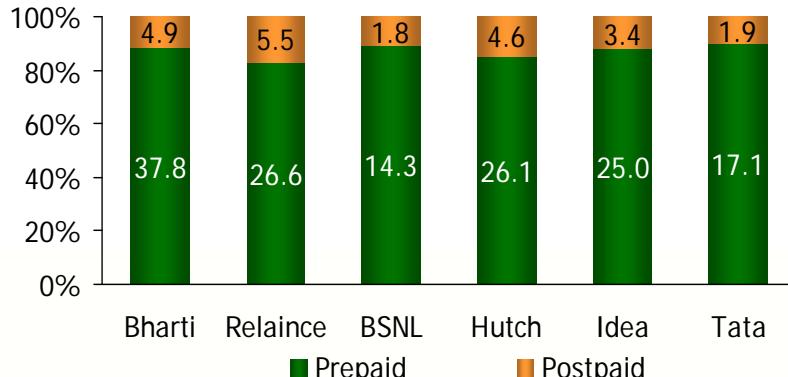


- Unlike more developed countries, prepaid comprises 85% of GSM subs & 87% of CDMA subs
 - As recently as 2005, prepaid only accounted for 76% of subs
 - This shift is driven by the nearly 95% of net new subs being prepaid
- With the focus of telco expansion moving to tier II & III cities, A & B Circles are now contributing the highest prepaid net new additions

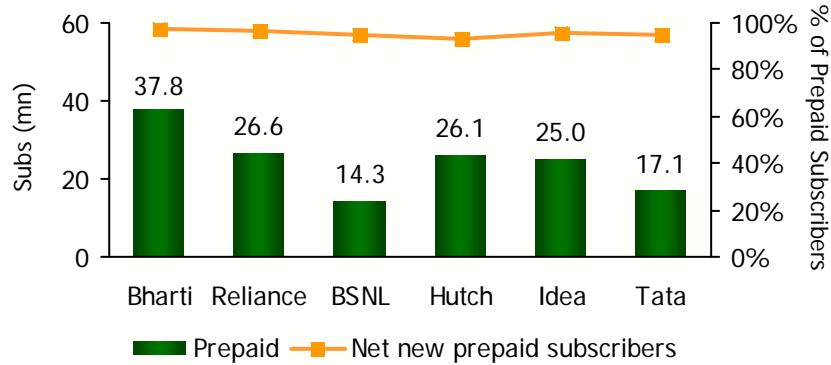


- Given prepaid will continue to increase to above 90% of total subs, telcos and VAS providers need to be aware of how to provide solutions for this market

Prepaid/Postpaid Subs Breakup (July 07)



Prepaid as % of Net New Adds (July 07)



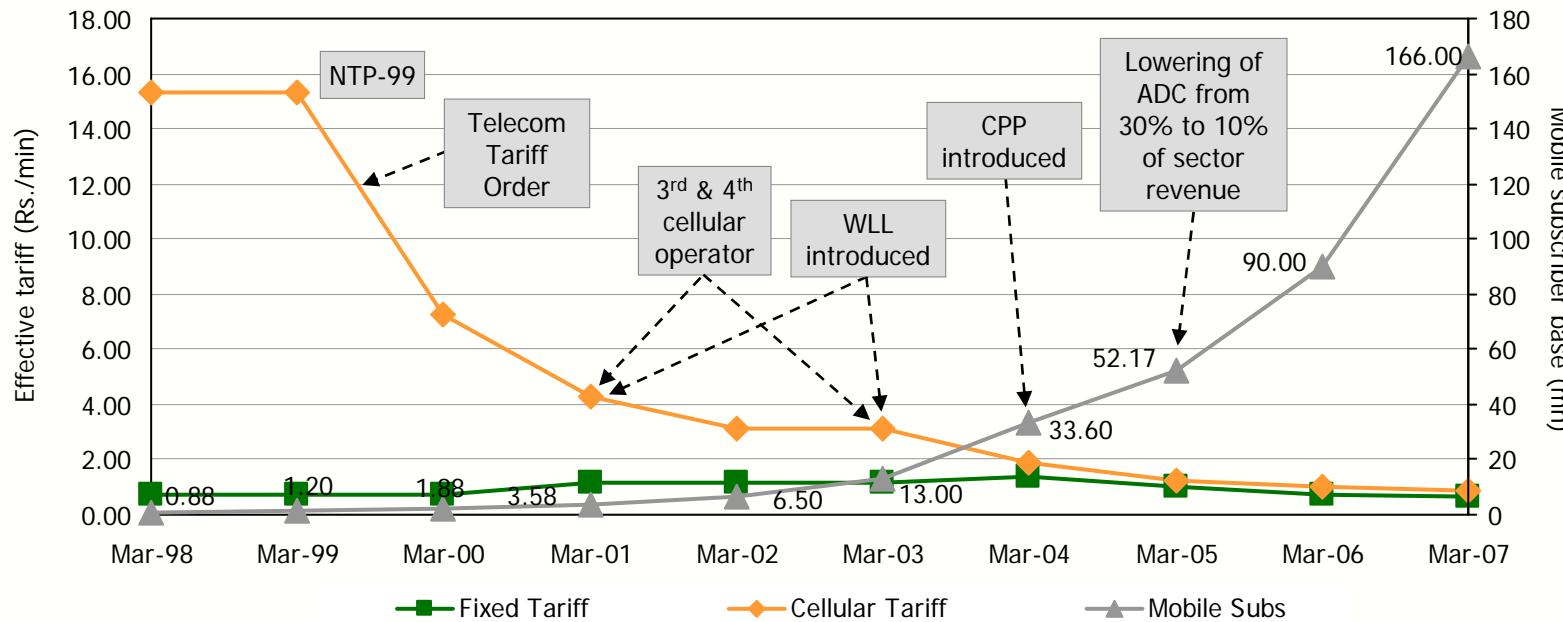


Fall in Tariff

Low penetration &
6 – 7 operators per
circle

- Operator focus on growing the pie versus eating each other's share has resulted in better tariffs for consumers
 - Innovative tariff plans
 - Lower cost per call with more users in the network

Decline in Tariff





1

New Players

- TRAI recommended no cap on number of operators in each circle
- Combined with a leniency in M&A, this has lead to over 500 license applications (equivalent to 22 PAN India operators), including from companies with no telecom experience but wanting to capitalize on the boom
- Even if 2 – 3 new players are allowed in each circle, this will increase competition which would significantly effect operator strategy and potentially pricing, as well



2

Dual Technology

- CDMA players being allowed to provide GSM operations and vice versa is equivalent to having new players entering the market, again increasing competition



3

Mobile Number Portability (MNP)

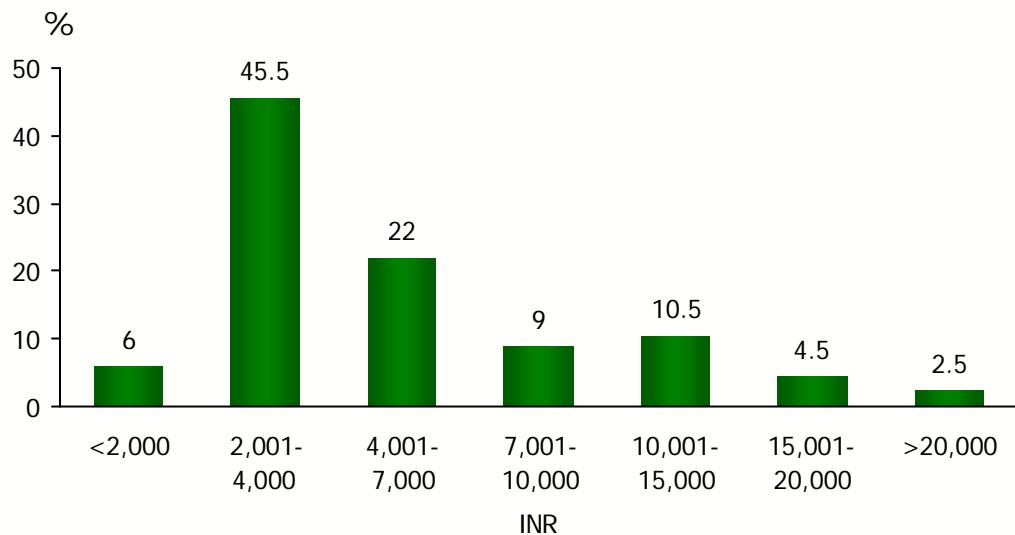
- In a cost conscious market with high number of prepaid users and no commitment with the operator, it is likely that the operators would reduce price to keep their customers and lure others





- Within one month of its launch in June 2007, Reliance Classic series ranging from INR 777 (USD 19) – INR 2,049 (USD 51) sold over 1 mn handsets
- Nokia and Motorola have launched several low-cost models with functions and features specifically designed for the India market like Motofone and Nokia 1110

Users in Different Handset Price Brackets (June 2006)



Note: USD = INR 40 today, but was 45 in 2006

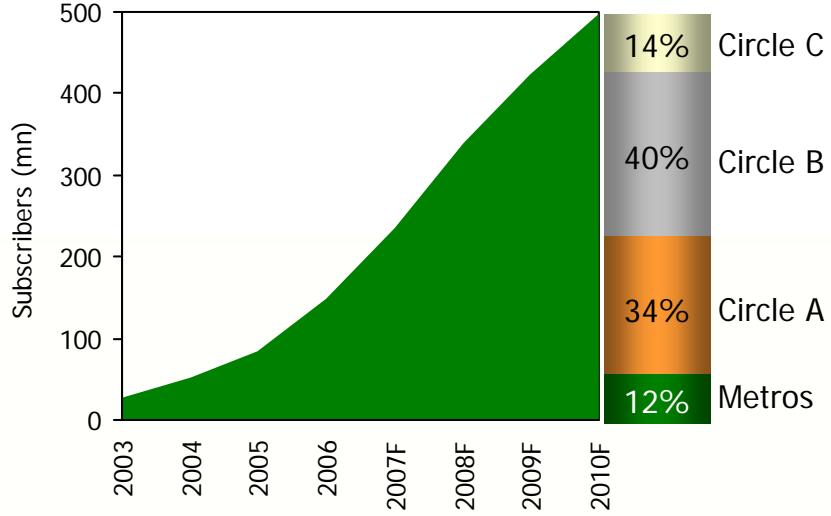


Increasing affordability levels from innovation in entry-level handsets and call tariffs will continue to drive growth



- With the decline in tariff and handset price, affordability will increase substantially, independent of increasing incomes
- By the end of 2010, we estimate that the mobile teledensity will be almost 44% with 497 mn subscribers
- Majority of subscribers will come from semi-urban and rural areas, fuelled by operator expansion on their own and with support from government

Wireless Subs Projections and Distribution by Circle

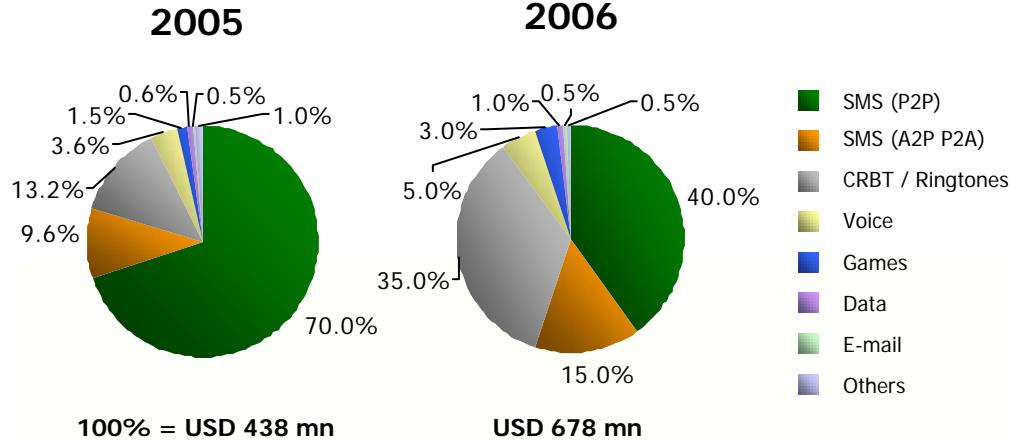




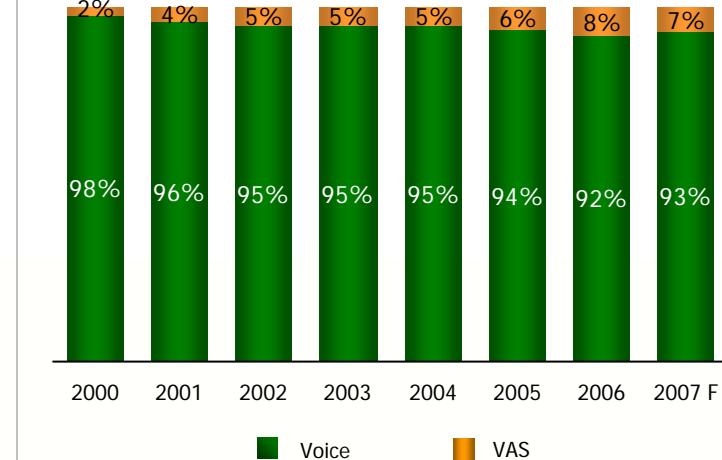
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VAS Performance



Data and Voice Breakup



- VAS services presently contribute about 7% of the total telecom revenue for Indian operators
- The mobile VAS industry in India is estimated at USD 679 mn at the end of 2006 and is estimated to grow to touch USD 926 mn at the end of 2007
- Non voice revenues have been increasing since 2000. The revenue growth is driven by SMS (including P2P, A2P, P2A), contributing over 55% of the total revenues in 2006
- Over the last three years the % share of revenues coming from SMS is on a decline as other services gain
- SMS, Ringtones/CRBT, Voice VAS will continue to be the highest revenue generating services

The vast offerings across VAS services are still delivered predominantly using 3 platforms of SMS, IVR's and WAP portals



Delivery Platforms	Entertainment	Alerts and News	Commerce	Social VAS	Enterprise VAS
SMS	<ul style="list-style-type: none"> • SMS • Ringtones / CBRT • Customized Wallpapers • Animations • Quiz • Jokes 	<ul style="list-style-type: none"> • Cricket / Match Alerts • News • Astrology, Vaastu, Fengshui, Personality test • Banking Info /Alerts • Travel alerts details like Train, Flight details etc 	<ul style="list-style-type: none"> • Mobile banking • Ticketing • Travel and Holiday bookings 	<ul style="list-style-type: none"> • Location, infotainment Search ** • Advertising 	<ul style="list-style-type: none"> • Pull on Short Code for contests, voting, information • Push for Advertising • LBS systems • Enterprise IM • Group messaging
IVRs	<ul style="list-style-type: none"> • Religious chants • Music on Demand 	<ul style="list-style-type: none"> • Astrology • Vaastu • Fengshui • Personality test 	<ul style="list-style-type: none"> • Mobile banking • Ticketing 	<ul style="list-style-type: none"> • Astrology services • Voice SMS 	<ul style="list-style-type: none"> • IVR based Contact Centers • Self Help centers • Voice Portals
WAP Portals	<ul style="list-style-type: none"> • Video Clips • Mobile Games • Mobile Themes • Mobile Radio 	<ul style="list-style-type: none"> • Movies related info • Stock Portfolio Managers • News tickers / alerts 	<ul style="list-style-type: none"> • Mobile banking • Ticketing • Travel and Holiday bookings 	<ul style="list-style-type: none"> • Mail • Mobile-Greetings • Dating, Chatting, Blogging etc • Infotainment • SNC / UGC • Internet Search ** Advertising • Messenger 	<ul style="list-style-type: none"> • Location based information • Internet Mobile e-mail • Mobile calendar • Access to Intranet and Core Business Applications • Mobile VPN • Push E-mail over handheld devices (e.g. BlackBerry) / Wireless e-mail

** NEW



• Growth

- SMS growth was direct result of high outgoing tariff during non-CPP (calling party pays) days
- SMS were priced substantially below call tariffs
- Even after voice tariffs have fallen and in some cases local calls have become cheaper than an SMS, growth trend has continued

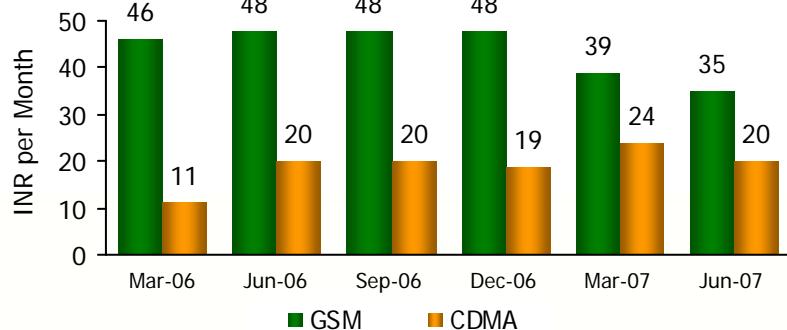
• Volume

- Large number of first time mobile users lead to decline in per capita SMS consumption
- TRAI recommendation (implementation in May 07) to move from 4 digit to 5 digit short code has lead to 15 – 20% revenue decline in SMS VAS over 2 quarters
- Volumes will however continue to grow as P2P drives volumes on account of discounted SMS bundles offered by all operators in the mid term

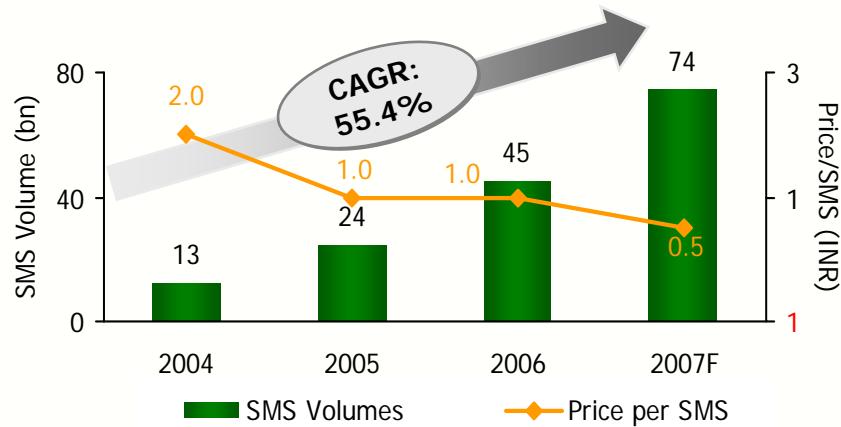
• Pricings

- SMS price range for postpaid has always been lower than prepaid. Rates are INR 1-2 for local, INR 2-4 for domestic, INR 5-10 for International and INR 3-6 for premium SMSs
- On an average prices will continue to remain stable in short term, but innovation and pull services with various utility applications and new services (like SMS 2.0 from Affle or SMS gupshup from Webaroo) will drive future volumes and revenues

Trends in all India Outgoing SMS per Subscriber



Volume and Price of SMS



SMS has offered a new lease of life to TV by making one way broadcasts an interactive medium through contests and voting



SMS Based Contests

- FY '06-07 saw SMS marketing and contests reaching new heights. P2A (person to application) and A2P (application to person) SMS services gained popularity, driven by voting based TV shows
- The SMS based contests have been targeting varied age groups through a variety of products
 - Indian Idol → Youth
 - Kelloggs → Housewives and Children
 - Cricket Predict & Win → Mass Market
- Two finalists of Indian Idol 3 drew a combined tally of 70 mn SMS votes in the final 9 days of Sept 14 – 23. At an avg cost of INR 3, the revenue generated reached around INR 21 crore (USD 5.25 mn). The volume averages to
 - 320,000 SMS per hour
 - 5,400 SMS per minute
 - 90 SMS per second
- Kelloggs India tied up with Mobile2Win to promote its Chocos brand targeted at kids in the age group 4-11 years. The contest, called "Rescue chocos from Crafty Croc", was available by solving a crossword puzzle on the back of Kellogg's Chocos packs, and then SMS'ing the correct answer to 8558
- With more niche TV programming being introduced this segment of VAS is bound to have positive impact on the SMS volumes

Indian Idol Thursday - Saturday 9 p.m.

Bharat ki shaan | Home | Videos | Community | Images | Contestants | Recap | Contest | Prashant is the new Indian Idol! | Amit is awarded a Maruti

We will be best friends forever

Prashant crowned the new Indian Idol

After much suspense, John Abraham declared that Prashant Tamang had won the battle. An ecstatic Prashant hugged his parents & thanked the Kolkata Police, judges and his fans as he accepted the prize—a one-crore music contract and a Maruti SX car. Amit, who lost the title, was also gifted a Maruti car. Congratulations to both heroes!

Idol in the News: Prashant felicitated by Kolkata Police | Radio Jockey's comment on Prashant singing now | We will be friends: Prashant Amit

In the news | Messages | Top 40 videos

INDIAN IDOL POLL

Who is your favourite Indian Idol?

Abhijeet Sawant
 Sandeep Acharya
 Prashant Tamang
 None
[Vote](#)

Nepalis dance in celebration, Meghalaya weeps, the PM enjoys the show on TV. [Find out myriad responses to these messages!](#) Post your question! [Post your question!](#)

You are great. Keep going and keep rocking. God is with you. [Barun Read more messages!](#) Post your question! [Post your question!](#)

There has been excitement and tears on the show. And fans picked the moments they loved the most. Here are



Express Yourself

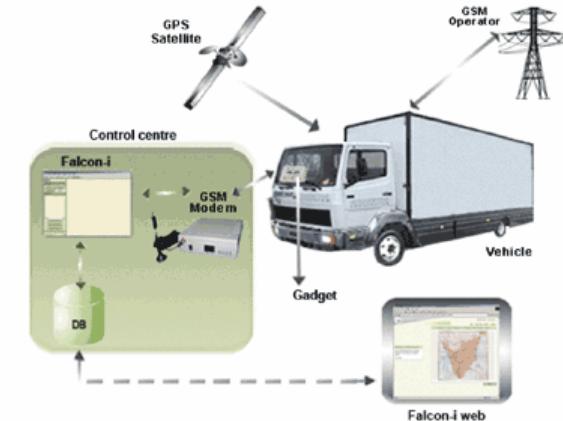
Airtel sets up India's largest televoting backbone on Enterprise Linux

SMS servers handle millions of messages generated by viewers of popular reality TV shows - *Kaun Banega Crorepati* & *Indian Idol*



SMS Based Services

- Reasons for enterprises to use SMS
 - Instantaneous delivery & does not rely on recipient to retrieve from a server
 - Reliable means of getting time-sensitive messages to recipients, including automated delivery acknowledgement
 - Compatible across all users and handsets
- SMS-based mobile data services are being used by several forward-looking enterprises for the following applications
 - Asset / Automatic vehicle tracking when integrated with GPS
 - Fleet dispatch
 - Inventory management
 - Utility services (metering by electricity boards)
- Interactions on SMS are typically of the following types
 - Request: Authorized users can request internal company information, i.e., company phone list, stock/ warehouse, latest prices, internal news, customer facts. Services are used by internal customers (employees), extended customers (vendors, partners) and end-customers
 - Group transmission: Users can send messages to a group of people at the same time (i.e., employees, customers, etc). Messages can be identical for everyone in the group (a broadcast) or individualized (a narrowcast with each person getting a different message)
 - Push/Notification Services: Users can create automated event or scheduled alerts, e.g., generate a request every morning at 8 am for revenue of the previous day or stock status



All messages sent to 67673434. Start your GupShup group now!



Beyond SMS, any VAS built around Bollywood* remains the killer content, whether for ringtones, CRBT, games, wallpapers, alerts etc



- Indian film industry produces more than 1,000 movies a year and attracts nearly 1.6 bn viewers
- Approximately 5+ bn tickets, 12,900 cinema halls and the reach has moved beyond India's boundaries to Non resident Indians across US, UK, South Asia, Middle-East, Africa and Europe
- Satellite television, radio, internet, and mobile has helped cinema reach out to a larger audience
- Industry revenues from Box-office declined to 84% of the total revenues in 2006 (from 90% in 2005) due to the emergence of new channels and increasing touch points to access film content, penetration of home video, Internet media and mobile

- Nokia & Om Shanti Om (OSO), the season's largest movie release, partnered for exclusive offerings including
 - OSO movie clips, behind the scenes videos, ringtones and wallpapers
 - A special 'OSO Crazy mobisode' with animated characters of 'OM' (played by Shah Rukh Khan) accessible on all Nokia GPRS enabled handsets through a special site created for the partnership
- Sony Pictures in association with Sony Ericsson followed similar strategy to promote another mega release for the season Saawariya and other film content on mobile
- Today, approx 60% of mobile content downloaded in South India is in local languages

* We have used "Bollywood" to represent the entire Indian film & music industry including the regional components of the industry

After movies, cricket is the theme around which most of the rest of content is built and marketed, as these remain the top two priorities for entertainment in India



- Almost all operators with content service provider offer cricket news, views and promotions
- Companies like Reliance, Airtel and Vodafone continue to build their communication strategy around being the lead sponsor of major cricketing events

- Reliance was one of the primary sponsors of the recently conducted T20 World Championship, the only Indian company amongst the group
- Airtel is one of the key sponsors of the much hyped India – Pakistan cricket series
- Most of the telecom companies use media space during matches to promote their products and services including content like match scores on mobile and ball by ball updates
- Contests like predict and win, make your own team and similar promotions are run using Pull SMS services by media companies and advertisers
- All game developers have specific downloadable mobile cricket games and games using cricket stars as the hero
- Airtel has also been sponsoring cricket reality shows searching for budding talent e.g. Cricket Star

Reliance Mobile-Dhanadhan Pack India Ka Cricket^{new}



- Music claims one of the largest share of India's mobile VAS market size, estimated to be worth about USD 324 mn (35%) including CRBT and ringtones as the major applications
- Operators are aggressively building their mobile music brands by promoting nationwide uniform mobile music portals and launching marketing campaigns
 - Airtel's music portfolio is over 50,000 complete tracks, ring tones, ring-back tones and corporate jingles
 - Introduction of music discovery services like Airtel's Song Catcher created further ease of use, packaging, and flexible pricing for effective product differentiation
 - Hutch (Now Vodafone) introduced "Full Song Download" and announced the music premier of "Krrish" through this service
 - Hutch (Now Vodafone) & Idea introduced ease of use for CRBT by allowing users to copy another user's CRBT by pressing * while listening to it

A collage of screenshots from mobile websites for Airtel and Hutch. The top left shows an Airtel advertisement for "Easy Music" with two people dancing. The top right shows a Hutch advertisement for "full songs" featuring a person in a dark suit. The bottom section shows the Airtel website homepage with a large banner for "Song Catcher" and a "Hello Tune" offer. The Hutch website is partially visible on the right.



IVR

- One of the most popular TV reality shows in India, "Kaun Banega Crorepati" (Indian adoption of "Who Wants to be a Millionaire") required aspirants to audition using an IVR system
 - More than 1,000 call center lines were deployed across four metros to handle huge call traffic
 - The multilingual call center was able to respond to the caller's preference
 - The system also handled inquiries on marketing information, recording complaints and claim inquiries
 - Call Volumes & Charges



Niche Applications

- Stock market alerts
- SMS based instant messengers
- Social networking on mobile
- Group SMSing
- Commodity pricing on SMS
- Examination results over SMS (NCERT and other state education boards offer these services)
- SMS based movie ticketing (e.g. Fame Cinemas, PVR Cinemas)

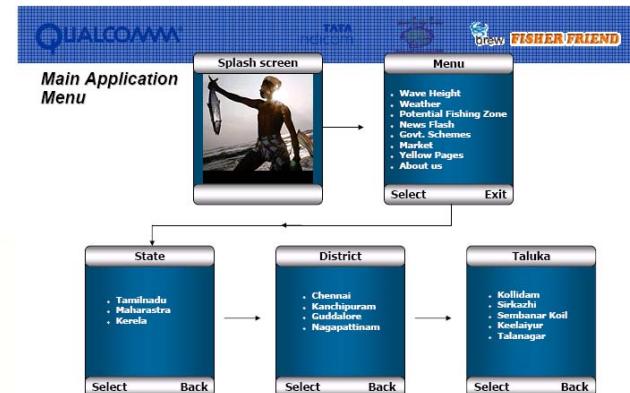


Rural applications development initiatives have started on a small scale, but are likely to offer some innovation for day to day use in less developed geographies



Fisher Friend

- Fisher Friend is a mobile application being piloted in South India
 - Vital real-time information to fishing communities when and where they need it the most – at mid-sea
 - Information includes when and where to sell the fish through access to market prices, weather (e.g. sea wave heights, satellite scan data about fish shoals), government schemes, etc.
 - Access to this data could drastically improve market transparency and thus earning capabilities for smaller fishermen
- A joint initiative of Qualcomm India, TATA Indicom, Astute and MSSRF



Reliance Developer Programme

- Reliance Developer Programme of Reliance Communications has launched the Rural Mobile Application Contest, 2007-08 to encourage mobile application development in the country
 - Focus will be on rural applications for transportation, mCommerce, health care services, governance, education, information and location based services
 - Applications can be submitted for WAP, Java, Reliance Java, Brew, Brew Lite, VoxML and Symbian environments on both GSM and CDMA technology
 - Contest is open to all Software professionals, Software Developers, Companies, Students, self employed professionals and Content Vendors/ Aggregators
 - Cash prizes & an opportunity to commercially launch applications is available

The screenshot shows the Reliance Developer Programme website. At the top, there's a quote by Shri Dhirubhai Ambani: "Between my past, the present and the future, there is one thing that remains constant - the need. This is the foundation of our growth." Below the quote, the Reliance Communications logo is visible. The main navigation menu includes Home, Reliance Mobile World, News and Press, and Reliance Communications. On the left, there's a login form for Username and Password, and links for New User and Forgot password. A sidebar on the left lists links for About Reliance Developer Programme, Registration, Technologies, Developer forum, Submissions, Events, University Relations Programme, Success Stories, Newsletter, and Self-testing Tools. On the right, there's a section titled 'University Relations Programme' which describes the programme's aim to provide a platform for students to develop innovative ideas into workable mobile products. There's also a 'Photo Gallery' link.

Other Rural Applications

- IVR applications in regional dialects for rural market
- Mandi bhav – commodity pricing information on mobile
- Thematic packaging of regional content
- Regional mobile radio

User segments for VAS services can be viewed along 6 groups



CXO Level Users A photograph of a man in a dark suit jacket, orange shirt, and striped tie, looking down at a mobile device in his hands.	Young Professionals A close-up photograph showing a hand holding a pen and writing in a white notebook, with a striped tie visible in the background.	SME/ SOHO Users A photograph of a man in a light-colored shirt and dark jacket, smiling and holding a telephone receiver to his ear.
Mobile Workforce A photograph of a person in a suit jacket holding a silver smartphone, looking at its screen.	Youth/ Young Professionals A photograph of a young man and woman sitting at a desk, smiling and looking at a laptop computer together.	Family A group photograph of a family consisting of adults and children.

However the needs and buying behavior varies based on whether services and devices are company or self paid



CXO Level Users	Young Professionals	SME/ SOHO Users
A man in a dark jacket and orange shirt, looking at a smartphone.	A close-up of a striped tie and hands writing in a notebook.	A man in a suit holding a smartphone and smiling.
<ul style="list-style-type: none">Need devices and applications that can reduce decision making timeNeed to be connected alwaysNot highly tech savvy and hence might require ease of use and high level of uptimes for the deviceNeed less complex devices	<ul style="list-style-type: none">Mostly mid level executivesHighly tech savvy and ready to spend on gizmos and new devicesMostly early adopters	<ul style="list-style-type: none">A smaller section is very tech savvy and a large proportion is still technology challengedDemand good price value combinationNeed low cost of entry as mostly pay themselvesNeed single devices for both voice and data services as they don't want to duplicate investments
Mobile Workforce	Youth/ Young Professionals	Family
A person in a suit using a smartphone.	A young couple looking at a laptop together.	A group of people, including children, posing together.
<ul style="list-style-type: none">Always on the move, hence need to access core enterprise applications on handheldsTypically these users are "forced" users under directive from management initially, but realize value as it improves productivity	<ul style="list-style-type: none">Early AdoptersHeavier users of technologyEntertainment focusAffinity for social networking and peer communicationIndividual content creators	<ul style="list-style-type: none">Basic communications needsEntertainment focusedSocializing within family and friendsNeed education / support for new service adoption



Key Drivers

- The growing telecom subscribers in India and the continuous record additions of >7 mn per month
- Access to VAS services are becoming cheaper with plethora of compatible handsets available in the market
- Subscribers are using their handsets to
 - Play games
 - Download ring tones
 - Read news headlines
 - Surf the Internet
 - Services such as access information from banks, railways and airlines
 - Check exam results
 - Participate in contests, etc.
- Mobile VAS is offered on multiple platforms like SMS, voice and Wireless Application Protocol (WAP) enabled services etc which increases its reach substantially
- Market size of VAS industry has been estimated at about USD 993 mn (INR 3,990 cr) at EOY 07
- VAS market is poised to grow by more than 35% & generate sales of more than USD 1,250 mn (INR 5,001 cr) by EOY 08
- Investment in VAS companies have been typically USD 10 – 15 mn in the most recent rounds, and less than USD 5 mn for start-ups, which is considerably lower than what would be required in other telecom segments such as networks, towers, etc.



An advertisement for mChek showing a hand holding a mobile phone displaying a payment screen for Airtel. The text on the screen reads: "Pay: AIRTEL", "Rs. 500.00", "Enter mChekPIN", and "OK". Above the phone, the mChek logo is displayed with the tagline "SAFE · SMART · SIMPLE". Below the phone, the text reads: "Just pay your Airtel bill for October and November 2007".

An advertisement for Webbaroo featuring a cartoon illustration of a group of diverse people. One person in the foreground is holding a smartphone. The text "Free Group SMS" is prominently displayed above them. Other text includes "SMS GupShup", "JOIN Stay in touch with your friends or follow news, sports, stocks and more...", "Find Find a group", and "Latest GupShup". The Webbaroo logo is in the top right corner.

The volume of investments across all VAS sectors with amounts as high as USD 15 mn demonstrates the untapped opportunities (1/3)



Date	Company	Round	Investors	Investment (USD mn)	Comments
Nov-07	^{beta}	1	Draper Fisher Jurvetson and NEA-IndoUS Ventures	2	<ul style="list-style-type: none"> Provides mobile advertising services Use funds to grow business, ramp up technology stack, marketing & sales force
Nov-07	 SAFE - SMART - SIMPLE	2	N/A	N/A	<ul style="list-style-type: none"> Enables users to manage credit/debit cards with mobile phones for over-the-counter, Internet & person-to-person payments Raised funds from Draper Fisher Jurvetson & Rajesh Jain in 1st round; Planning to raise USD 5-15 mn in total for 2nd Targeting four verticals - Bill payment, Internet shopping, Merchant Transactions & P2P payments
Oct-07	 Seamless Mobile Solutions	1	Ike Lee (venture partner at Ignition Partners), Ruderman Capital	1	<ul style="list-style-type: none"> Plans to become a value added services player for telecom and media companies Plans to raise a total of USD 3 mn to fund its expansion activities
Oct-07		4	Qualcomm Ventures, Eastven & Erasmic Venture Fund	N/A	<ul style="list-style-type: none"> Voice SMS company; planning to raise USD 5-15 mn Initially raised USD 10 mn in its 3rd round of funding from Helion and Nexus India Capital
Oct-07		1	Promethean Investments - USD 5 mn	10	<ul style="list-style-type: none"> Obopay India yet to launch services Obopay US is a mobile payment service that lets users send & receive money from any of the 200+ million mobile phones in the US
Sep-07	 The Internet on Frieses	2	N/A	2	<ul style="list-style-type: none"> Recent application MeOnGo enables push email on internet supporting mobile devices Subs base of 20,000+ individual & enterprise users in 100+ countries

The volume of investments across all VAS sectors with amounts as high as USD 15 mn demonstrates the untapped opportunities (2/3)



Date	Company	Round	Investors	Investment (USD mn)	Comments
Aug-07	MapmyIndia maps. directions. local	2	Nexus India Capital	2.5	<ul style="list-style-type: none"> Powers Yahoo Maps, and has also tied up with Wayfinder and Airtel for GPS Provides business solutions like storelocator and GPS based tracking
Jul-07	aCL	2	MIH India (Unit of South African media conglomerate Naspers)	12.3	<ul style="list-style-type: none"> 20% stake in ACL Wireless Focus on developing mobile applications such as mobile community services
Jul-07	RockeTalk Create Communicate Publish	1	iSherpa Ventures, EDF Ventures and Mission Ventures	7.1	<ul style="list-style-type: none"> Founded in Nov 2004 Rocketalk combines video, pics, voice and SMS into one client, and can be used to send messages to any other phone (with the same client) or online (and uploaded to sites like YouTube).
Apr-07	Nazara	2	N/A	7-8	<ul style="list-style-type: none"> Exclusively licenses well known brands like Sachin Tendulkar, Sehwag, Dhoni & Archie Comics, etc. & develops mobile content based on these brands Had earlier raised USD 1.5 mn from Sequoia Capital India
Apr-07	one97 Let's get talking!	1	SAIF Partners & Silicon Valley Bank	8-10	<ul style="list-style-type: none"> Provides telecom VAS to enterprises & consumers, and also powers IVR services of corporates Probably one of the two VAS companies (the other being OnMobile) that owns servers at the telco's premises

The volume of investments across all VAS sectors with amounts as high as USD 15 mn demonstrates the untapped opportunities (3/3)

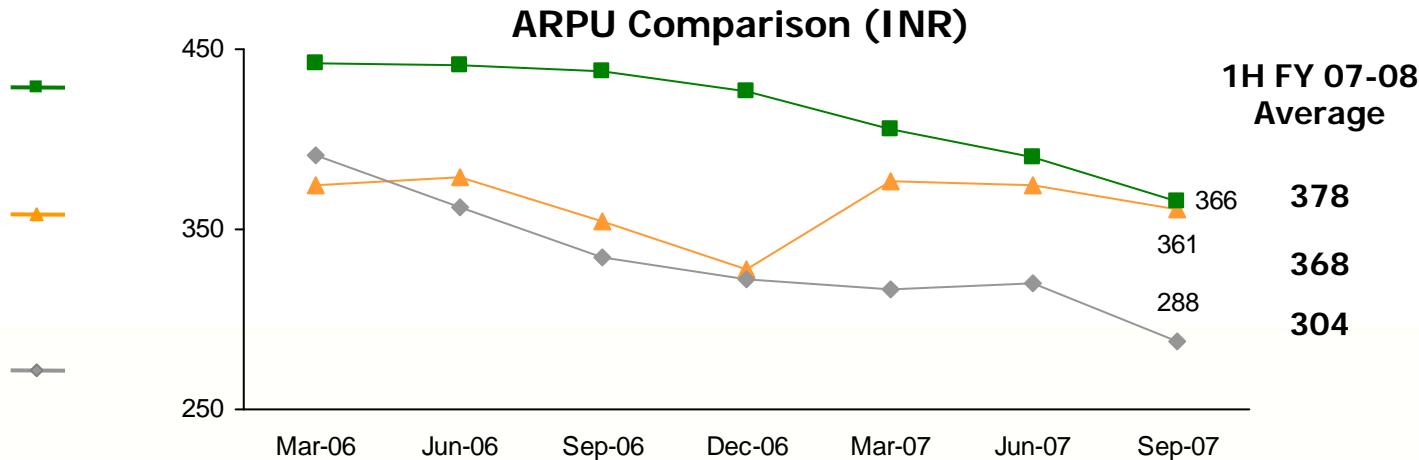
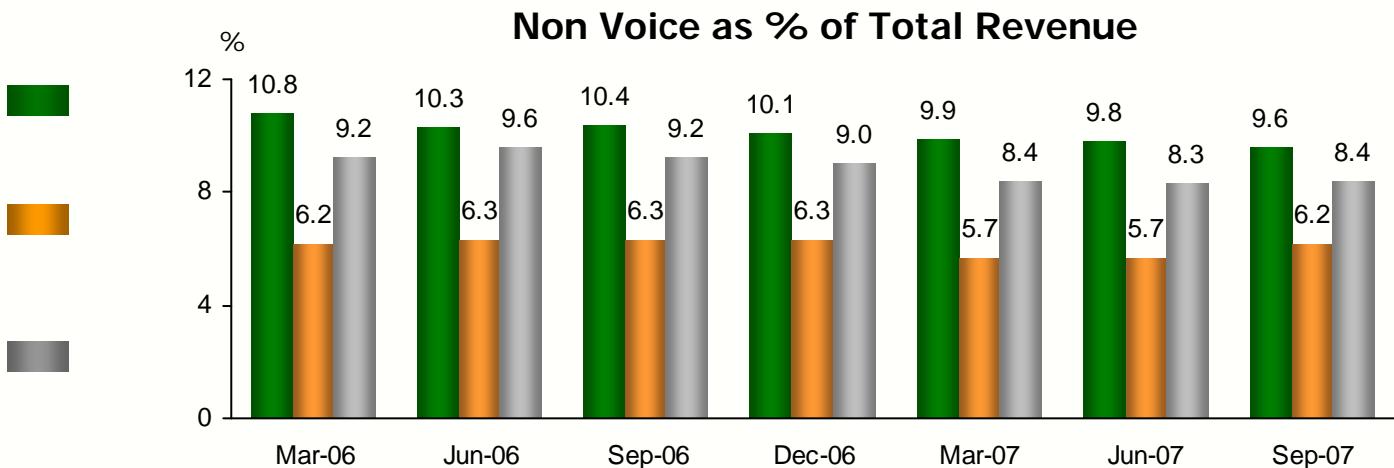


Date	Company	Round	Investors	Investment (USD mn)	Comments
Mar-07	MOBIFUSION	1	Emeric Ventures, Ingram Digital, Global Asia Partners & an unnamed Indian telco	3.1	<ul style="list-style-type: none"> Founded in 2005 Mobifusion has a wide variety of mobile content and applications suitable for the global market
Mar-07	MOVED SYSTEMS	2	N/A	1	<ul style="list-style-type: none"> Deployed m-CRM and m-coupons initiatives, and plans to enable money transfer from ATM to mobile and video streaming Received USD 1 mn in seed funding last year from General Electric, IBM, FeatherLite
Jan-07	Q TECH	1	California and Hong Kong-based venture groups	2.5	<ul style="list-style-type: none"> Product called reQall allows users to instantly record voice notes using mobile devices. The software then recognizes the speech and organizes the recording which are searchable using keywords, and reminders can be set (and uploaded to sites like YouTube).
Dec-06	web aroo Your Web To Go	2	Cambrian Fund of California, Lloyd George Asian Plus Fund of Hong Kong and HTSG of Mauritius	7.5	<ul style="list-style-type: none"> Webaroo is a technology startup company with offices in the U.S. and India
Dec-06	spice MOBILE VAS	1	Lehman Brothers	15	<ul style="list-style-type: none"> Offers mobile content like ring tones, games and other content applications, besides enterprise telecom solutions Looking at acquiring companies in the content space, especially mobile gaming companies



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Data services revenues are declining as operators focus on expansion and new subscriber acquisition

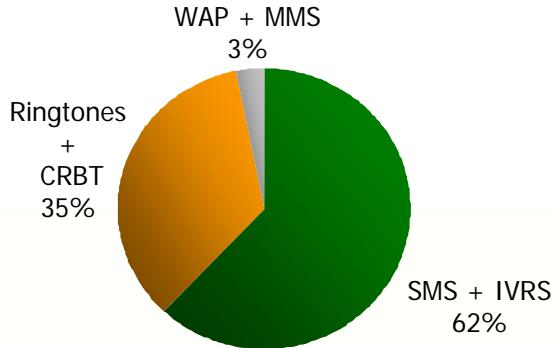
**Airtel****RELIANCE Communications**
Anil Dhirubhai Ambani Group**Idea****Airtel****RELIANCE Communications**
Anil Dhirubhai Ambani Group**Idea**

Due to declining contribution from VAS, Airtel is now undergoing a shift in its marketing strategy to promote VAS offerings based on segmentation of its subscribers



Airtel

W-VAS Revenue Breakdown in 2006FY



Strategy

- Leverage PAN India presence to offer Single window solutions including Fixed, Mobile, VSAT etc.
- Leverage past relationships, roaming and international reach for data services like BlackBerry
- Use first mover advantage by focusing on introducing innovation
- Bundling applications is the major focus, as no new bundled handheld is approved unless it has some exclusive preloaded applications
 - Key criterion include: push mail, scalability to support high end applications, exclusivity for a defined time period to leverage first mover advantage, and complement to leadership image

Segmentation

- Faced with diminishing marginal returns on voice revenues, Airtel has abandoned a 'one-size-fits-all' demographic segmentation and has reorganized users into different segments based on attitude, adoption of value added services and revenues generated per user

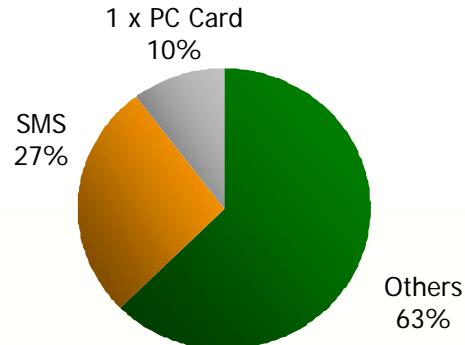
Approach

- Airtel will focus most of its activities on a group they've defined as the **Funsters**, a group 18-35 years old, but with a common trait: a high adoption of VAS
 - This group accounts for VAS spending of INR 100 (USD 2.5) per month and sends on an average 300 – 400 messages a month. Airtel believes that with some targeted marketing, spending can be pushed to INR 250 (USD 6.25)
 - Has revamped its WAP portal and is expected to relaunch it soon
 - Exclusive tie-up with apps provider like Google
 - Have identified music on demand as a key value proposition and is offering subscription to 30 minutes of music for INR 30 (USD 0.75), which users can download and listen to for a month
- Top 5% of users are defined as the **Achievers**. This segment isn't a high adopter of VAS, but contributes to revenues nearly 10X that of Airtel's ARPU, currently at INR 399 (USD 10)
 - To enhance customer experience for this segment, Airtel has separate priority relationship managers and will additionally rollout further service-based segmentation based on usage behavior
 - They have also partnered with HTC and Blackberry for the high-end handsets catering specifically to this segment



RELIANCE
Communications
And Bharat Sanchar Nigam Limited

W-VAS Revenue Breakdown in July,07



Strategy

- Walled Garden, click & browse

Network:

- High Bandwidth CDMA 2000 1x
- Tightly integrated data network
- Intelligent platform (Reliance Application Platform)

Handsets: (appx USD 100 – 500)

- One click access
- Java / BREW, MMS, WAP etc.
- Special Memory Management and DRM enabled
- Video streaming & multimedia capabilities

Content & Developer Alliances

Approach

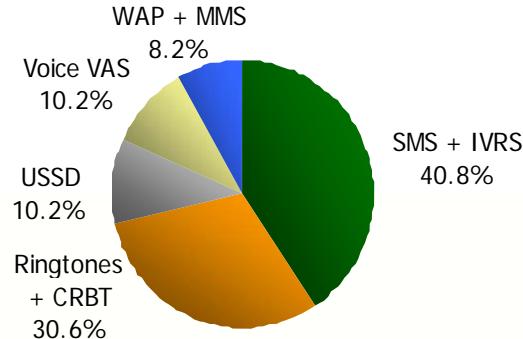
- Reliance has been aggressively promoting CDMA 1x data cards for business users
- Reliance has created an ecosystem where external developers can contribute to increasing the application portfolio of the carrier
- Bundle applications with connectivity for SME / SOHO
- By offering wireless data connectivity for POS terminals and ATMs, Reliance has established a strong image in dealing with BFSI and Retail enterprise customers
- Reliance became the first CDMA player in India to launch BlackBerry, and the first in India to launch BlackBerry 8830, which provides inter-operability on both CDMA and GSM networks.
Strategy will focus on following areas
 - Applications over and above e-mail
 - Offering pan India coverage and distribution
 - Focus on SME/SOHO segment

Wireless Data Performance

- Bundling program with laptops has helped push data card sales very aggressively, over 100,000 units sold in the last 2 years
- Wireless data was dominant with 4.6% of revenues, while SMS was only 1.4% of total revenues
- Has over 8.1 mn Wireless Multimedia users as of Sep 2006 with Wireless Internet Users growing at a rate of 15% QoQ



W-VAS Revenue Breakdown in July,07



Strategy

- Will push VAS to small towns through prepaid content "Fun Cards" which it expects would boost usage as it offers a simple SMS based method to activate and enjoy the service
- Vodafone was the first operator to abandon a walled garden approach and has seen significant benefits from the same
 - 60% of traffic is now generated through its open strategy
- Our estimates indicate that 30% of Vodafone's subscriber base owns GPRS enabled handsets of which 12% have activated GPRS but only 2-3% of them are downloading content
- In order to further accelerate GPRS activations, Vodafone is believed to be testing a solution for Automatic Device Configuration for pushing GPRS settings on a subscribers handset as soon as a SIM is activated

Approach

- Undertook most expensive rebranding and repositioning exercise undertaken by a mobile operator in India in Sept'07 and plans to spend INR 300 crore (USD 75 mn) for FY 07-08
- Using localized mediums such as Point of Purchase and FM radio to promote regional content
- Aggressively marketing Microsoft's Live search
- Has been pushing VAS awareness among Tier1-2 cities through road shows, marketing events and contests

Wireless Data Performance

- Over 60% of VAS revenues for Vodafone are from Non-SMS based services
- Vodafone commands 30% CRBT penetration, the highest amongst all GSM operators

Idea, BSNL largely focus on traditional VAS, however TATA's are actively promoting VAS over the last few months



IDEA Strategy

- Focus on Telemetry and Telematics solutions over and above the usual bouquet of services
- New focus area is push mail services for high-end users
- Idea has been able to leverage its excess data capacity on its network to create new revenue streams by offering differentiated services at higher prices than they could charge for standard mobile offerings



Tata Teleservices Strategy

- Follows a very similar strategy and bouquet of services as Reliance
- Even though one of the last operators to focus on VAS services, recently it has upped its marketing in this area with good results and uptake
- Handset bundling with preloaded features at affordable price is the way forward to increase revenues from VAS
 - Phone with mobile browser "Samsung Explore"
 - Low cost web browser phone at INR 1,799 (USD 45)
 - Launch of high-end Moto-Q Windows Mobile phone
 - Search functionality on phones, Mobile radio
 - USB based data cards



BHARAT SANCHAR NIGAM LTD

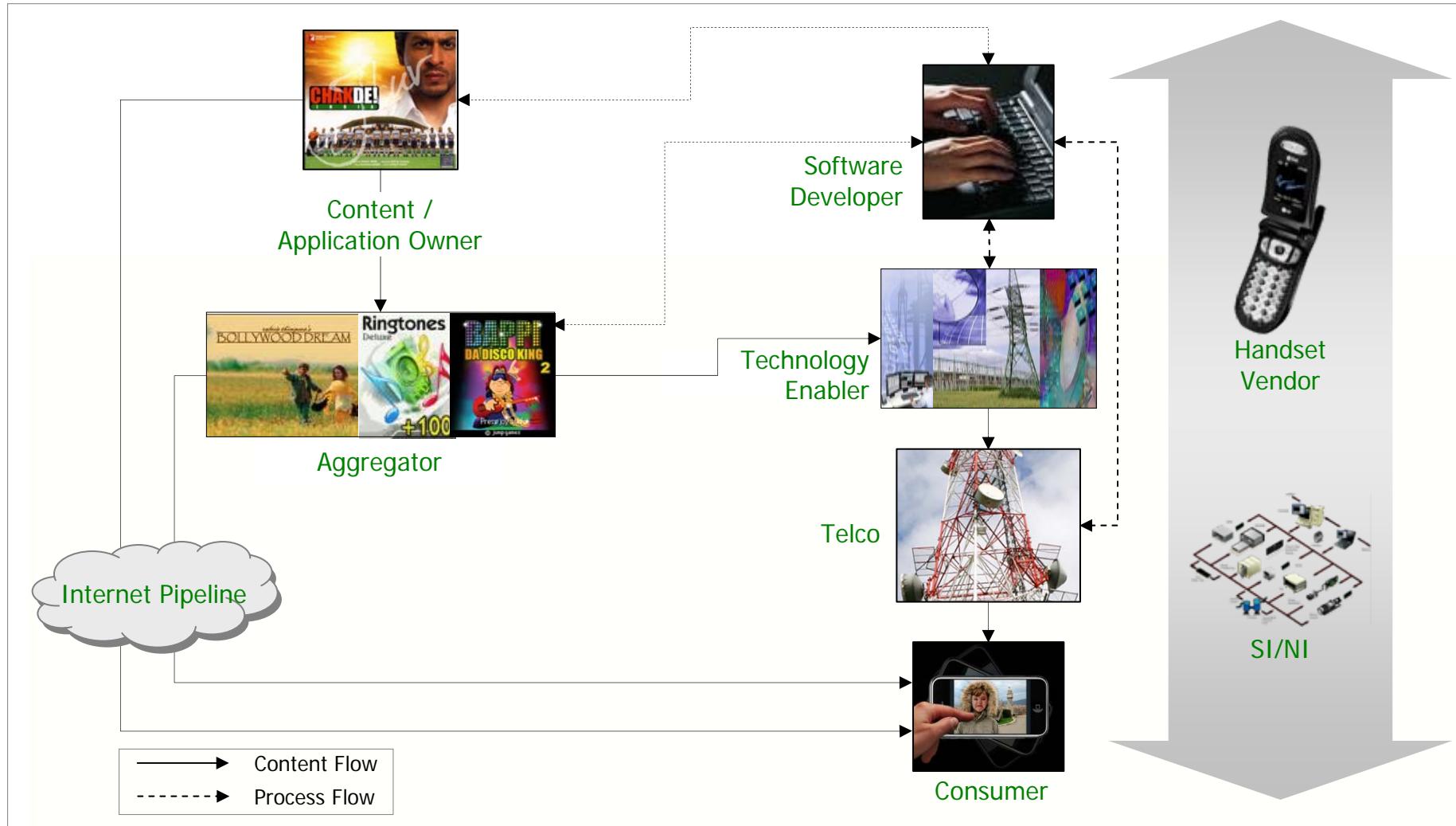
BSNL Strategy

- Services bouquet extends from SIM Based, Short code base, IVR based VAS (News, Entertainment, Movies, Astrology etc.) and GPRS / SMS based services, matching all private players in terms of VAS offerings
- Has been able to launch some VAS before even the private operators like short movie clips etc.
- Lack of focus on VAS even though network expansion has been limited, means that uptake will remain lower than other operators



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The VAS value chain consists of six entities primarily involved in the flow

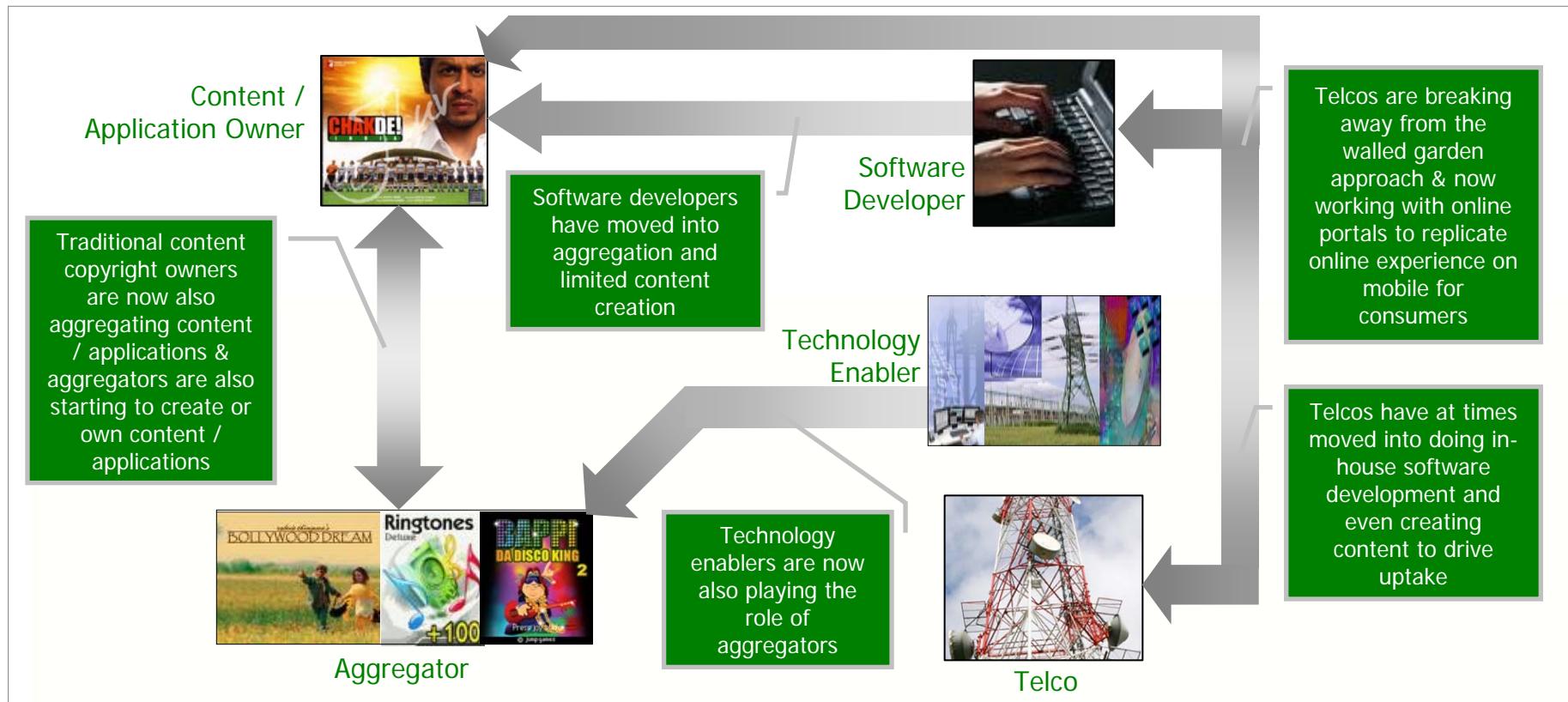


With a multitude of players in more than one segment across the value chain, the exact lines between the roles is somewhat blurred

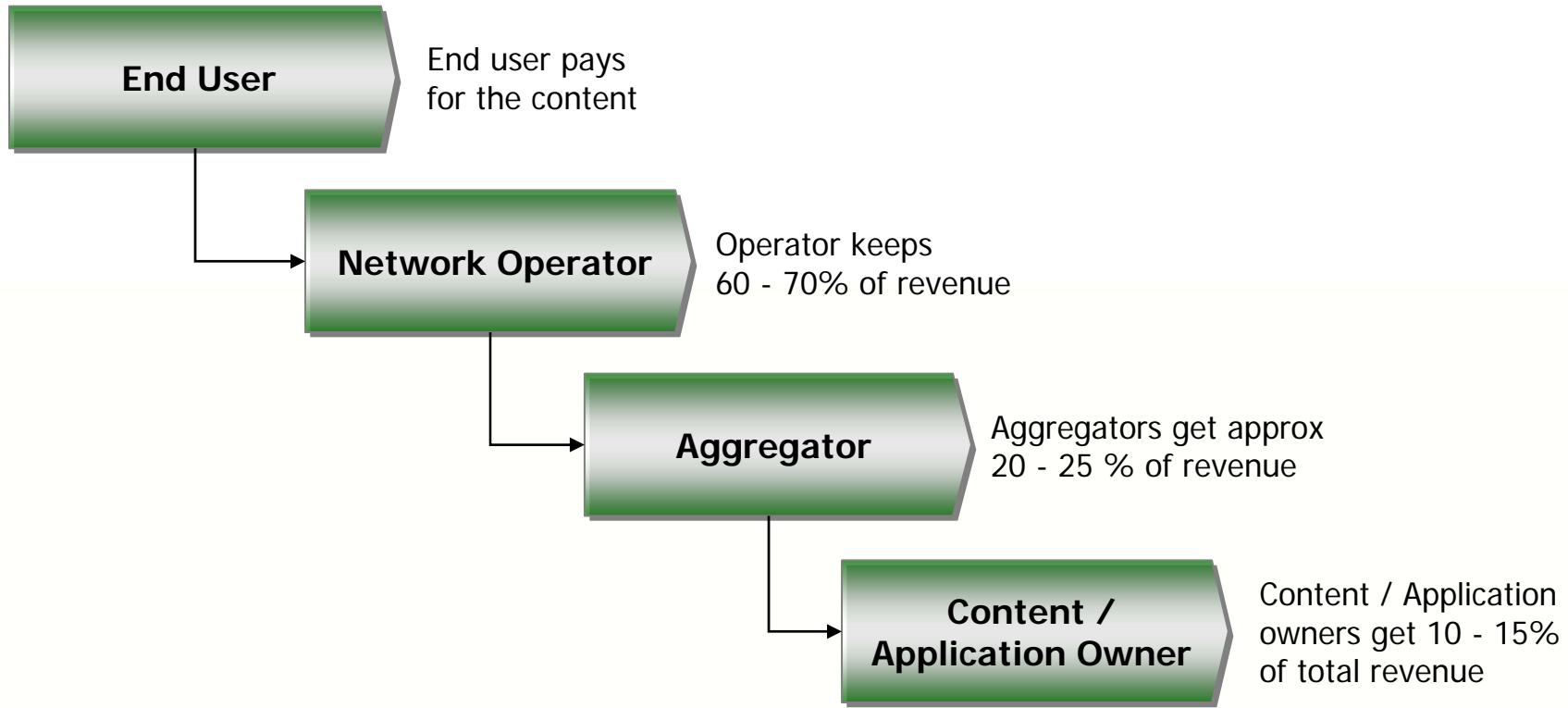


Component	Definition	Sample Offerings	Examples
Content/ Application Owner	Develops or owns original copyright content and applications	Copyright of songs, entertainment news, movies, TV listings, movie trailers, movie clips, games, show times, animated cartoons and promotional media content	
Aggregator	Aggregates content and applications from the owners or smaller boutiques and distributes it to suit customer needs. Also manages IVR, quality control, billing and accounting of the aggregated content / applications	Aggregation of games, wallpapers, ringtones, news, matrimonial content and applications, including at times repurposing of content	
Software Developer	Develops or manages the entire or a majority of software development, including in-house quality checks. Can also work with third party developers for parts of the complete process	Development of security applications, middleware solutions, payment applications, games, repurposing of content and a diverse range of applications for mobile VAS	
Technology Enabler	Provides a platform that plugs into telco networks and acts like a bridge between aggregators and telcos; manages and maintains the platform as per SLAs, and handles integration of diverse applications, reconciliation of accounts and billing	Platforms for ring tone downloads, games, streaming audio and video downloads, IVR, WAP etc.	

This situation has resulted from the historic development of VAS players' roles in the industry and the responsibilities between them



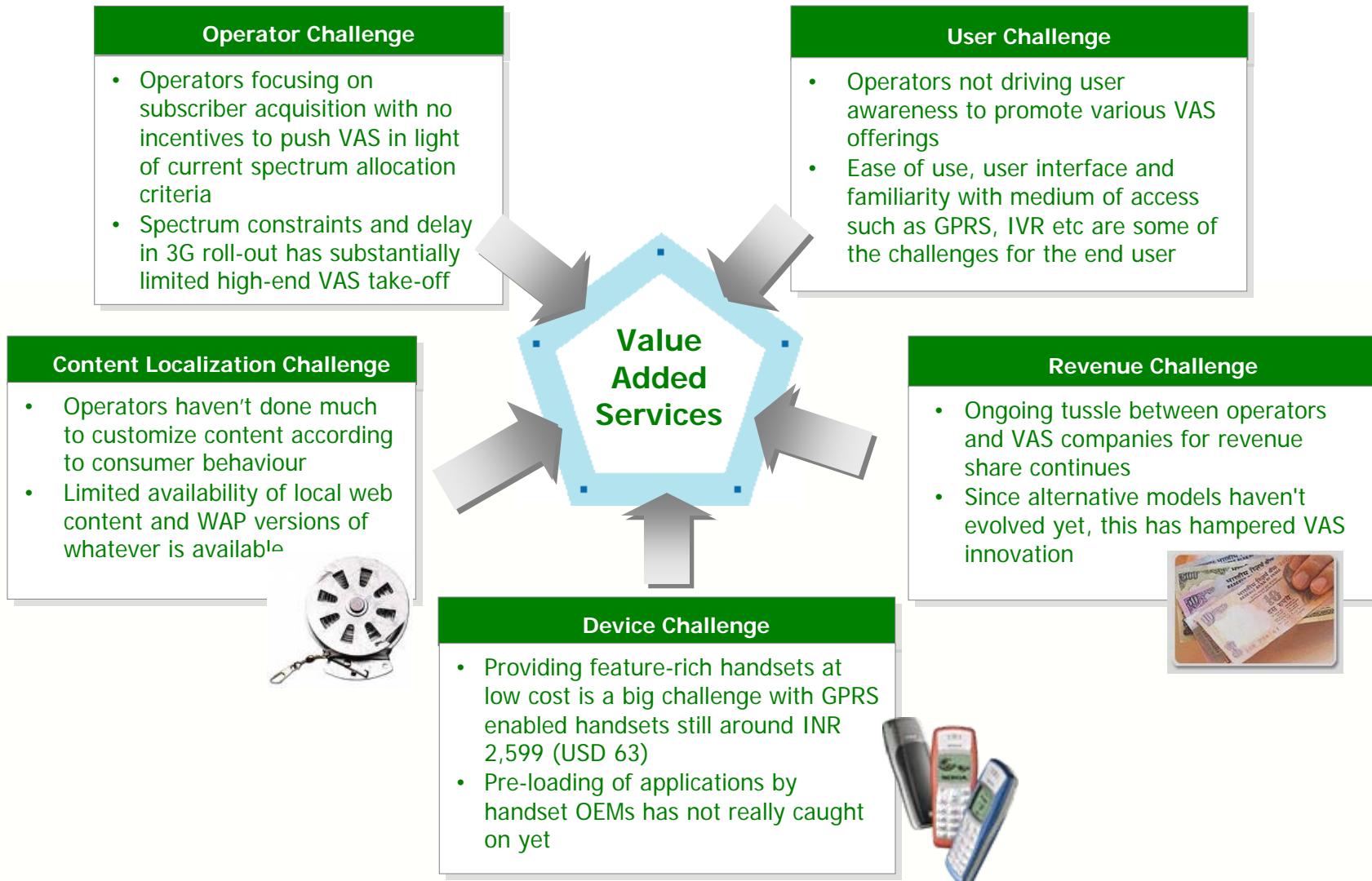
- The shift of services beyond SMS messaging combined with operators focusing on their core competencies of marketing services and managing customers created an immediate demand for a service specialist to partner with the telcos
- Operators' shift from owned systems to managed services and independent silos to integrated system meant VAS partners have to provide end-to-end services across the value chain
- Operators are now evaluating and carrying out trials on a variety of offerings to increase data revenue



- Certain GSM operators claim to offer more than 30-40% rev share to VAS players, which in reality is paid after deducting license fee
- CDMA operators offer rev share on their total revenues
- These are mostly accounting settlements, thus not changing overall rev share of 70:30 between telcos and VAS players



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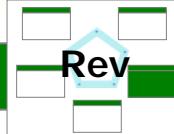




Operator-VAS Revenue Split

- Current revenue share between operators and content providers / aggregators is skewed
 - Telco claims upto 70% of total pie
 - Elsewhere, especially in developed mobile markets of Europe and even China, there is a much more favorable ratio for content providers
- Revenue share has resulted in lower variety of content and levels of innovation due to almost every player stating that meeting ROI expectations becomes a challenge
- Most content offerings therefore are based on movies, music and cricket. This has led to lower volume consumption and little differentiation
- Operators justify claiming lion's share for VAS due to cost associated with network, billing, marketing and subscriber acquisition

Operator Dependent Payment



- Most of the VAS is provided over SMS, Voice and WAP and these services are mostly operator controlled. Hence VAS players have no option but to give lion's share to operators
- Operators have vast experience in prepaid and postpaid billing, and knowledge about essential issues, such as economic reconciliation for roaming customers
- There are currently no offdeck payment services available in substantial scale
- Even if VAS players decide to put their own payment systems in place, hurdles still remain
 - Users normally don't like giving credit/debit card details over mobile due to security concerns
 - There were only 23 mn credit card holders by as compared to 165.11 million mn mobile subs as of March 07

This has forced VAS players to find alternate revenue streams by providing advertising supported services, but are still grappling with certain issues



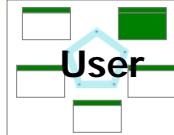
Advertisers not convinced

- VAS players see advertising as a major new potential revenue generator for them
- Hard to convince advertisers to adopt mobile platform as it's difficult today to measure ROI
- Electronic advertising in general is at a nascent stage in India with internet penetration/subs being low, so advertisers are not familiar with how to evaluate rates and outcomes, and thus incorrectly compare it with print and TV
- Advertisers don't want to cut print or TV advertising budget for mobile

Mobile advertising model is still nascent

- Agencies are yet to adopt this new channel and gain familiarity with it. Also volumes are still small to have significant impact on agencies
- Advertisers are still not clear about pricing on mobile as rates can still vary across platforms, and also whether a "pay per impression" or "pay per click" model should be adopted
- Customer receptiveness and concerns around privacy have hindered adoption of such a medium
- FMCG and BFSI companies are categories which have begun experimentation with this model





SMS Pricing

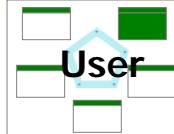
- There is absolutely no clarity on how a user is being charged for premium SMS
- There are different charges for pre-paid SMS and post-paid. Post-paid charges vary from INR 0.15 to INR 2, depending on the tariff plan
- Operators don't give any clarity on local and international roaming SMS rates
- Operators usually quote rates for the content being downloaded however do not indicate the cost involved with exchanging SMS involved in downloading this content

Recurring Cost

- No transparency on non SMS data usage. Operators charge a premium for CRBTs and Ringtone download
- Despite the user paying a monthly subscription of INR 30, there is download charge of INR 15 per CRBT download
- Pricing for subscription based offering such as News Alerts vary from CRBT and thus add to the confusion

GPRS

- There is poor GPRS connectivity
- GPRS tariffs vary across operators with some charging a fixed rental and pay for usage, some only pay for usage, and some for on/off WAP portal usage
- Users have no clarity on the charges being levied on them for downloading the content.
- Itemized billing of content downloaded through GPRS is not available at times



VAS

Discovery/Awareness

- Users are not aware of the kind of content available on the mobile.
- Pushing all types of VAS promotions not in sync with users preferences has led them to treating this as spam without discovering the benefits
- Poor VAS branding and marketing from operators and low investment in educating customers about it
- VAS players can't do much about it as most of the VAS offerings are operator controlled.
- While the operators in some instances have pushed GPRS activation OTA, subs are still not aware of how to use the service

Ease of use

- Navigating and searching for content on WAP portals is not very user friendly, which has actually made users reluctant to use such content
- Configuring or activating a handset for GPRS is still cumbersome
- It takes far too many steps to install applications
- One touch access is not very prevalent with Reliance's 'Bas Batan dabao' (Just press the button) being the only campaign in recent times which actually forced users to use various VAS offerings of the operator



Content Localization

- Customization of content is the biggest challenge for operators today. Regionalization of content is becoming a reality and as operators penetrate areas like tier-2 & 3 cities, they have no option but to provide local content
- WAP versions of local web content is still not available
- Location enhanced mobile search leading to location specific or regional business listings is still under development however some pilot projects have revealed encouraging results eg. Justdial's WAP local information search service claims to have around 1200 daily visitors to their WAP portal
- There aren't any widely used solutions of mapping data combined with relevant local information in India so far
- Content localization can be achieved after studying the dynamics of the lower tier cities and rural regions. However, there hasn't been a conscious effort to profile the rural user to understand his tastes
- As operators go more into semi urban and rural areas, they will have to further categorize this regional content into the application need and usage pattern of the subscribers
- The existence of so many Indian languages makes content localization all the more tricky for a large user base



But the issue of shortage of spectrum is looming large and has tied operators' hands from providing high bandwidth services



Spectrum/3G

- Spectrum allocation based on subscriber linked criteria has pushed operators to focus more on acquiring subscribers leaving very little incentive to push VAS offerings
- Lack of spectrum has forced operators to put high bandwidth VAS services such as video based offerings on the backburner.
- Operators are now waiting for introduction of 3G in big way as this would enable them to offer high bandwidth services and offset declining ARPUs
- Regulatory uncertainty is hindering VAS take-off as operators have not been able to promote VAS even in metros which is a ready market for adoption of new and innovative VAS offerings

Slow GPRS Adoption

- Unavailability of low cost GPRS enabled handsets and inconsistent GPRS pricing are some of the other factors hindering adoption
- Lack of willingness to invest in systems and technology which help in activating GPRS OTA thus increasing the GPRS sub base for the operator

Infrastructure Issues

- Homegrown legacy billing systems which are no adept for itemized VAS billing
- Issues relating to commonly agreed MIS and reconciliation process that delay payments from the operators to mobile VAS companies
- VAS often requires integration with core networks and messaging infrastructure which entails significant costs, resources and risks for carriers



Low cost feature rich devices

- Most of Indian subscribers are low-end subscribers, who cannot afford high end handsets. It's imperative for handset manufacturers to either bring down handset cost or provide features in low-end handsets at affordable price
- Smart phones prices are still on the higher side
- No widely used technology to activate GPRS as soon as a new SIM is detected on a handset

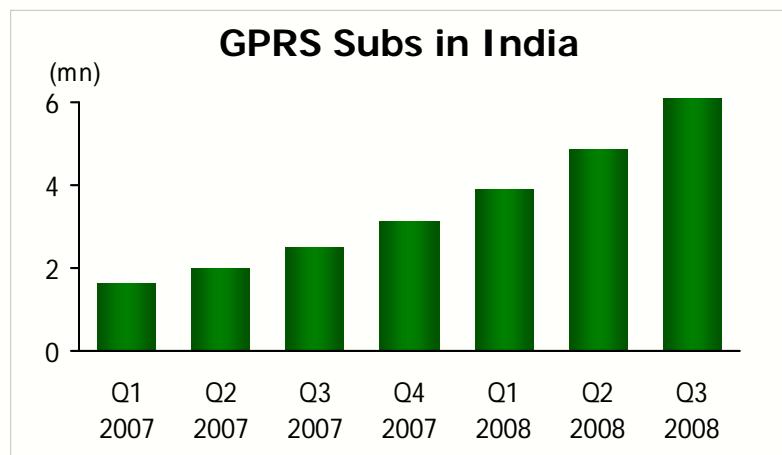
Bundling and pre-loading

- While the CDMA operators have been active on bundling handsets with services and in some cases offering handset subsidies, there is very little bundling being done by the GSM operators who have high ARPU data users
- The idea of Pre-loading applications on the devices have not really caught on apart from a few device manufacturers

Manufacturers' challenge

- Handset manufacturers will have to overcome the challenge of providing basic features that are required for VAS take-off like big screen size, extended memory and fast processing power

- There are around 6.1 million GPRS users as of Sep, 2007 in the country as compared to more than 200 mobile subscribers
- The number of smartphones and GPRS enabled handsets is slowly picking up but GPRS usage still has issues with speed, pricing and the ease of use
- Despite the fact that most of the handsets sold in the market today are GPRS enabled, very few subscribers have actually activated the service
- Small regional operators and incumbents such as BSNL do not have compelling VAS offerings which can lure subscribers to activate GPRS



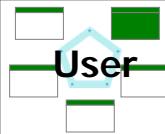


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 - Addressing Challenges & Hurdles
 - Assessment of Applications & Services
- Projections
- Annexure – Key VAS Players



- Challenge will be overcome
- Challenge may be overcome or could continue to exist
- Challenge will continue to exist





Growth Drivers

Increase in User Base

- Indian mobile user base has seen an unprecedented growth with net adds of over 6 million subscribers each month since Sept 06
- With the increase in user base, awareness level has increased
- Growth rate of low end subs will remain high and continue to fuel growth in traditional VAS

Price Decline

- Price of traditional VAS has declined
 - Premium SMS price: The price has come down from INR 6 to as low as INR 2 in some areas
 - The cost of getting a CRBT and Ringtone have also declined over the years. In Karnataka, Spice has waived the CRBT monthly rental of appx. INR 30 (USD 0.75) with new connections

Prices in Nov. 2007

Yahoo! India Mobile		
oneSearch	Downloads Home	Ringt
Yahoo! India Mobile : Operator Price		
	Airtel (all areas except Rajasthan & Bihar)	Airtel in Raja
Normal sms	Rs.3	Rs.2
Pic/logo	Rs.3	Rs.3
Mono	Rs.10	Rs.9
Poly	Rs.15	Rs.15
Wallpaper	Rs.10	NA
True Tone	Rs.15	NA
Sing Tone	Rs.15	NA

Awareness will be a problem for advanced VAS services unless marketing money is spent on educating users

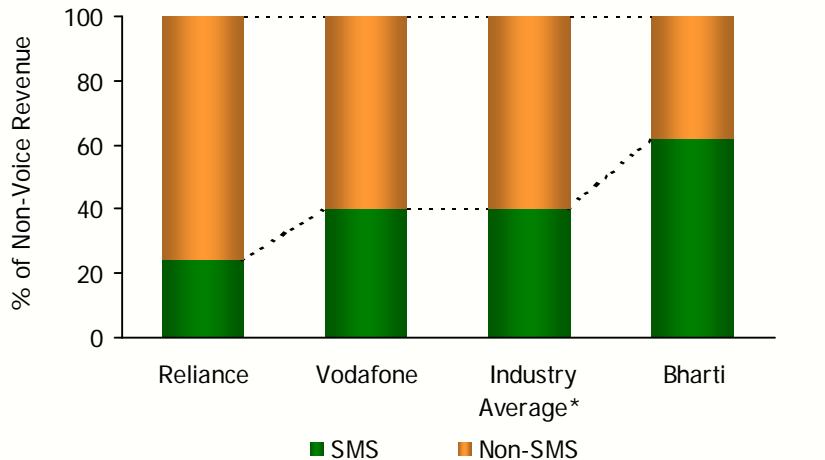


- In the near to mid term operators will spend most of their marketing dollars in acquiring new customers
- There are some examples where operators have had campaigns specifically for promoting VAS
 - Reliance “bus button dabao” was a campaign targeted at educating users
 - Tata is aggressively promoting its “Plug 2 Surf” campaign
 - Airtel and Vodafone is pushing the GPRS activation automatically upon registration with the network



- Reliance’s “Bus button dabao” (Just press the button) was a campaign appreciated by VAS players & effectively generated user recall
- This has been an essential contributor in making Reliance’s non-SMS revenue the highest as a percent of total revenue

SMS & Non-SMS as % of Non-Voice Revenue

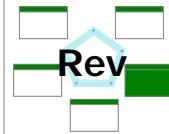


* 2007 Estimate



- VAS players largely depend on operators to promote their products/services
- Exceptions are pure-play VAS content owners with already existing large brands like Bollywood film / music owners who market their mobile offerings like ringtones & CRBT together with their existing print / TV / billboard promotions
- VAS players need to find alternative revenue streams to be able to market their product to increase consumer demand





- Operators will continue to control the channel to the consumer
 - Some VAS players are striving to differentiate themselves by providing superior quality to negotiate a better revenue share with the operators
 - Except for one off cases of big brands and innovative or unique offering rev share will not change dramatically in the mid term



- VAS players have to depend on mobile advertising as a new revenue avenue
 - Mobile advertising includes SMS ads, banner ads, game ads and audio ads
- General consumers tend to try applications and services they get for free
- The scenario in India: mobile advertising is becoming top of mind for every carrier and advertisers are slowing starting to experiment with the medium



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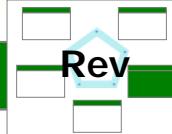
Advertiser

- Highly personalized medium, and better information on who the user is
- Contextually relevant, geographically targeted ads
- Mobile user base & reach is much larger than internet user base in India
- Easier to track ROI once systems mature



Operator

- Increased data traffic leading to better revenue
- Increased user exposure thereby increasing awareness
- New revenue opportunity for telcos as well. Reliance has partnered with Cadbury, Coke, Suzuki and LML



Publisher – VAS Player

- More control over revenues than traditional operator dictated revenue share
- Performance based revenues, creates incentive for VAS players to improve offerings and targeting



Consumer

- Ad-supported, free or low cost premium mobile services and content will be a big gain for the mass market who has a limited budget
- Free service experience also increases comfort with other VAS offerings

Devices are no more a challenge with more features getting added at lower price points



- Handset prices have fallen from a low-end of approximately INR 1,700 (USD 42.5) in Dec 05 to as low as INR 777 (USD 19) in May 07, a drop of over 50% in 16 months
- In May 07, Nokia chose India for its global launch of 7 new low cost handset models
 - With price tags ranging from INR 2,000 (USD 50) to INR 5,000 (USD 125), the phones offer many voice and data features including user interfaces in 75 different languages, color screens, flashlights and even a teaching module
 - Nokia also launched a rural education program addressing literacy issues, eg. for making calls or sending SMS
- Tata is promoting advanced services like mobile internet surfing at low costs through the launch of the "Samsung Explore" phone. This comes bundled with attractive limited flat rate internet access plans and a built-in web browser called the "Samsung Explorer" priced at Rs 5499 (USD 137)



GSM players have started adopting aggressive handset bundling thus reducing GSM cost of ownership, as well



- Vodafone launched "Magic Box" which bundles a low-end handset and service connection
 - A monochrome handset package is available for INR 1,199 (approx USD 30), and a color screen option is on offer for INR 1,599 (approx USD 40). Magic Box comes with additional benefits including INR 50 of free talktime at INR 1.99 for local calls, and different recharge options
- Airtel has bundled offers that include a handset and a prepaid connections with talktime included
 - One of the offers is for INR 1,599 (USD 40) which includes a monochrome Motorola C123 plus Airtel Prepaid connection with 2 years validity and 1,599 min of free Airtel to Airtel local talktime
 - Color handsets bundles are available for as low as INR 1,999 (USD 50) with 1,999 free Airtel to Airtel local talktime

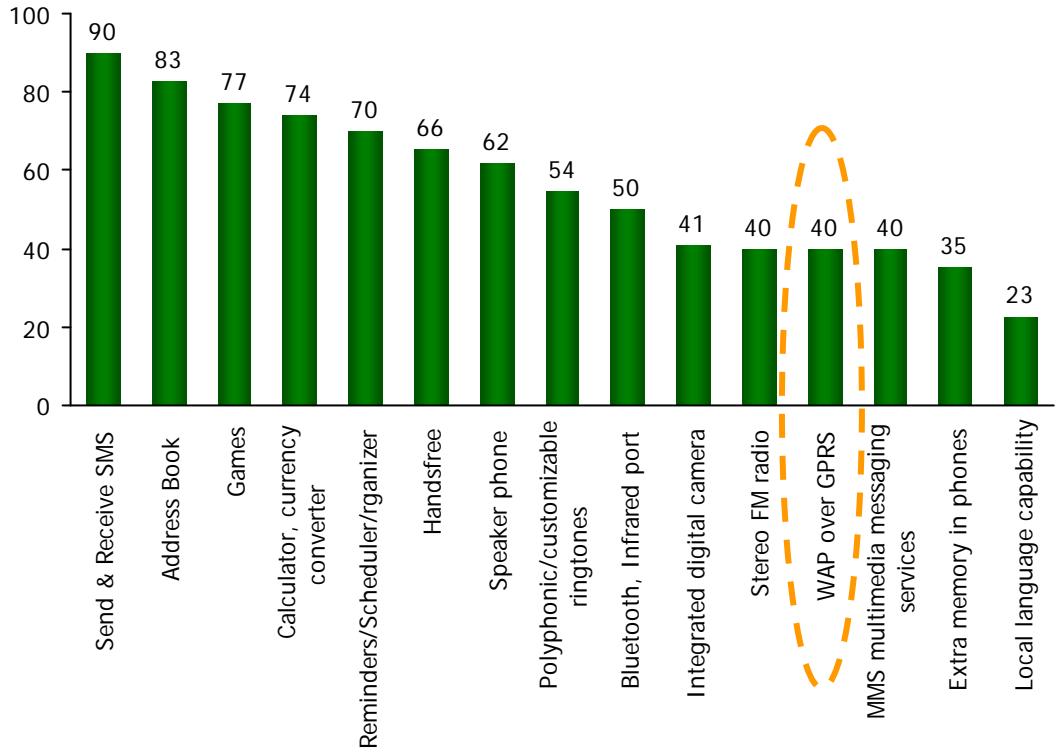
Airtel Prepaid advertisement for the Motorola C123. The ad features a red header with the words "Prepaid" and "Airtel". Below the header is a black and silver Motorola C123 phone. The text "Motorola C123" is displayed above the phone. Below the phone, the text "Only Rs. 1599" is shown, followed by a detailed description: "Motorola C123 + Airtel Prepaid connection with 2 years validity and 1599 min of free Airtel to Airtel local talktime". At the bottom, the text "Contact your nearest retailer for this exciting offer!" is displayed.



Though SMS and address-book are the most desirable features, even a year ago 40% of users surveyed wanted GPRS/WAP



Popularity of Handset Features (%) Dec 06

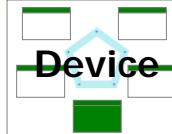


- A user survey from a year ago on popularity of handset features indicated that 40% of users wanted GPRS / WAP in their phones
- Given the decline in cost of GPRS enabled handsets, it should now be more affordable for lower end users to adopt
- Samsung C130 is the lowest cost GPRS capable handset available for INR 2,599 (USD 70)



Samsung C130
GRPS capable handset

VAS players and handset vendors are forming partnerships to embed applications in handsets



- Most of the device challenge will be overcome going forward
 - VAS players and handset vendors are already forming partnerships to provide in-built applications
 - Handset vendors are undertaking their own initiatives to offer and also pre-load applications/services



- STAR India and Sony Ericsson India announced a partnership under which the recently launched PLUS mobile service from STAR's mobile entertainment division will be exclusively pre-embedded on Walkman® and Cyber-shot™ Sony Ericsson phones in India
- Sony Ericsson and STAR have planned 360 degree co-marketing activities to target key mobile markets to build consumer awareness and incentivize usage for the PLUS service on Sony Ericsson phones

- MOSH is a service by Nokia providing a user-driven distribution channel for applications and other content for mobile devices. It enables users to create, upload and share applications, games, audio, images, and video instantaneously. Users can also be spectators, and just enjoy what others have shared

Welcome To MOSH
Your Stuff. Any Phone. Everywhere.

Upload
Upload your games, applications, photos, video and more.

Collect
Organize your favorites into collections

Share
Pass it on to your friends and other MOSH members around the globe

Mobilize
Leave the laptop at home — upload, share, browse all your favorite stuff right on your mobile phone

Register now to upload. It's free!

TOUR THE SITE



The image shows a Nokia N95 smartphone. The screen displays the MOSH application interface. At the top, it says "mobile and shot mosh NOKIA". Below that is a menu bar with "Menu My Mosh". The main content area shows a grid of items with the "mosh" logo. At the bottom, there are navigation links for "Newest", "Oldest", "A-Z", "Z-A", and categories like "All", "Applications", "Games", "Audio", "Images", and "Docs". It also indicates "Showing 1-10 of 16".



Maximum Content Focus on Bollywood and Cricket

- More content will be created for Bollywood and cricket as they are tried & tested
- VAS players can not afford to experiment with niche content as they continue to see ROI as a challenge based on the telco rev-share split
- Given the diversity in India, these are the only universally appealing contents, therefore even operators favor these

Location Based Content

- Various internet mapping companies have started creating and leveraging databases for maps and directions in the major Indian cities
- Companies like Google and Just Dial have started gathering content for services like directory listings and location information
- Movie timings, public transport schedules and other such information is now becoming available on mobile platforms
- Increasing amounts of locally relevant content of this sort is expected to be brought on to mobiles

Content Moving Forward

IVR as a Solution to Local Language Content

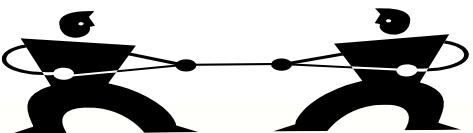
- IVR will be a quick solution to providing content / services in local language
- However the cost of such services is still high and has to decline for IVR to popularize

Rural VAS is a Big Opportunity

- With coverage expansion by operators reaching rural areas, mobile networks are penetrating geographies where there are few entertainment and information outlets other than television
- In such areas mobile can be positioned to function as an all purpose device that provides entertainment, information and communications



- Ongoing discussion among the regulators, policy makers, CDMA players and GSM players has resulted in no policy regarding additional 2G and 3G spectrum



EMERGING BUSINESS & IT

Mittal gives DoT a piece of his mind, calls new criteria absurd

President at the moment representing countries like Australia, New Zealand, Canada, the United States, Japan, South Korea, Thailand, Indonesia, the Philippines, and Malaysia. The meeting will be held in Manila, Philippines, during the week of November 11-15, 1991.

The meeting will be preceded by a two-day seminar on "The Future of the Environment in Asia," which will be held in Manila on November 9-10, 1991. The seminar will be organized by the Asian Institute of Technology and the University of the Philippines.

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Editor
The outcome of the heated debate at TEC is still under wraps, but one thing is clear: the government-owned operator, to be the most efficient operator and to be able to compete with private operators, needs to continue to be the largest provider of spectrum allocation services. The plan is to propose that spectrum be allocated through a market-based auction system.

CHILDRREN'S SECURITY REPORT

Editor
In our previous issue, we claimed that the government's proposed Children's Security Report would lead us to the world of fiction. We were wrong. The report, which was released last week, does not contain the kind of recommendations that we had expected, but rather, what has been surprising is the fact that operators need to be involved in the process of developing the report. This is something that has been consistently denied by Anil, the chairman of DoT, and others, until they have seen the final report. What they have seen is that all of the recommendations proposed in the report have come from the telecom industry.

RCOM
Anil

The first of these points has been the subject of much comment and discussion during the last few years. The second, though interesting, has led to comparatively little discussion. In this article I shall attempt to examine the first point, and to consider the second in a separate article.

The first point concerns the question of whether or not it is appropriate for government to have a role in the provision of services. This question has been raised over the last few years by both economists and politicians. The economists have argued that such a role is unnecessary, as the market can provide more efficiently than government. The politicians have responded by pointing out that government can provide services more equitably than the market. The two sides have engaged in a heated debate, with each side presenting its case in a convincing manner. The debate has been instructive, and has helped to clarify the issues involved. However, it has also highlighted some important points that have not been fully appreciated. One of these points is that the debate has focused on the question of whether or not government should provide services, rather than on the question of how best to provide them. This has led to a lack of focus on the actual delivery of services, and has resulted in a lack of attention to the practicalities of service delivery. Another point that has been overlooked is the fact that government is not the only entity that can provide services. Private sector entities, such as charities and voluntary organizations, can also provide services. This has led to a lack of recognition of the importance of these entities in the delivery of services. Finally, the debate has focused on the question of whether or not government should provide services, rather than on the question of how best to provide them. This has led to a lack of focus on the actual delivery of services, and has resulted in a lack of attention to the practicalities of service delivery.

SCIENTIFIC WAY

we can lobby
the DoT to change
a scientific norm for
driving speed on
roads, and all is not
over of special
efforts.

everybody knows
that the only
real trouble is in
protecting their
deposits, which
are apparently
administered by
engaging com-

EMERGING BUSINESS & IT

RCOM CHAIRMAN WANTS GSM OPERATORS TO RETURN 50MHz OF EXCESS SPECTRUM

Anil fires another salvo in airwaves battle

Trai opposes Raja's move on 3G auctions

New Delhi Telecom or A Engle bid to expand spectrum due to 20 MHz of spectrum in the strong telecoms and competitive auction offer — opposed by neither the regulator TRAI.

A small portrait of a man with dark hair and a well-groomed mustache, looking slightly to his right. He is wearing a light-colored, possibly white, button-down shirt.

Chairman Mica says that Ralph's move towards open options is not consistent with regulator's recommendations.

While Big air is being opposed, a DCF official says following one recommendation is practically impossible without deviating from other

and twelve did a coverage
on prospective liability.
This, however, will be dis-
cussed more fully below.

[View details](#)

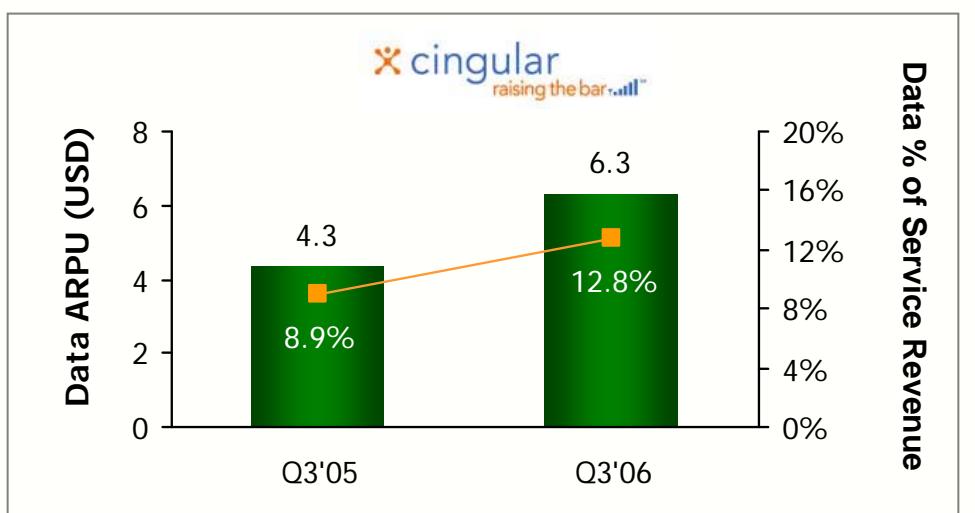
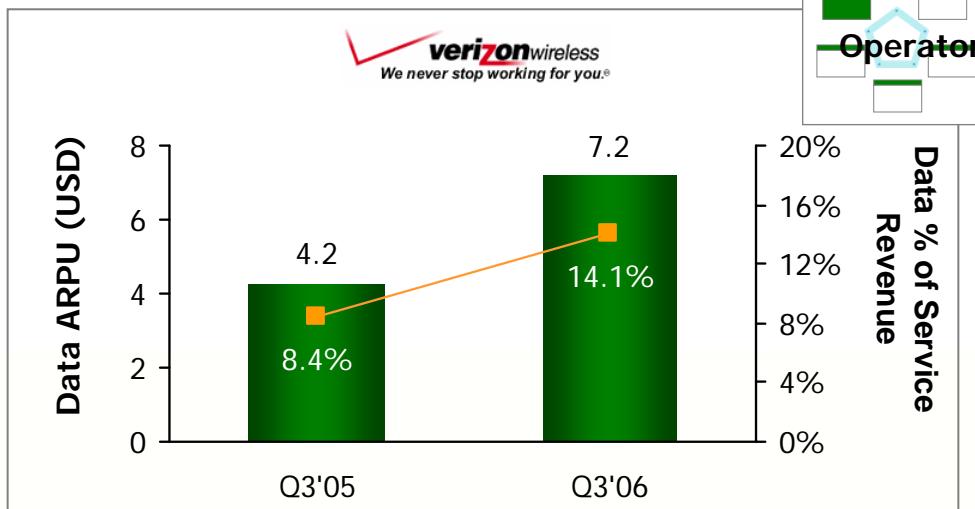
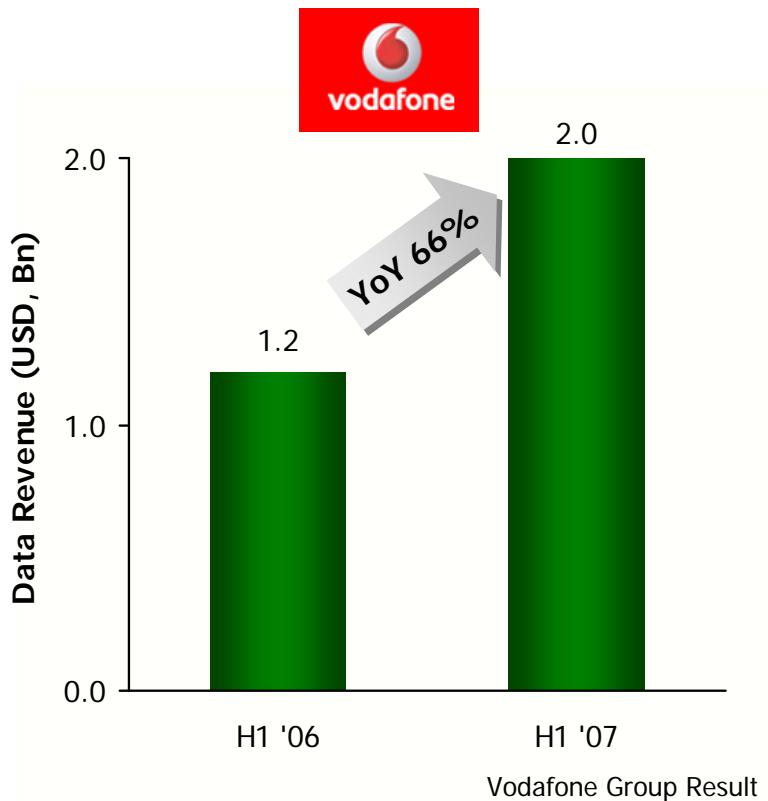
A black and white portrait of a middle-aged man with dark hair, wearing a dark suit jacket, a white shirt, and a patterned tie. He is looking slightly to his right with a neutral expression.

DR. ANTHONY
CHILDS, INCORP.

Source: BDA Interviews and Analysis, News clippings



- Internationally, 3G has helped increase operators' data ARPU, thereby increasing the overall ARPU

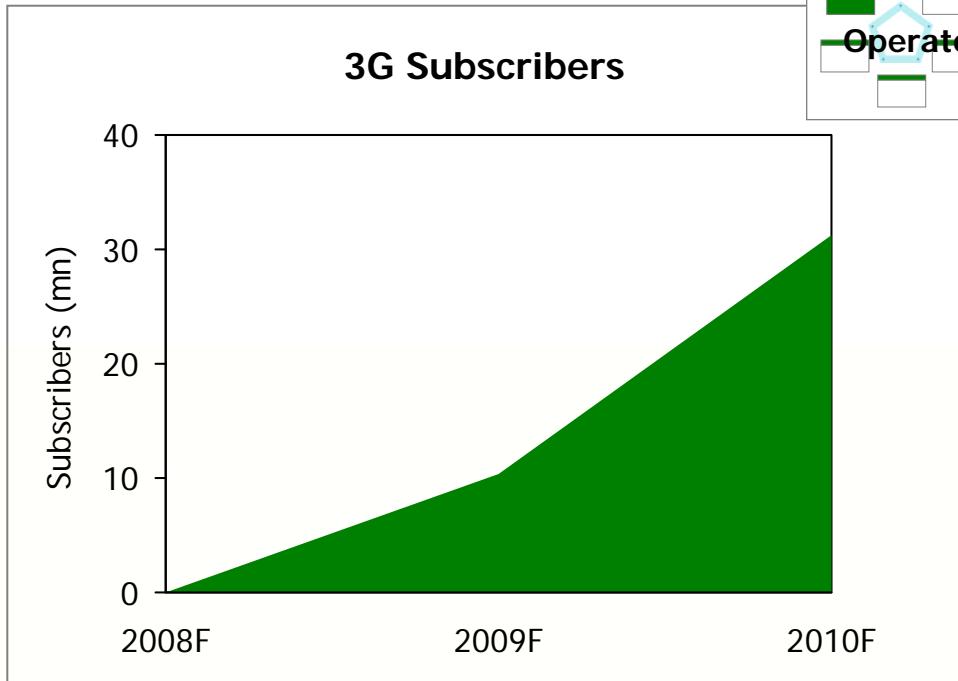


In India, with the introduction of 3G, high end 2G users can be immediately migrated for delivering better service experience and freeing capacity



- On day one of 3G launch, all the high end users with 3G compatible handsets can be migrated to the 3G network
 - Most operators claim they are 3G ready except for some radio components of the network
 - It would also be in operators' best interest to actively migrate their high end user base to 3G to release capacity in the packed 2G network. Our calculations show 3.5 average users can be added to the 2G network for each high end user migrated to 3G
- BDA predicts that there will be 31 mn 3G users by the end of 2010

Let's Talk 3G !





Demand from Enterprise

- Mobile e-mail has been one of the most significant revenue contributors for the mobile enterprise data market. All three big operators – Airtel, Vodafone and Reliance – have launched Blackberry services. The demand for mobile e-mail will continue to grow
- Interviews reveal that there will be growth in the area of Sales Force Automation, Field Service CRM, SCM & ERP



Age on the Network

- Users who have been in the network for a number of years will form a critical mass
- There were 149 mn subs at the end of 2006. By 2009, these users would have been in the network for over 3 years and are more comfortable experimenting with newer products and services beyond pure voice if they have a good price value combination



Mobile Number Portability

- Consumers will prefer to migrate to telcos who provide the highest 'value-for-money'
- VAS will be one of the differentiator for these operators





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Application	For	Against	Industry Feedback
SMS	<ul style="list-style-type: none"> Enhanced messaging experience for users. Demographic, psychographic, and contextual targeting of users for ads 	<ul style="list-style-type: none"> To convince advertisers to support ads based SMS Users may find contextual advertising in SMS intrusive in nature 	
Mobile Commerce	<ul style="list-style-type: none"> Convenience for users, micro payment for merchants on the move, mobile phone vouchers Remittance and P2P transfers 	<ul style="list-style-type: none"> India is primarily a cash & cheque country, so will take long time for the masses to adopt mCommerce 	
Mobile Music	<ul style="list-style-type: none"> Full music download and music streaming upon roll out of 3G Already music is very popular, this is a natural extension 	<ul style="list-style-type: none"> Pricing and network quality / speeds would be critical for the success of download music and content 	
UGC/SNC	<ul style="list-style-type: none"> Need for self expression and networking, especially amongst the youth Online UGC / SNC have been popular in India 	<ul style="list-style-type: none"> Bandwidth issues hamper upload / download of content Handsets with poor user experience due to viewing size and browser capabilities Limited number of users, especially if dependent on premium SMS as interaction medium 	
IVR	<ul style="list-style-type: none"> Easy learning curve, regional language content Capable of replicating virtually any information service offered on SMS or WAP, e.g. news, market rate information, etc. 	<ul style="list-style-type: none"> Not affordable for the masses, as charged on a per minute basis Lack of refined digitized local language content 	

Industry sentiment about internet apps being ported to mobile are mixed



Application	For	Against	Industry Feedback
IM	<ul style="list-style-type: none"> Access multiple IMs and replicates the internet IM experience on mobile 	<ul style="list-style-type: none"> Lack of GPRS enabled handsets Premium charge for using IM on mobile Text entry, especially for local language 	
E-mail	<ul style="list-style-type: none"> From large enterprise to SMEs to even SOHOs, enterprises will see increasing adoption of e-mail on the move 	<ul style="list-style-type: none"> Handset cost is the initial deterrent Overall investment in systems, implementation and devices is very high for mass market adoption 	
Search	<ul style="list-style-type: none"> Access to quick, actionable information on the move 	<ul style="list-style-type: none"> Lack of digitized content across India 	
Stocks	<ul style="list-style-type: none"> A boon for the retail investors and everyone wanting to keep track on the booming stock market in India 	<ul style="list-style-type: none"> Niche market so volumes will be limited 	
Group SMS	<ul style="list-style-type: none"> Group SMS is convenient & highly attractive for SMEs and consumers, who are very cost conscious 	<ul style="list-style-type: none"> Difficult to ramp up to a large number of advertisers to support the service 	
LBS	<ul style="list-style-type: none"> Useful for Logistics and Warehousing companies Field force resource tracking and fleet management are likely to be the most prevalent uses of LBS by enterprises 	<ul style="list-style-type: none"> Lack of detailed mapping content is a key hurdle Cost of deploying LBS solution is still high Demand for LBS from consumers not significant yet 	
PTT	<ul style="list-style-type: none"> Convenience of instant voice communications, especially for business customers with field force Overcomes language and literacy challenge when needing to group message 	<ul style="list-style-type: none"> Requires device upgrade, typically to a more expensive unit 	
Conference Call	<ul style="list-style-type: none"> Growing need amongst business users in India Also potential applicability in families 	<ul style="list-style-type: none"> Other solutions already available today For handset driven solutions will require either handset or SIM upgrade 	



Outlook

- Next wave of SMS will offer users an enhanced messaging experience with features like customize text colors, fun emoticons, scheduled SMS, SMS to e-mail, IM, e-mail features, graphic and multimedia attachments. An innovative feature is group messaging service, that allows users to create a group and send an SMS to all members at the cost of a single SMS or reduced total cost
- Enterprises will benefit from SMS-based mobile data services like Asset / Automatic vehicle tracking when integrated with GPS, fleet dispatch, inventory management & utility services (metering by electricity boards)

Usage Trends and Drivers

Search

- An embedded search function, that will allow users to conduct a search as they would on the internet via search engines like Google, Yahoo, or Microsoft. But instead of launching a web-browser, users will only have to access an enhanced options menu and select the search function

Voice SMS

- Will be popular due to
 - Ability to include more emotional content
 - More convenient for people whose first language is not supported by text entry on a phone keypad
 - A sample application is 'Bubble Talk', where users are able to send Voice SMS messages to any mobile and the recipient can retrieve it by dialing *0*

Ads based on user's interests

- Advertisers will target footnote space in the compose SMS window & while SMS is being sent or received, ads related to a user's interest will appear on the screen. It will help advertisers build a psychographic, targeted and contextual user database

Key Challenges

- Large scale adoption of SMS based mobile data services by enterprises
- Convince advertisers to support ads based SMS
- User mindset that finds contextual advertising in SMS intrusive in nature

Market Update

- Affle has introduced a pilot launch of next generation SMS called SMS 2.0 with Airtel
- In SMS 2.0 ads are relevant to a user's interests and has features like 'call now', 'call-me-back', 'buy-now', 'launch video', 'answer-survey', 'view web page' etc. Within 2 weeks of launch of SMS 2.0, over a dozen advertisers joined, even with cost 60-80% more than online ads



Outlook

- Mobile commerce transactions will allow users to carry out a variety of tasks ranging from bill payments, eating at restaurants, paying taxi fare, shopping at stores to redeeming gift and discount vouchers. The transactions are done by having a user's credit or debit card details linked to the SIM card
- Mobile commerce is expected to gradually gain more acceptance in urban India, primarily amongst salaried middle class

Usage Trends and Drivers

Payments on the move

- This service will enable remote & fully portable payment acceptance for merchants on-the-move like taxis, couriers, home delivery & service house calls
- Merchants will be able to use their handsets as a POS and do away with additional costs of any other POS equipment

Remittance

- Overseas workers can send remittance to India via mobile based SMS. It will be very useful in rural and isolated areas, where banks or post offices are far away from a recipient's location

Mobile Vouchers

- Discount coupons can be delivered on mobile and redeemed at counters by producing the mobile phone voucher message
- Mobile gift vouchers that can be redeemed at online and offline stores. Vouchers can be redeemed in multiple transactions, with the balance being carried forward until it is exhausted

Key Challenges

- User's apprehension over security of financial transactions is the key challenge facing mass adoption of mobile payments
- Changing users' mindset towards using mobile payment as a medium of transaction, instead of cash or cheque
- Credit card usage in India has been quite low, and distribution reach will pose a problem

Market Update

- Pilot: Order "Harry Potter and the Deathly Hallows" book via mChek. Users registered by sending MCHEK to 121, providing their credit card details, and creating a secure mChekPIN in the process. Users then sent SMS BUY HARRY and received a request to enter their mChekPIN
- Payment was charged to their credit card & they received an instant receipt by SMS – the merchant of record was Indiatimes.com and users received the book from them



Outlook

- As bandwidth issues reduce with the advent of 3G, the revolutionary phase of mobile music will start. Music, which is currently contributing the most to operators kitty in the form of CRBT and Ringtone would soon see full music download and streaming

Usage Trends and Drivers

Handsets with music capabilities promoted by vendors

- Sony Ericsson's Walkman & Motorola's ROKR phones with iTunes features are some recent initiatives in mobile music promotion

Proprietary music released especially for mobile

- Movie music / video especially compressed for mobile could be a major breakthrough in mobile music. It requires impetus from all the stakeholders
- Already many movies are doing simultaneous mobile release of their music and trailers

Full music download

- 3G would enable fast music and video downloads over operator network, which they have not been able to offer due to bandwidth constraints in 2G. User would pay on a per download fee model or a flat fee subscription model

Full music streaming

- Users would be able to stream music videos directly, on a monthly subscription or pay per download model

Key Challenges

- Timing of introduction of high speed wireless data networks is still uncertain
- Pricing would be key to success
- Handset compatibility and performance are issues that can impact user experience

Market Update

- KDDI au's EZ Chaku-Uta music downloading service is among top 10 best performing VAS for mobile operators
- Chaku Uta Full provides full length songs, while Chaku-Uta provides only a part of the song. The downloaded content is secured on a miniSD card inserted into the mobile, using CPRM copy protection
- Chaku Uta has been very successful with KDDI subscribers, with a total of 100 mn downloads as of Feb 2007



Outlook

- User Generated Content (UGC), such as that found on YouTube and MySpace & Social Networking Communities (SNC) like Orkut and Fropper has been popular on the internet amongst the Indian youth but high cost of data services & relatively poor user experience of mobile web in comparison to online will discourage users from accessing these UGC / SNC sites on mobile
- Users access these sites primarily to express themselves, create networks, share content like images, photos and videos, but in India due to severe bandwidth issues, sharing and upload / download of content will be a serious deterrent to UGC / SNC uptake on mobile

Usage Trends and Drivers

Mobile themes and wallpapers

- Mobile WAP sites that allow users to create, download and share unique skins for cell phone screensavers or wallpapers are generating gradual interest. For instance, OwnTape developed by OwnSkin, a mobile community by Dalrus Pte Ltd. is creating interest amongst the Indian youth

Handset vendors to launch exclusive m-blogging sites

- Once 3G is rolled out in India, handset vendors will be able to launch m-blogging websites
- Sony Ericsson has already launched a m-blogging website with Google and Nokia has launched Mosh, a content sharing site where community members upload, distribute and manage content to be viewed and enjoyed on mobile devices

Ad support essential for continuing service free to users

- Mobile social networking sites will increasingly require more and more ad support to continue to offer services free to users. This will require a shift in mindset of advertisers in India who still prefer traditional media advertising rather than mobile based

Key Challenges

- Bandwidth issues hamper upload and download of content
- High cost of data services & relatively poor user experience of mobile web in comparison to online discourages users from accessing UGC / SNC sites on mobile and will not lead to mass service adoption
- Operators' walled garden approach to internet access affects the uptake of such services

Market Update

- Mobile dating service in India is attracting users in India. Cellebrum, that has largest market share claims to have active subscriptions of up to 400,000 people
- While Reliance launched voice-based profiles and anonymous chatting services in 2006, other operators like Airtel, Hutchison Essar and Idea started rolling out similar services earlier this year



Outlook

- Interactive Voice Response (IVR) is an automated telephony system that interacts with callers, gathers information & routes calls as per option selected by user, who has to follow IVR directions to get to the requisite information / content
- IVR will be a quick solution to providing regional content in local languages all across India. In rural areas where the literacy rate is low, IVR will be in great demand because of ease of use and local language support

Usage Trends and Drivers

Enhanced security for financial transactions

- IVR based payment solutions have been introduced, wherein the customer is called back for confirming transaction via IVR, after sending an SMS for the transaction carried out

Reach out to the rural areas

- IVR will cater to the need of farmers and provide them with rates of various commodities, saving their time and money. It will equip the farmer with the choice to make a decision as to where to sell his produce based on rates available from multiple markets

Localized language content

- Regional language content in IVR will see a quick uptake with users across India, who will find it very easy to access information via IVR options on their handsets
- Operators are launching WAP for mobile internet portals with exclusive regional language content that can be accessed via IVR

Broadcast of financial results via IVR

- Enterprises are using IVR to broadcast their financial results

Key Challenges

- At a premium price of around INR 6 per minute, it is a challenge to motivate users to use it frequently
- Time consuming for users to access the required information or content, as they have to go through a series of IVR directions

Market Update

- British Telecom launched a pilot project with Cisco Systems & NGO One World for improving agribusiness in India
- Farmers have to dial in to an IVR System and record questions for experts in voice clip format. Knowledge Workers find pre-existing responses from an FAQ database and solicit expert feedback for new queries. Farmers can then dial-in again to listen to voice clip responses



Overview

- Replication of a user's online experience on to the mobile phone is a key driver for the emerging success of various internet applications being ported to mobile platform
- Many new mobile users are likely to access internet and internet applications for the first time on their mobile phones
- 'Always on the go' is a key driver for the uptake of applications like IM, e-mail and stock trading
- Operators are forging joint go to market strategy with the handset vendors to offer preloaded mobile web browsers. Recently, Tata Teleservices launched Mobile Web Browser on 'Samsung Explore'

Challenges

- Poor GPRS connectivity and high fixed monthly fee for accessing WAP services, even for default GPRS activation
- Users have no clarity on the charges being levied on them for downloading the content
- Lack of digitized local content for applications like IVR, local city search etc.





Outlook

- Instant Messaging (IM) on mobile will be high in demand by the youth segment as they want to stay connected with their vast network of friends and wish to replicate their online chat experience on mobile. At present, uptake is quite small, but will gain traction over next few years
- IM is on the path of becoming an integral part of an enterprise's solutions, as employers are recognizing the tremendous benefits of integrating IM with their business applications that will ensure a better response time, esp. across global offices

Usage Trends and Drivers

Connect with different IMs on a uniform platform

- IM users will be able to chat with their contacts from different IM services in a single chat session
- When a user is instant messaging from the mobile, it is possible to chat with up to five of his contacts from one page and reply to all of them at once

Bundling of preloaded applications with handsets

- Realizing IM's potential Microsoft has partnered with Nokia to bundle Windows Live services on its mobile phones

Help an enterprise's field work to stay connected

- IM network for Business-to-Employee, Business-to-Customer, Business-to-Business communications to stay connected on the go

Affordable voice conferencing over network

- Users can speak to their contacts via a VoIP application that enables extensive phone savings

Key Challenges

- Current users who are accustomed to using IM on internet are likely to use IM on mobile and as this market is quite small due to limited internet penetration, so it will take time for large scale uptake amongst the masses
- Not compatible with low cost handsets
- Price will be affordable primarily for enterprise users

Market Update

- Geodesic has launched 'Mundu IM', a unified IM platform that aggregates popular IM services like Jabber, GTalk, MSN, Yahoo, ICQ, AIM
- It allows its users to conference with contacts across IM services in a single chat session. Mundu has 500,000 users globally, majority on Palm, iPhone & Windows platform
- Mundu Speak, a VoIP application that allows mundu buddies to talk has been launched as a feature in Mundu IM



Outlook

- E-mail access on mobile will drive adoption of new access platforms across enterprises large and small, as employers recognize the improvement in customer service and real time response to queries at a lower cost
- Declining handset prices and data download prices will drive the adoption of mobile e-mail, especially in the SME/SOHO segment and the consumer age group of 18-34 years

Usage Trends and Drivers

Declining handset prices and data download prices

- Mobile e-mail will increasingly become more and more affordable and will encourage users to access it frequently on the move

From Large Enterprises, moving towards SMEs/SOHOs

- The trend of mobile e-mail usage will gradually move from large enterprises and senior level executives towards mid-level executives and SME/SOHO users as they recognize the benefits of increased productivity and will be willing to pay for mobile e-mail

Improvement of business measurement parameters

- Enterprises are recognizing the improvement in customer service and real time response to queries by using mobile e-mail

Bundling wireless plans

- Operators are moving towards bundling wireless plans to encourage adoption of mobile email among enterprise and consumer segments to drive ARPU and additional data services

Key Challenges

- Mobile (Push) e-mail solution takes time for implementation (preferred models, supply chain, service delivery, bundling plans etc.)
- Total initial cost of ownership, including terminals and server hardware, software and implementation cost are the initial deterrents

Market Update

- RIM's BlackBerry is the biggest enterprise e-mail success story with a subscriber base of over 11 mn worldwide
- Shipment of over 20 mn devices in FY08 Q2 and RIM has partnered with approximately 325 carriers around the world
- BlackBerry Unite is a new software platform designed to allow small groups, such as a SOHO to easily coordinate activities
- Partnered with Airtel, Vodafone & Reliance in India and has seen large scale uptake with the enterprises and senior level executives



Outlook

- Several companies offering internet search are now moving into mobile based search since increasingly mobile users want to access quick, actionable information ranging from the best deals on travel portals to locating a neighborhood dentist
- However, lack of digitized local content across India is the key hurdle in the growth of mobile based search

Usage Trends and Drivers

Search on WAP portals

- Most telecom operators are partnering with search engines on their WAP sites. For instance, Airtel has launched Google Search on its mobile portal, Idea is working on a customized portal with Yahoo's OneSearch and Hutch has MSN Live Search and recently Yahoo has forged another new partnership with BSNL, BPL and Maxis Aircel to offer search through OneSearch

Contextual and targeted advertising

- Mobile search advertising is expected to increase over the next 2 - 3 years, as more users will search for news, financial information, weather conditions, photos on mobile websites

Travel portals offer SMS Based mobile search

- Several travel portals are offering SMS based mobile search. For instance, Cleartrip has launched mobile search on their own short code 667744

Key Challenges

- Lack of digitized content across India
- Lack of an exhaustive database of products/outlets
- For mBookings, there are issues of usability and syntax and often remembering the syntax for the request

Market Update

- Onyomo, provides its users in six cities in India the capability to search for location specific information about products and services. Users can search for this information from their mobiles by sending an SMS with their query to 5454 at an affordable price of INR 1-3
- Kingfisher has introduced 'FLYBUYSMS' an SMS based service for customers to 'search, book and pay' for tickets on mobile itself. It has partnered with PayMate



Outlook

- Stocks on mobile is a niche market, that will be driven primarily by the retail investors and brokerage houses
- Access to stock information and receiving updated news from leading financial news providers, helps users to keep track of the stock markets on the move

Usage Trends and Drivers

Mobile Financial portals

The mobile financial portals enable users to do the following:

- Get stock quotes on the move
- Look at current Sensex & Nifty charts
- Know the daily gainers, losers, toppers on the BSE and NSE
- Read updated news from leading financial news providers
- Conduct research using the mobile - pivot points, statistics

Retail investors can increase their trading limits

- The retail investors will now be able to increase their trading limits on the move by sending an SMS to a payment company that offers this facility. For eg: mChek has introduced this service to brokerage houses



Key Challenges

- It is a niche market as the number of people interested in stocks is not very large
- Expensive data charges discourages users from trying out the mobile financial portals features

Market Update

- Web18's financial news portal Money Control has launched a mobile service for news, markets statistics, indices, market outlook, listings of stocks and a stock watch list via GPRS. For the portfolio tracker, users require a pre-existing money control website ID
- It has generated a lot of interest amongst its online users who are keen to trial the mobile offering



Group SMS

- A useful offering for SMEs as they can communicate with their employees and teams in an inexpensive way
- The group messaging service is supported by advertising in the footnote space and has seen several advertisers eager to support this service
- For instance, Webaroo has launched a group messaging service that enables creation of groups of any size and allow communication with all group members at a cost of a single SMS sent by the group creator. Groups & messages are also archived online

Push to Talk

- PTT was made popular in the US by Nextel
- Targeted at enterprise with mobile work forces who require instant walkie-talkie like communications of one-to-many or many-to-many
- In India, initial PTT launch was prevented due to regulatory blocks, and has since not been revisited. Recent change interpretation of DOT ruling could allow PTT to be offered via the voice channel if abiding by ADC & IUC norms
- Hurdles in the form of upgrade costs for handset replacement and need group to be on same network (due to IDC) will hinder quick mass adoption

Location Based Services (Fleet & Stock)

- From an enterprise perspective, field force resource tracking and fleet management will be the most prevalent uses of LBS by businesses
- Resource tracking is expected to be the main revenue generator
- The vehicle tracking segment of the Indian telematics market is expected to reach around USD 35 mn between 2008 and 2009
- GPS tracking and telematics market in India has a lot of potential for growth in the next 3 - 4 years
- Telenity tied up with BSNL, to provide a portfolio of LBS services
- However, in a nascent market like India, Location Services face significant challenges ranging from lack of quality mapping data, strict privacy issues to varied customer perceptions

Conference Call

- Currently conference calling solutions are offered by telcos and 3rd party vendors mostly for business use in pre-scheduled meetings and typically are through in-bound calling to a bridge
- Telco controlled centralized conference calling is offered as a VAS feature, which allows predefined groups to be called simultaneously from the telco's network to initiate on demand conferences
- QOS is also monitored closely for all calls to same network numbers
- Typically, operators would offer a subscription plan plus discounted calling rates for the simultaneous calls
- Business users can use this to make quick decisions with groups through unscheduled virtual meetings on the phone



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- Key Challenges & Hurdles Today
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 - Assessment of Applications & Services
- **Projections**
- Annexure – Key VAS Players



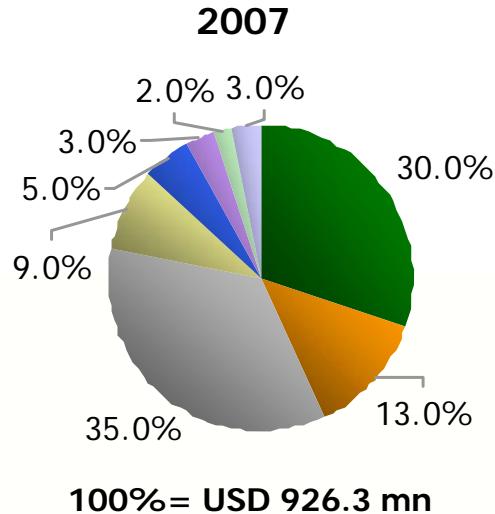
2006-07 Trends	2008-09 Trends
<ul style="list-style-type: none"> • Subscriber growth at the low end has led to declining per capita VAS usage <ul style="list-style-type: none"> – Over 100 million net users added over the last two years drove VAS usage as comfort level and awareness increased – Majority of net adds were low ARPU voice subscribers, bringing down overall per capita traditional VAS usage – VAS as % of total revenues was almost stable as a result – Usage of traditional VAS dominated the revenues, while focus is shifting to creating awareness for other services • Declining prices induced volume growth <ul style="list-style-type: none"> – Declining price per unit of traditional VAS induced a volume growth, thereby leading to increased overall revenues – VAS tariffs decline will continue as competition intensifies and large numbers are added on a monthly basis, providing a much higher base to target with these services • Device evolution <ul style="list-style-type: none"> – Cost of smart phones & features rich handsets continue to decline, increasing adoption • Regulatory changes <ul style="list-style-type: none"> – Move to 5 digit short code decreased SMS revenues by 15% 	<ul style="list-style-type: none"> • Continued low ARPU subscriber growth, forming majority of net adds, will ensure growth of traditional VAS • Operators focus shifts from customer acquisition to VAS promotion, but slowly <ul style="list-style-type: none"> – As operators focus shifts from customer acquisitions, they will revisit their approach towards VAS promotion – With operators spending more marketing dollars to build awareness, advance VAS adoption will begin to increase • Device challenge will start to decline <ul style="list-style-type: none"> – Over the forecast period, service and handset bundling with shorter handset replacement cycles will aid movement to more feature rich handsets able to support advanced VAS • Primary focus will be on reinvention of traditional VAS & mainstream adoption of high end services <ul style="list-style-type: none"> – In the short to medium term Cricket and Bollywood will remain the "Killer Content" as no other alternate common pan-India content exists – Reinvention of traditional VAS (e.g. SMS for new services) will see continuous growth across most traditional services – Niche high-end VAS market develops as mature user base reaches substantial size



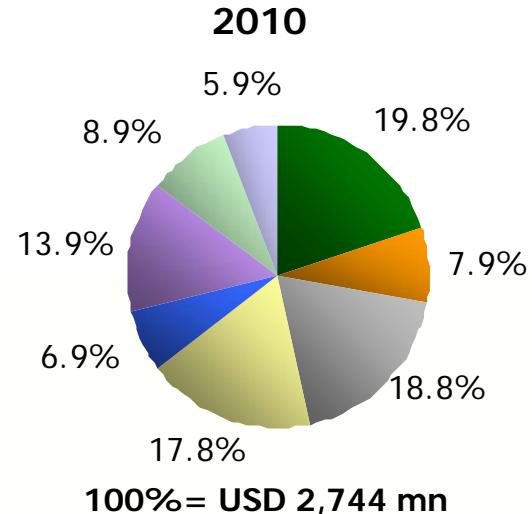
- The overcoming challenges will rely on shifts in industry health caused by changes in regulations like
 - Mobile Number Portability
 - Allocation of 2G spectrum
 - Introduction of 3G
 - Early VAS adopters and High VAS users will drive revenues as user experience improves with 3G services
 - 3G will improve QoS as well as user experience of data services
- Non-regulatory changes like
 - Availability of payment systems other than the telco
 - Ad-supported VAS gaining ground
 - Promotion of bundling data plans with voice plans
 - Consumers dictate pricings as VAS players find alternative channels / mechanism to offer / fund services
 - Large numbers of users experiencing internet for first time on mobile devices
- And continuation of ongoing trends
 - Product innovation, ease of use, higher awareness, flexible pricing for data offerings will increase VAS users base and improve user experience
 - As device capabilities improves further, focus on high end VAS like “entertainment on go” will gain momentum
 - Increase in number of users in the same household decreasing the time to adopt VAS due to shorter learning period
 - Need for “on the move” business and entertainment needs will further intensify



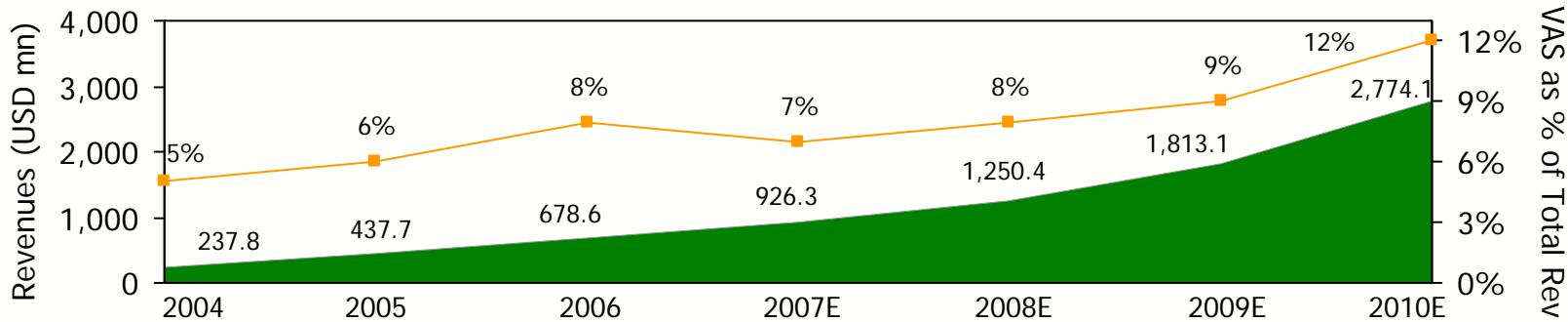
W-VAS Services Performance Forecast



CAGR%	
SMS (P2P)	26%
SMS (A2P P2A)	20%
CRBT / Ringtones	18%
Voice	82%
Games	63%
Data	141%
E-mail	138%
Others	82%
Overall CAGR	44%



VAS Revenues Forecast 2007-10





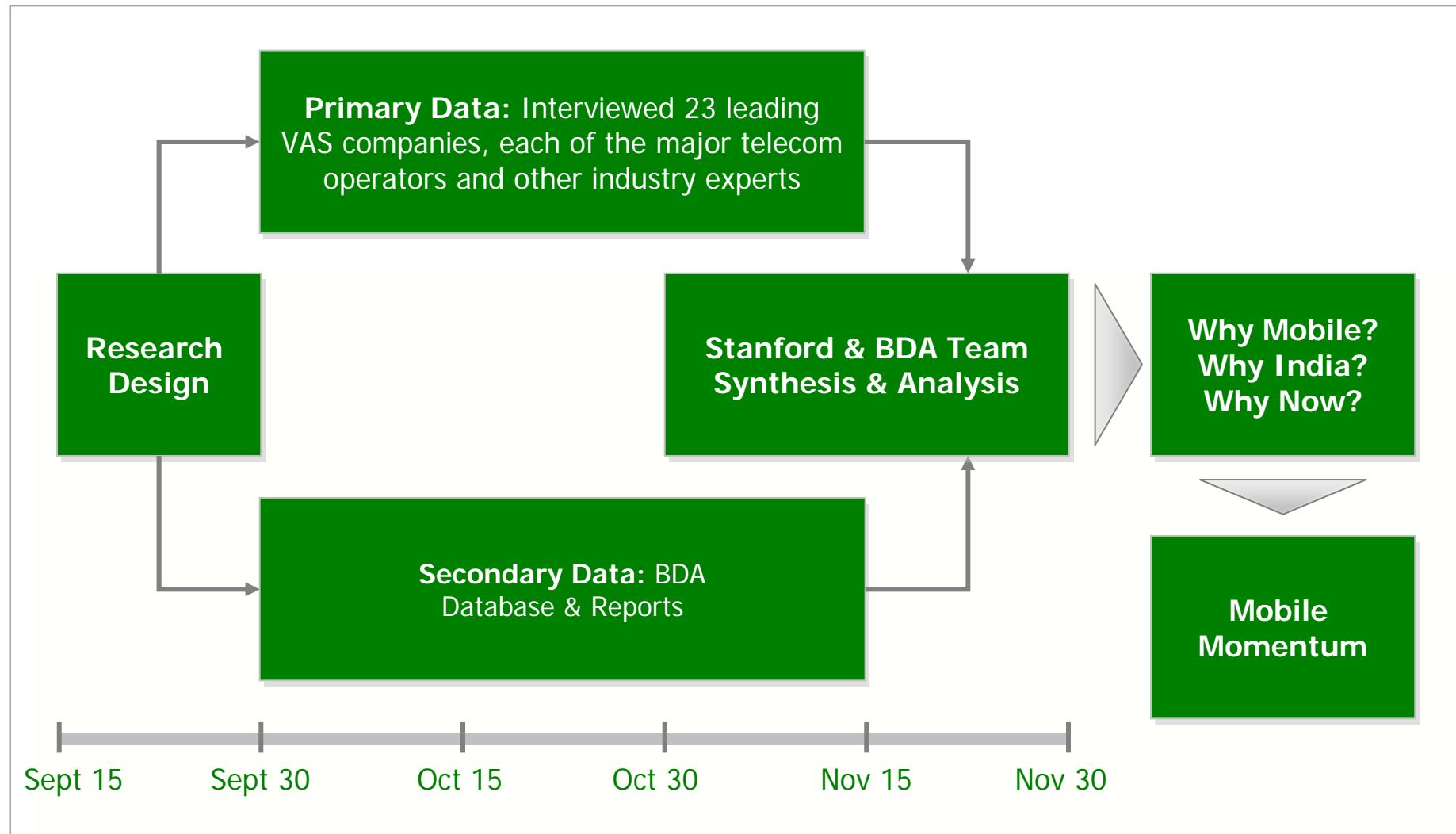
2010 and Beyond

- Share of traditional VAS will decline to less than 50% in 2010 from nearly 80% today
- Mobile Data / Internet, E-Mail, and IVR based services will achieve the highest growth rates
- VAS companies will start seeing the environment favoring them
- Operators will heighten focus towards VAS as a requirement to sustain revenue growth and monetize slowing user base expansion
- Industry will witness much awaited hockey stick growth beyond 2010



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The team followed the below process in a very limited timeline, yet was able to gather extensive primary information from industry leaders





AEPONA™



netCORE
the innovation company



OnMobile

affle



telesoft
A Bharti Enterprise



YAHOO!



Google



Overview

- ACL Wireless is a mobile VAS player in managed mobility and community messaging service
- Its community & messaging services are deployed across 17 countries on telecom networks like Airtel (India), MTC-Vodafone (Middle East), Claro (Brazil) and AIS (Thailand), amongst others, and generate over 100 million mobile hits every month, a figure growing at 120% per annum
- Headquartered in Noida, ACL Wireless employs around 250 people
- MIH India took a strategic stake of 30% in ACL wireless for USD 12.3 mn
- Sanjay Goyal is the CEO & Atanu Mandal is the President



- **Product and Services**

- Targeted at enterprises, it offers interactive SMS & voice response along with permission based SMS broadcasts & alerts
- It also includes service creation and operation for enterprises and operator VAS, billing & content aggregation
- The community & messaging services suite includes: mobile chat, mobile social networking, mobile photo sharing and internet messengers on mobile available across GPRS & SMS mediums
- ACL is also building mobile communities and enabling popular online communities on mobile

- **Strategy / Route to the market**

- ACL operates these services through a fully-hosted ASP revenue sharing model, and takes its products to market via mobile operators, handset vendors and also direct to consumer

- **Capabilities**

- Technology enabler

- **Geographic Reach**

- It has presence in 17 countries

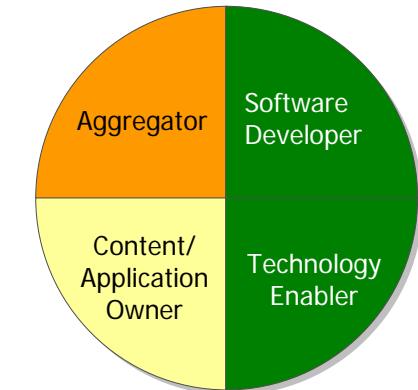
Future Plans

- Community and messaging applications on mobile: ACL is of the view that social networking and messaging would play a big role in coming days in mobile VAS space. The company would continue to invest in these two areas both for direct to consumer and white labeling
- Continue to focus on developing utility applications and services using managed mobility for enterprises

Key Challenges

- Maintaining market position will become increasingly challenging with lower barriers to entry leading to more players competing in the same space
- Shortage of skilled professionals in development space is a key challenge for the company

VAS Value Chain



Legend:
Strong Focus (Dark Green)
Medium Focus (Orange)
Low Focus (Grey)
No Focus (Yellow)



Overview

- Headquartered in the UK, Aepona's products and solutions provide link between the Internet / IT domain and the Telecoms domain
- Aepona has merged with Sweden based Appium, a technology vendor that offers Telecom Application Server and Service Creation Environment products in June 07.
- Brian Caulfield is the interim CEO and Liam McQuillan is COO
- Aepona received 1st round of funding of USD 11.5 mn in April 03 and 2nd round of USD 5.2 mn from Amadeus Capital Partners and Trinity Venture Capital in April 04
- It got an additional funding of USD 20 mn by venture capital companies in March 05
- Aepona raised USD 10 mn in Feb 07, bringing total investment in the company to USD 45 million. Existing investors Amadeus Capital Partners, Polaris Ventures and Trinity Venture Capital led the latest round



• Product and Services

- The company has Universal Service platform on which it provides:
 - Telecom Web Services
 - Telecom Application Server
 - Network Gateway
 - Service Broker
- Aepona has started a new Telco business model 'Telco 2.0', which brings Telcos all network assets to bear as they rise to the ever-increasing threat posed by new market entrants from the internet

• Strategy / Route to the market

- Offer platform to operators for application development and create a well knit developer programme around it
- Focus on emerging telecom market opportunities (i.e. SNC, Mobile marketing, Enterprises, video services)

• Capabilities

- Technology enabler
- Telco network integration

• Geographic Reach

- Belfast, N. Ireland (HQ, R&D, Operations), Malmö, Sweden (R&D, Regional Sales), Kiev, Ukraine (R&D), Bristol, England (Services)
- Sales offices: UK, US, Germany, France, Spain, Malaysia, India, Taiwan, Japan



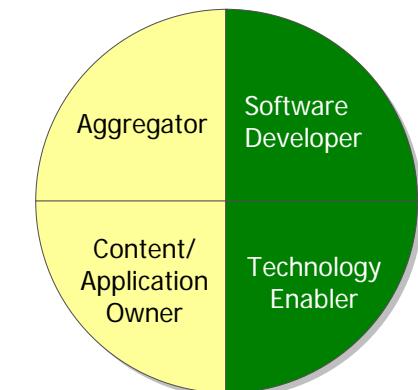
Future Plans

- Aepona is now investing resources in developing propositions for vertical market segments, for example:
 - Enhancing Social Networking services with interactive communications
 - Click-to-Dial feature embedded in e-mail marketing platform
 - Enterprise services
- Aims to become the platform of choice for deploying applications in GSM networks

Key Challenges

- Dealing with various stand alone services architectures of Indian telcos
- Convincing ISVs to develop applications for their platform

VAS Value Chain



 Strong Focus  Medium Focus
 Low Focus  No Focus



Overview

- Founded in April 2005
- HQ in UK, R&D in Singapore, while business development and project management carried out in India and US
- Anuj Khanna, Founder, CEO & Chairman Executive Committee, and Anuj Kumar, Executive Director (South Asia)
- Affel has reinvented messaging using Affel's flagship product SMS2.0. Affel recently announced the global launch of this product. It has spent 50,000 man hours to develop and works on around 50 Java enabled handsets currently



• Product and Services

- SMS 2.0: SMS application for enhanced messaging which offers customized text colour, emoticons, content and advertising (while sending and receiving SMS)
- First rollout – Affle Mobile Media (MM) Solution

• Strategy / Route to the market

- Focus on innovative SMS2.0 platform to drive ARPUs of operators (claim that in pilot conditions have been able to increase ARPUs by 8%-10% due advertising rev share)
- Partnerships with operators, advertisers and media agencies
- Increase compatibility with wide range of handsets including already compatible Java enabled handsets

• Capabilities

- Provide the technology, procure & support advertisers, and invoicing, billing & collections from advertisers
- Content platform can be used to support search-based advertising
- Six patent applications pending, mainly in messaging & search

• Geographic Reach

- Currently operating in UK, Singapore, India, Malaysia, USA. Strategic Partner driving business in 10 other countries in APAC region



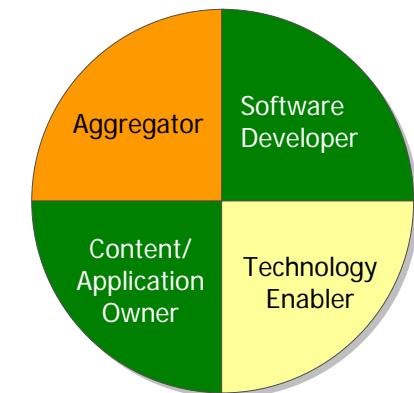
Future Plans

- Focus is on promoting the SMS 2.0 platform to telcos. Currently partnered with Airtel
- Enhance messaging features and improving end users experience using SMS 2.0 platform
- Launch Cufon (Mobile coupons) services
- Strengthen partnerships with more operators
- Affle is in discussion with various online search engines to enable mobile search from within SMS 2.0. Affle will also link search services like dictionary, movies, wikipedia and others

Key Challenges

- Educate consumers on features for better user experience on SMS2.0 platform to prompt installation
- Tie-ups and managing relationships with advertisers and educating them about the benefits of this platform will require some effort and time
- Replicate pilot results to larger base and in actual conditions and other geographies
- Increase base of compatible handsets as it is compatible currently in India with limited handsets

VAS Value Chain



 Strong Focus	 Medium Focus
 Low Focus	 No Focus



Overview

- Launched in 2000, Air2Web India is a subsidiary of Air2Web Inc, HQ in Atlanta & Chennai
- Management: Nish Parikh (COO, India Operations)
- Investors: The Carlyle Group, Vantage Point Venture Partners, Jupiter Ventures
- Network Partners: Airtel, Vodafone, Idea, BEA, BPL Mobile, Escotel, Spice, Orange
- Channel Partners: NIIT, Mascot Systems, PWC, SDI Technologies, Servion, 3rd Agenda
- Key Clients: ABN AMRO, HDFC, ICICI, Kotak Mahindra, LKP Shares, Hindustan Lever, Elbee, Gati, UPS and others
- Employee strength of 80 across India
- Revenue Model
 - One time fee for Air2Web's middleware installation and per sms fee model, charged on a monthly basis from enterprises

• Product and Services

- Middleware application which integrates with the enterprise IT system to enable push and pull messaging including automated alerts, marketing campaigns, enterprise mobilization. Can be managed inside an enterprise infrastructure or hosted
- Broadcast Tool, a web based product for sending bulk SMSs

• Strategy / Route to the market

- Focus on BFSI Vertical for providing secure integrated messaging platform
- Maintain premium pricing strategy for their services
- Has recently started targeting FMCG and retail companies for mobile marketing campaign

• Capabilities

- Technology platform provider for mobile messaging and marketing applications
- Key differentiators are security and timeliness of messaging products

• Geographic Reach

- India, US, UK, France



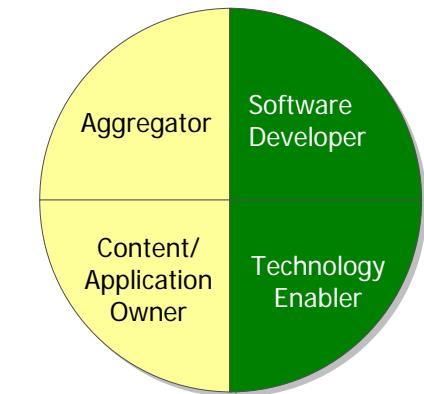
Future Plans

- Target FMCG companies for mobile marketing campaigns to replicate 'Campaign Manager' offering in US
- Leverage the global merger with Mindmatics AG, the European leader in mobile marketing across media, entertainment, automotive and agency business, to deploy its expertise in India
- Target to increase India's revenue share contribution to global revenues from 20% to 30-35% over next 3-4 years
- Launch GPRS based services
 - Live Cricket Scoreboards, with advertising space
 - Stock market updates and transactions with alerts

Key Challenges

- Increasing Competition from other players like ACL Wireless and Sybase 365
- Defending their premium pricing strategy in the face of intensifying competition in the mobile messaging space

VAS Value Chain



 Strong Focus  Medium Focus
 Low Focus  No Focus



Overview

- Established in 1999 and HQ in New Delhi, is owned by Bharti Enterprises, venture capital investors Sequoia Capital and Cisco, and Bharti Telesoft employees
- Bharti Telesoft offers software products and services to wireless and wireline operators
- In 2001 moved away from offshore software services as it accumulated more than USD 3 mn in losses and started focusing on VAS, which has been a successful strategy
- Revenues: USD 40 mn (FY 06-07)
- Solutions deployed in more than 45 countries through 75 service providers offering services to over 350 million subscribers
- Has primary R&D center in New Delhi, with other R&D centers in Bangalore and Mumbai
- Manoranjan Mohapatra is the CEO and Anil Gajwani is CTO
- They operate India's largest CRBT platform in terms of number of users

- 
- **Product and Services (delivered under four distinct SBU's)**
 - Content Solution: Platform for content services
 - Managed VAS such as Messaging, Call Management, and Roaming
 - Billing and customer care - BSS such as prepaid provisioning, customer care, and billing solutions
 - mCommerce
 - **Strategy / Route to the market**
 - Use of open standard platform and approach to product development
 - Leverage parent and partner companies to extend reach and improve offerings
 - **Capabilities**
 - Product & Technology development capabilities for MVAS
 - **Geographic Reach**
 - Bharti Telesoft has a strong sales and marketing focus in the Asia Pacific region, Russia and the CIS, the Middle-East, Africa, Europe and Latin America



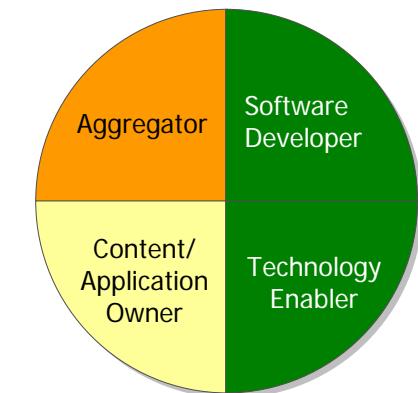
Future Plans

- Bharti Telesoft will focus on promoting new USSD (Unstructured Supplementary Service Data) based services, which are initiated by an SMS and then offer an interactive services menu without GPRS. This will help in better services discovery and usage by users
- It will launch a number of services including SMS router, voice SMS, SMS chat, and Live video services (as bandwidth becomes available), P2P transactions including balance transfer, minutes sharing and other services like music sharing and in future videos
- mCommerce and Live TV to mobile are the key focus areas for future

Key Challenges

- Novelty of VAS on mobile is short-lived and innovation is the key to success, which means technology companies like Bharti Telesoft will have to increase their investments into R&D
- Compete with other companies to generate business from group company Airtel, the largest mobile operator in India

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus

Overview

- Cellnext, established in 2000-2001 is a 100% subsidiary of the Escorts Group (a USD 500 mn group)
- Over USD 3 mn in revenues in FY06-07. Current YoY growth of 40-50% but they plan to achieve a 70-80% growth in the coming years
- HQ in New Delhi and has about 100 employees
- Cellnext works for all the major operators like Airtel, Vodafone, Reliance, Idea Cellular, Tata, BSNL, BPL Mobile, MTNL, and Spice
- Partners and clients list includes names like GoAir, American Express, LIC, UTI Bank, ICICI Bank, Fidelity Investments, Max New York Life Insurance, etc.
- CEO is A D Mehta who is Vice President of the Escorts Group and also oversees other IT Entities of the group



- **Product and Services (Mobile and Wireless)**
 - Mobile marketing
 - Enterprise solutions including self-manageable web-based bulk push SMS and IVR solution
 - Voice and SMS based entertainment services
 - Operator independent 2-step m-payment process – first by SMS and confirmation by IVR
 - Product authentication and mobile CRM platform
- **Strategy / Route to the market**
 - As older products get commoditized, shift the focus on new products and services
 - In partnerships with operators and merchants
 - Direct to enterprises
 - Direct to consumers via the short code 56677
- **Capabilities**
 - Cellnext' core competence revolves around working with wireless technologies like SMS, STK, DP, MMS, GPRS, IVR, J2Me
- **Geographic Reach**
 - Offices in Mumbai, Chennai and Bangalore

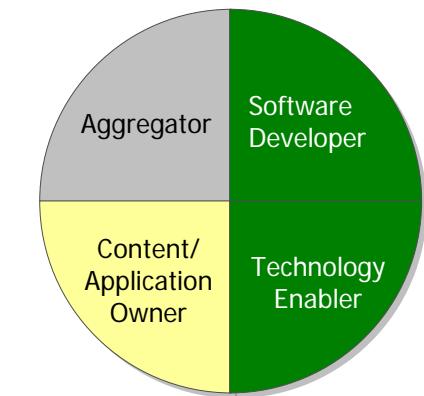
Future Plans

- In the near future, Cellnext will continue its efforts on CellPAPER, an MMS based platform that allows rich content in the form of an e-paper to be published on mobile
 - CellPAPER is already available for subscription on Idea and BSNL. It is a 140 KB message with stories on 4-5 categories that gets pushed to the mobile once per day
- Focus on growing mCommerce and CRM based applications to account for substantial portion of their revenues
- Media center for downloading rich media like full song

Key Challenges

- The rev-share split with the operators
- Telco driven high costs to end user
- Infrastructure gap
 - Lack of bandwidth efficient technologies like 3G and reliable GPRS
 - Most handsets in the market support limited feature set

VAS Value Chain



 Strong Focus	 Medium Focus
 Low Focus	 No Focus



Overview

- Established in April 1999, and in the year 2000 taken over by BV Holding and got its current name
- Geodesic is a publicly traded company on both BSE and NSE
 - The shareholding pattern as of March 07
 - Promoter: 23.99%
 - Public shareholding:
 - Institution: 61.54%
 - Non-institutions: 14.47%
- FY 06-07 revenue were INR 172.8 cr (USD 43.2) with a YoY growth of 80%
- Major portion of the revenue is from non-mobile services until now. However, it is expected that in next 3 years more than 50% of the total revenue will come from mobile services
- Co-founders Pankaj Kumar and Kiran Kulkarni serve as the Chairman and MD, respectively. Prashant Mulekaris Executive Director and Prof V Vinay is CTO

Product and Services

- Mundu IM: a unified IM platform that aggregates popular IM services viz. Jabber, GTalk, MSN, Yahoo, ICQ, AIM
 - Mundu IM has about 500,000 users globally with most users outside India on Palm, iPhone and Windows platform
- Mundu radio: a digital radio tuner provides access to thousands of digital Internet Radio stations
 - Mundu radio (300,000 downloads) has 30% users in India, 30% in US and the rest in the rest of the world

Strategy / Route to the market

- Direct to the consumer model for Mundu IM and explore to bundle as preloaded application with handset vendors
- Mundu radio in partnership with content provider and operator
- Aggressive marketing including online marketing

Capabilities

- Mobile application developer

Geographic Reach

- Offices also in USA, UK, Sweden, Singapore and Hongkong



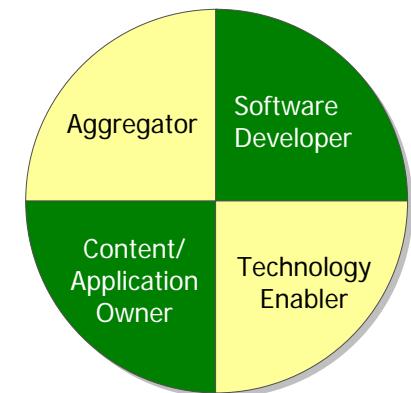
Future Plans

- Mundu Speak, VoIP application that allows conversations between mundu buddies, has been recently launched as a feature in Mundu IM. Focus on marketing Mundu Speak
- Promote Mundu radio in partnership with operators and content providers
- Medium term plans include working on Mobile Social networking

Key Challenges

- Few GPRS enabled devices though there are 50-60 million GPRS capable devices due to high data usage cost
- Capacity constraint resulting from the lack of spectrum
- Lack of awareness: Most of the mobile consumers are low-end customers with over 40% of handsets being monochrome and not aware of data VAS services like Mundu messenger and radio
- Difficult to use: Mobile data applications are not as easy to use as short code based SMS applications. Using Mundu messenger requires downloading the messenger, adding contacts and using it over a data channel. For Mundu radio, the radio tuner needs to be downloaded and tuned to the channel to be listened to. Both these applications require users to follow a few specific steps

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus

Overview

- Indiagames is a mobile and online games company and a global mobile game publisher. It is engaged in publishing online and mobile platforms. It distributes its products through partnerships with mobile operators in over 75 countries
- Global presence helps Indiagames subsidize its India offerings
- Indiagames has over 300 employees and offices in Mumbai, London, Los Angeles & Beijing
- Vishal Gondal is CEO of the company and Sameer Bangara is VP
- It is focusing on creating awareness among mobile users about games and has undertaken game focused branding exercise with operators
- UTV bought 51% stake in Indiagames for INR 68 cr (USD 17 mn) last year

**Product and Services**

- Mobile games including casual games and advergames

Strategy / Route to the market

- Indiagames will remain a specialized mobile gaming company with majority of current revenues coming from international markets as this space in India is still in its nascent stages
- Subsidize games in India to increase affordability and expand the mobile gaming market
- The primary mode of generating revenue is through subscriptions, and interactive content (flash based games)
- New revenue for games supported by advertisements

Capabilities

- End-to-end solution provider

Geographic Reach

- It has presence through operators in 67 countries

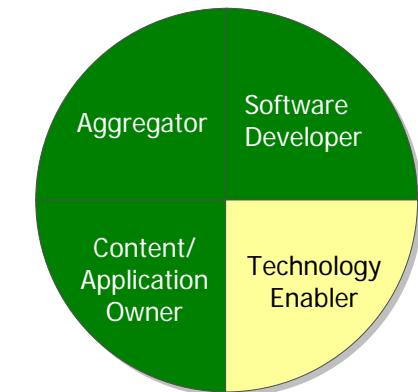
Future Plans

- The company plans to tap the growing mobile market in India and is investing heavily in generating awareness about games among mobile users. By 2010, it is expecting to have 50% market share in mobile gaming business
- Continue to focus on developing flash based games

Key Challenges

- Most users are not aware of games on mobile and if they are, they are not aware of how to access or use many of them

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



Overview

- Jump Games Pvt. Ltd. was started in 2001 and was known as Paradox Studios
- It is a Reliance Entertainment venture (100% owned)
- It is a publisher and developer of games across mobile and web platforms
- HQed in Mumbai and a total 180 employees
 - The team comprises game designers, concept artists, 2D and 3D graphic artists, modelers, programmers, project managers, game testers, and creative writers
- One of the leading players in the mobile gaming industry in India, however 80% of the revenue comes from international market
- Partnerships with Bollywood and sports personalities and comic book characters

**Product and Services**

- Mobile games including advergames
- Games by Jump Games are used in 36 countries with most of the business coming from Scandinavia, Australia, Thailand, Middle East, South Africa. Recently, Jump Games have introduced games in Korea as well

Strategy / Route to the market

- Distribute and create awareness in partnership with operators
- Jump games have games focused on Bollywood stars, sports stars and comic characters (Bollywood stars have a longer shelf life than movies)
- Partnerships with international companies like Disney to create and distribute games based on their brands
- Partnerships with Sega and Konami for distribution of their games in India
- To differentiate themselves by providing superior quality and frequently adding games with the intention of negotiating a higher revenue share from the operators

Capabilities

- Entire game process: content conception, development, distribution and also aggregation

Geographic Reach

- HQ in Mumbai, development center in Pune and new office in Stockholm



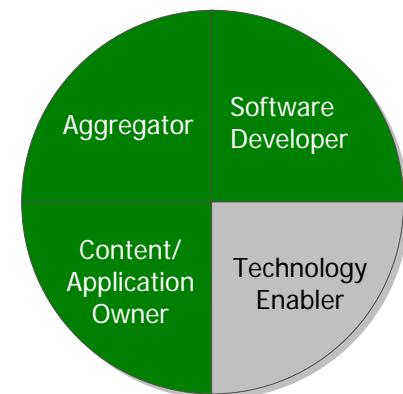
Future Plans

- Continue to concentrate on the international market due to favorable rev-share with operators and higher uptake of mobile gaming
- Move to tier II and tier III cities - continue partnerships with Bollywood stars rather than movies as they have a higher popularity in the non-urban areas
- Advergames provide a big opportunity in the cost-conscious Indian market
- Medium term focus will be to launch more network games and with the improvement in network quality, they believe the uptake will improve

Key Challenges

- Jump Games sees ROI as a challenge hindering R&D on new games given the current skewed rev-share split with the operator
- The lack of interest by the operators on promoting VAS. Today operator attention is focused on subscriber acquisition and they spend less marketing money on VAS. This has lead to lack of awareness about GRPS and data services thereby increasing the dependency on operator portal
- Discovery challenge – lack of awareness about where Jump Games is present on the operator portal, hence it is a challenge to either educate users directly or get operator to do it

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



Overview

- Established in 2002, July Systems is HQ in Santa Clara
- Management: Ashok Narasimhan (Chairman, CEO & Co-Founder), Rajesh TS Reddy (Co-Founder & President)
- Investors: Motorola Ventures, Charles River Ventures, NeoCarta Ventures, Sequoia Capital, Jumpstartup, Acer Technology Ventures, Silicon Valley Bancshares
- Employee strength in India: 100 globally and 75 in India
- Revenue Model: Dual model with per user / month option and a revenue share model for content, advertising and syndicated content

• Product and Services

- Operators
 - Integrated Mobile Marketplace (IMM) is an end-to-end mobile services retailing platform for operators, allows seamless management of all dimensions of mobile services – content supply chain, creation, retailing, delivery and operations
 - Search & Catalog Solution enables operators to tackle the key issue of a lot of good content but limited shelf-space on the operator deck
- Brands
 - SmartMedia Solution is a mobile marketing and retailing solution designed for media, entertainment, sports, and other brands and deployed as a managed service

• Strategy / Route to the market

- In India, 4 months ago, ventured into media offerings
- Have partnered with news & entertainment networks, publishing companies, TV channels, music & film labels, sports companies, & sports content rights owners and mobile operators
- Partnership with billing aggregators, content providers, complimentary technology providers, SIs & others channel partners

• Capabilities

- Mobile payment services and mobile gift vouchers

• Geographic Reach

- India, Germany, US, UK & UAE



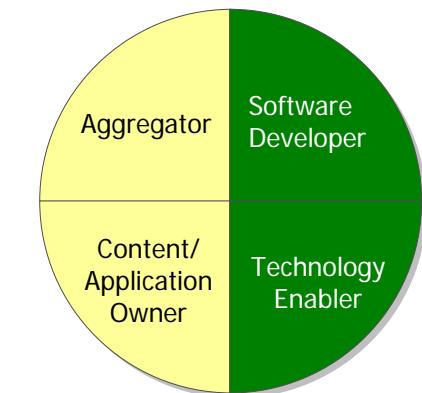
Future Plans

- Provide media companies with a direct to consumer channel, by equipping producers at these companies with the technology and tools to customize their own content for the mobile portals on an ongoing basis. For instance, tied up with NDTV Advertisement Convergence, the digital media arm of the NDTV Group, that is gearing up to release a beta version of a mobile portal called NDTV Active in December 2007. Another partnership with a leading print and publishing company is to be announced soon
- To help media companies create a wide variety of experience for their customers via tickers, push alerts, flip books, video updates, etc.
- To provide media companies with an edge over their competition, by helping them build a long term relationship between the consumer and the media company by creating a new set of experiences for the consumers

Key Challenges

- Telcos dominance of the revenue share is a key challenge, as billing is routed through the carriers
- Intense competition over a consumer's spend in the saturated space of traditional VAS. There is a limited number of ring tones and wallpapers that a consumer will be eager to buy
- To establish themselves as a key player in the mature market of Indian TV & news segment. July Systems sees a fantastic opportunity in this segment

VAS Value Chain



■ Strong Focus ■ Medium Focus
 ■ Low Focus ■ No Focus



Overview

- Kodiak Networks provides wireless operators with a mobile solutions portfolio that promotes community / group-based communications
- Global CEO & President: John Vice; India country manager: Giridhar Boray; Executive Vice President - Products, Customer support and CTO: Kris Patel
- Kodiak products have been deployed by the leading telecom operators globally, including Orange & AT&T, and MVNOs. Clients in India include Airtel, Idea and Tata Indicom for trials being run
- Have raised over USD 25 mn in funding over past 4 years from Kleiner Perkins, Redpoint, Lehman Brothers
- Indian HQ in Bangalore with 200 employees, out of 270 globally, primarily focused on development



- **Product and Services**

- Kodiak connected portfolio: a flexible, multigenerational IMS platform offering
 - Conferencing
 - Presence & contact management, along with groups management
 - Messaging: Allows group messaging
 - Push to talk

- **Strategy / Route to the market**

- Partner with telcos to provide core hardware and software solutions to enable group communications, and then license on per user basis
- Provide monitoring and support, but do not focus on managed services
- Focus initially on services for enterprise / business customers

- **Capabilities**

- Platform enabler for group communication and messaging solutions, primarily voice, for telecom operators

- **Geographic Reach**

- HQ in Texas, USA
- Offices in California, Florida (USA), Bangalore (India), Swindon (UK), Beijing (China)



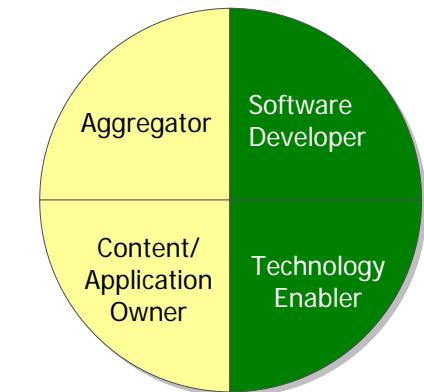
Future Plans

- Extend current trials to full commercial deployments across multiple operators in multiple circles
- Leverage early results showing increase in ARPU and focus on helping telcos target enterprise with more compelling services
- Develop offerings that can also appeal to and be used by large pre-paid market in India

Key Challenges

- Separation of telco and handset distribution prevents close integration of device with network features, and drives cost up because of lack of subsidy
- Application compatibility with variety of handsets, especially low end, at times requiring upgrade of SIM

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



Overview

- Established in 2005, mChek is a spin-out from A.Little.World, a financial services company
- mChek is HQ in the Cayman Islands, with an operating company in India
- Management: Sanjay Swamy (CEO), Suresh Anantpurkar (VP Products), John Kattakayam (Co-Founder & CISO) & Bharavi Gade (Co-Founder)
- Investors: Draper Fisher Jurvetson and Rajesh Jain
- Partners: Airtel, VISA, Master Card, ICICI Bank, SBI, Dialog Telekom, NDB Bank
- Employee strength of 60 across India
- PCI-DSS 1.1 certified, (Payment Card Industry's Data Security Standards 1.1), a global standard aimed at reducing debit and credit card fraud. World's first mobile payment platform to have received this
- Revenue model
 - Merchant fee model for payment services
 - Per user/month for pass code services

Product and Services

- Payment Services
 - Credit card payments via mobile phones for in-person and remote purchases / transactions (e.g. internet, electronic bill payment, stock trading) with vendors, and P2P money transfer between bank account holders
 - Enables remote & fully portable payment acceptance for merchants on-the-move like taxis, couriers, home delivery & service house calls
- Pass Code Services
 - Offers pass code services to help protect enterprises with their mobile work force from phishing & man-in-the-middle attacks through 2nd layer authentication using pass code

Strategy / Route to the market

- mCheck has launched with Airtel for bill payment service
- Expanded operations to neighboring countries – partnership with Dialog Telekom & NDB Bank (Sri Lanka) for payment services
- Tie up with leading e-commerce & travel portals such as FutureBazaar.com, Indiatimes.com, SifyMall.com & Yatra.com
- Enable P2P money transfer via mobile phones for Visa cardholders of Corporation Bank, HDFC and ICICI Bank

Capabilities

- Mobile payment services and pass code services provider

Geographic Reach

- India & Sri Lanka



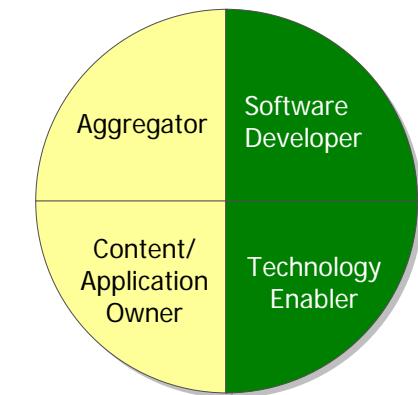
Future Plans

- mChek is planning to raise up to USD 15 mn in its second round of funding
- Key focus areas are bill payment, mobile internet shopping, merchant transactions and P2P payments
- mChek intends to expand its payment service to other telecom operators
- Plans to offer payment services to customers of other telecom operators besides Airtel
- Expand its services to more brokerage houses and increase the number of retail investors using mChek

Key Challenges

- Increasing competition in the mobile payments space from players like PayMate, JiGrahak, ITZ Cash, Obopay
- At present, the payment service is limited only to Airtel subscribers who own Visa or MasterCard credit cards
- Users security concerns are a key challenge in the adoption of mChek's payment services

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus

Overview

- Mauj was established in 2003 as a digital media entertainment company
- Wireless division of the People group with interests across very well known internet businesses in India like (Shaadi.com, Fropper.com) and Film Production (People Pictures)
- Partnerships with over 25 operators worldwide
- More than 100 employees
- Serves the entire value chain of digital / mobile entertainment including platform, application management and content (both proprietary and syndicated) management
- Evolved from a platform provider and moved to application management to serving the entire value chain
- Sequoia capital and Intel are key investor in the parent people's group
- Approximately USD 15 mn revenue targeted for FY 07-08



• Product and Services

- Mobile Content & Applications aggregation and repurposing (Games, Wallpapers, Ringtones, News, Matrimonial)
- Mobile Software & Services (Middleware Solutions, Roaming Applications, SMS Gateways)
- Mobile Media Solutions (Advertising and Branding Opportunities)

• Strategy / Route to the market

- Partnership with operators in India as well as international (Middle East and Africa)
- Focus on entertainment and digital media services
- Leverage other group initiatives like shaadi.com and social networking site fropper.com to study user behaviour and offer product and services based on this behaviour
- Distribute mobile content from third party

• Capabilities

- Focus on Services, Platform and Products
- High value added work is done in-house, while repurposing is done with partners
- Quality control is retained in-house for all offerings

• Geographic Reach

- Offices in Mumbai, Dubai, London, and New York

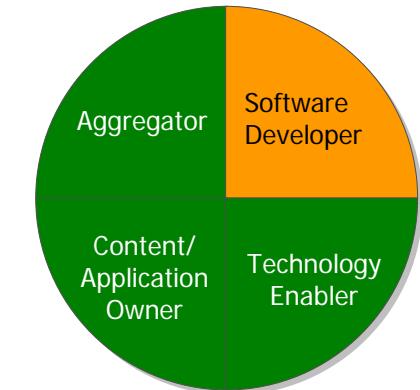
Future Plans

- Focus on user generated content to drive future revenues
- To develop mobile content for BREW platform like applications such as video ringtones and location based services
- Extensively Market 'm-Premiere', a java application. It allows mobile user to preview songs, ringtones and wallpapers on the mobile and directly download through the application

Key Challenges

- Build Mauj as a consumer brand in the mobile content space
- High focus on user generated content offerings by leveraging its online business like fropper and shaddi.com
- Continuous innovation to compete across highly sought after verticals like Banking, Travel & Retail

VAS Value Chain

 Strong Focus Medium Focus Low Focus No Focus



Overview

- Mobile2win (M2W) is primarily a mobile marketing company started in China in 2002 with funding from Softbank, Siemens Mobile Acceleration, and contests2win
- In 2006 Siemens and contests2win sold off their stake. Current stake holders are Nexus India, Norwest, Softbank and Silicon Valley Bank
- 112 employees of which 90 are based in Mumbai
- A new management team which includes Rajat Jain, MD & CEO and Tushar Shah Head - Product Management & Marketing
- Co-founders Gopala Krishnan and Rajiv Hiranandani head the Corporate Development & Strategy and Global Revenues, respectively
- M2W wireless billing gateway is connected to the billing platforms of all wireless network operators in India
- The SMS response management for Indian Idol was outsourced to mobile2win. M2W created a WAP site totally dedicated to Indian Idol content which has wallpapers, animations, picture messages, colour logos, videos, true tones, polytones, monotones and the Indian Idol Mobile Game

• Product and Services

- Owns the short code 58558 and also provides management/analysis reports of content download or trend analysis
- End to end mobile marketing consisting of concept creation, design, technology support and CRM
- SMS based contests
- Wireless billing gateway is capable of delivering messages through SMS, WAP, HTTP, CIMD and SMPP protocols
- Casual games developed in-house

• Strategy / Route to the market

- Traditionally M2W has depended on operators for marketing the products but recently it has shifted focus on direct to consumer approach by marketing their own products while still working with operators
- Forming partnerships with media companies and handset vendors

• Capabilities

- End to end solution (content, technology and delivery)

• Geographic Reach

- Now present only in India after selling off the China operation to Disney Interactive



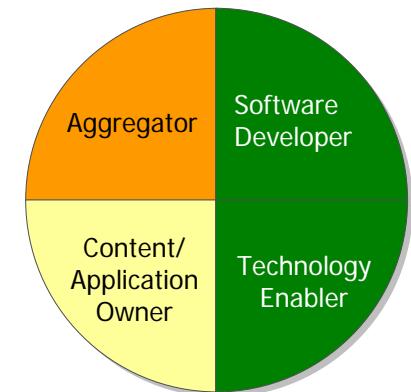
Future Plans

- Continue to form partnerships with media companies
 - M2W already has partnership with 15 out of the top 30 media companies in India to provide mobile marketing solutions to their clients
- Form partnerships with handset vendors and successful web portals
 - In collaboration with Nokia and BharatMatrimony.com, the matrimony services is made available through the Nokia catalogs service
- Focus on direct to consumer marketing
 - They are focusing on mobile internet based applications to reduce the dependency on operators

Key Challenges

- No framework for mobile terminated billing in India thereby not allowing flexible pricing mechanism for SMS. All SMS to their short code are charged at the premium rate determined by the operator and is not possible to offer different services at different rates
- Multitude of languages are prevalent in India. Local language support is necessary for products and services to be successful in the mass market. The keywords for the M2W shortcode needs to support local language
- ROI is a challenge hindering launch of new product and services not already proven successful in the market given the skewed rev-share with the operators

VAS Value Chain



Strong Focus	Medium Focus
Low Focus	No Focus



Overview

- Netcore Solutions was launched in 1998 as a software solutions company. The mission was to develop products and services for consumers and SMBs in India
- 'MyToday' is a brand owned by Netcore Solutions
- The company has got encouraging response from some big advertisers like Tata Sky, Akai, HT Mint, ICICI, Angel broking, Kotak and Amul
- Netcore has around 110 people, of which 60 are solely dedicated for mobile applications and services
- Even after walled garden approach by operators, its Free SMS based information service has been successful and has large adoption among users
- Rajesh Jain is the founder and MD of the company and Abhijit Saxena is CEO

Product and Services

- It has products like:
 - Mytoday.mobi - a mobile internet portal;
 - MyToday SMS Dailies - provides SMS based information;
 - MyToday MOBs - a group communication service;
 - MyToday Ads - for advertisers to reach mobile savvy audiences;
 - BlogStreet - India's first portal on blogs providing analytics, search and directory services

Strategy / Route to the market

- **SMS**- position itself as a leader in opt.-in marketing
- **User**- To create largest non-telco base subscriber base
- **Advertiser**-One of the early movers in advertiser funded mobile services

Capabilities

- Content Aggregator

Geographic Reach

- The company is headquartered in Mumbai and has office in Bangalore, Chennai, New Delhi, Hyderabad, Pune and Ahmedabad as well

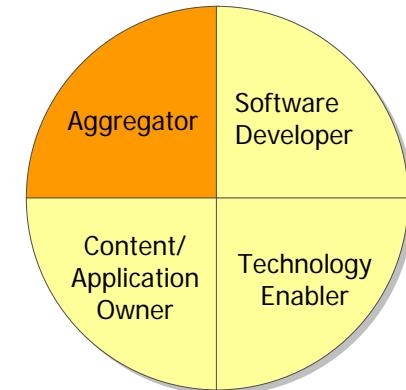
Future Plans

- Rope-in more advertisers to monetize its SMS based services by educating them that readership of SMS is higher as compared to other mediums and therefore ROI would also be improved
- Still has the challenge of walled gardens on the telco side to overcome before it can also effectively promote its free WAP portal

Key Challenges

- Operators reluctance to encourage the content/usage from independent third party providers not offering services using their infrastructure
- Declining revenue share for aggregators as they are just middleman
- Slow response from advertisers as agencies are not yet comfortable with mobile advertising

VAS Value Chain



 Strong Focus  Medium Focus
 Low Focus  No Focus



Overview

- Incubated at Infosys, the initial years went in concept testing variety of products starting 2000
- Arvind Rao and Mouli Raman co-founded the company
- Key Investors include Argo Global Capital, Infosys Technologies, Deutsche Bank, Goldman Sachs, Polygon Investment Partners
- Over 800 employee
- Revenues : INR 1329.7 mn (FY2006-07). Nearly 98% revenues came from Indian Market
- Acquired Vox mobili in Sept 07
- Focus on offering integrated platform across various technology silos traditionally found in telcos infrastructure for upselling and improving user experience



- **Product and Services**
 - Managed Services: infrastructure, operations, SLA management, fault management etc. for telcos
 - Marketing Support Services: Mobile 1-to-1 marketing, Event based opportunity analysis, execution of marketing services, Content Aggregation and Management for their enterprises customers
 - Mobile Media, mCommerce
- **Strategy / Route to the market**
 - Product differentiation by rolling out new products
 - Expansion across emerging and new markets
 - Inorganic growth
 - Have already announced plans to list the company
- **Capabilities**
 - Product Categories: Contests, Infotainment, Interactive Media, mCommerce, Multimedia Service, Mobile Marketing, MSearch, Music, On Device Portal, Phone Back-up, RBT, Voice Portal, Voice SMS
- **Geographic Reach**
 - India, Australia, France, Indonesia, Singapore



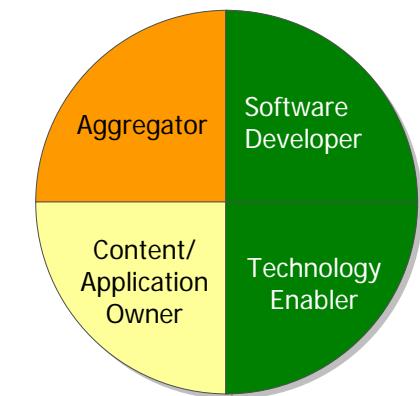
Future Plans

- Focus on International Markets to improve profitability
- Entertainment and mobile-based commerce will remain the biggest focus areas
- OnMobile will introduce proprietary mobile advertising platform for local advertisers to target consumers by behaviour and demographic profile. The platform is expected to be launched in six months

Key Challenges

- Reliance on Operators as channels to market products & services increases risks on future revenues
- Application performance is heavily dependent on carrier / operator infrastructure and seamless integration with their systems
- Move away from high dependencies on music related services which forms bulk of revenues

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



Overview

- Established in 2006, PayMate is a spin-off from Coruscant Tec, a wireless content provider and is HQ in Mumbai
- Management: Ajay Adiseshann (Founder & MD), Mr. Probir Roy (Co-Founder & Board Director)
- Investors: Sherpalo Ventures & Kleiner Perkins Caufield & Byers invested over USD 5 mn
- Partners: Corporation Bank & Citibank
- Merchant tie ups: Over 3,000 merchants, including Future Bazaar, Gold Cabs, CRS Health, Planet M, Kingfisher & MakeMyTrip
- Revenue model
 - Merchant transaction fee model for payment services, ranging from 2% up to 20% in some cases where marketing is provided to the merchant by PayMate
 - At present, almost 100% revenue generation is from India, as the US operations have started only this year
- Employees: Approximately 40

Product and Services

- Payment Services
 - Consumers can use their credit card via mobile phones for in-person and remote purchases / transactions - shop online, buy movie & airline tickets, pay bills at restaurants and retail stores, etc.
 - Introduced an IVR based payment solution wherein customer is called back for confirming transaction via IVR, after SMSing for the payment
- Gift Mate
 - A mobile voucher that enables one to gift money to anyone with a mobile phone which can then be spent at over 3,000 online and offline stores. Voucher can be redeemed in multiple transactions, with the balance being carried forward until it is exhausted

Strategy / Route to the market

- Tie-up with over 3,000 merchants including online portals, voice portals, travel services, utilities, retail outlets and restaurants
- Launched innovative marketing campaigns, like displaying its ticker on TV screens during sports matches and running a contest
- Increasing enterprise usage for Gift Mate as a substitute to traditional or cash gifting

Capabilities

- Mobile payment services and mobile gift vouchers

Geographic Reach

- India & USA



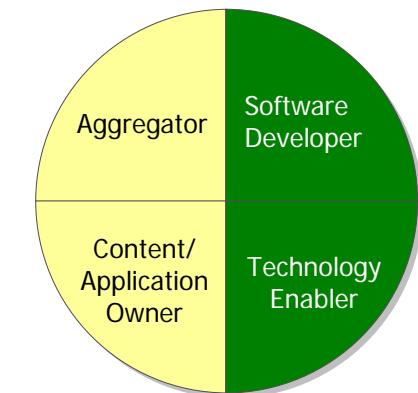
Future Plans

- P2P payments and remittance are two key focus areas going forward
- Expand operations to Sri Lanka and the Middle East by 2008
- Increase partnerships with 10 more banks by March 2008
- Increase tie ups with online shopping portals
- Plans to partner with 2 telcos as partners for promotion of PayMate's services

Key Challenges

- Consumer behavior towards security of transactions is the key hurdle for the growth of mCommerce. Consequently, the uptake for mCommerce is very low and since India is primarily a cash and cheque country, it will take time to change the users' attitude and allay their apprehensions
- mCommerce is urban centric today and will take a long time to reach the rural areas, where the opportunity is bigger
- Increasing competition in the mobile payments space from players like mChek, JiGrahak, ITZ Cash, Obopay and other fast emerging players

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



Overview

- Phoneytunes offers mobile content services, content management solutions, premium billing platforms and Java / Symbian / BREW applications
- Headquartered in New Delhi, it provides end-to-end solutions to mobile operators. Taron Mohan is the CEO of the company
- Phoneytunes was the first company in India to launch the concept of VAS on mobiles with offering on Ringtones, Logos and Picture Messages through the site in 1999



- **Product and Services**

- Development Platforms: BREW, SMS, Symbian MMS platforms, online charging platforms, portal frameworks
- Content creation & aggregation: mobile content and interactive voice recognition systems, Customized polyphonic and monophonic ringtones creation, wallpapers, video downloads
- Application Development: Utility applications like SMS gateways & SMS applications. Fun Applications like SMS / WAP Games & Chat/ Dating engines
- Other services include mobile secrets, phone tricks, lost mobile reporting board and a discussion forum

- **Strategy / Route to the market**

- Focus on converged offerings around broadband and wireless. Including music download (full songs) and videos
- Providing end-to-end solutions to mobile operators, media companies and content providers

- **Capabilities**

- Content repurposing and aggregation

- **Geographic Reach**

- New Delhi



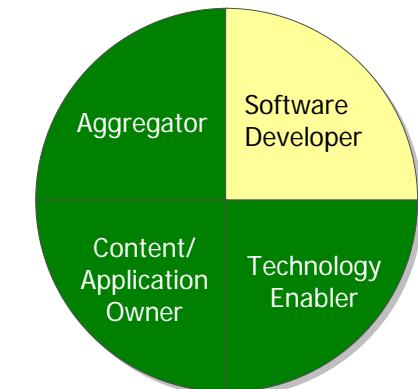
Future Plans

- Focus is on convergence so offerings would be around wireless and broadband
- Develop more applications on WAP platform
- Continue to focus on international market

Key Challenges

- Since all devices are not WAP enabled, the company is facing challenge in terms of availability of WAP enabled phones

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



Overview

- Spice Mobile VAS (formerly Cellebrum) is a technology enabler in wireless application space. The company develops applications for three main segments - voice based services, messaging and roaming
- The spice group promoted company has recently gone through rebranding and is now called as 'Spice Mobile VAS'. The company is headquartered in Parwanoo in HP. Saket Agarwal is the COO of the company
- The company has tied-up with almost all the major content providers like Nazara, Fusion Toonz etc.
- Its Background Music service has over 5 million live customers in India

Product and Services

- Telecom Products - Select Caller List, SMSC, USSD Gateway, Background Music, Pay For Me, CRBT, VMS, Alert Me etc.
- VAS Solutions - Entertainment, Gaming, Information and Community services (Music cards, Tambola, Quiz, Cricket, self provisioning, group messaging etc).
- Roaming Solutions - International Call-Back, Roaming tie-ups extension, Welcome Roamer, Least Cost Routing etc.
- Enterprise Solutions - SMS & IVR enabling, global no., B2B & B2C interactivity

Strategy / Route to the market

- The company aims to be end to end solution provider in mobile VAS space
- The company has tied-up with all major VAS solution providers like Mauj, Hungama, Cellnext etc. It is currently working with all the major service providers in the country

Capabilities

- Providing services across all platforms

Geographic Reach

- It has presence in 10 countries and employs around 450 people
- Its Corporate office is in Noida and Registered office is in New Delhi. It also has regional offices in Chandigarh, Mumbai, Kolkata, Lucknow and Bangalore

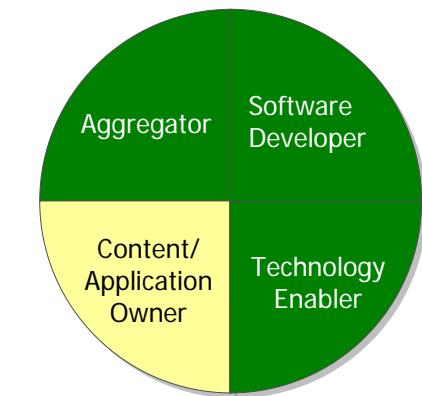
Future Plans

- The company aims to invest around INR 100 cr (USD 25 mn) to expand its network over the next 12 months. INR 50 cr (USD 12.5 mn) will be spent on upgradation of technology platforms and launch of new services
- The company is planning to focus more on mobile advertising and is expected to launch advertising based services by January 2008
- Plans IPO next year

Key Challenges

- Revenue share with operators is still a bone of contention but Cellebrum believes that as the market mature, things will change

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



Overview

- Founded by two IIT alumni in 2004, Webaroo's HQ is in Bellevue, Washington
- Management: Rakesh Mathur (Co-Founder & CEO), Beerud Sheth (Co-Founder & CTO), Chirag Jain (VP, India Operations)
- Investors: First round funding, raised USD 1.5 mn from Hummer Winblad Venture Partners & then raised USD 7.5 mn in second round from Cambrian Fund, Lloyd George Asian Plus Fund and HTSG
- Employee strength in India: 90
- Revenue Model
 - Webpacks: Targeted contextual advertising and advertisers can opt to sponsor existing content packs or can create separate co-branded packs
 - SMS Gupshup: An India-specific service which is free to users & is supported by advertising in the sms footnote space
 - Also pursue OEM partnerships in the desktop/laptop space where the OEM (e.g. Acer) gets a share of advertising displayed on its machines

- 
- **Product and Services**
 - SMS Gupshup (Group SMS): A group messaging service that enables creation of groups of any size and allow communication with all group members at a cost of a single SMS sent by the group creator. Groups & messages are also archived online
 - Webaroo Software: It enables users to browse and search web content offline which is compressed for consumption on laptops, PDAs or smartphones. Presents a "slice of the web"
 - Webaroo creates a "Webpack" by crawling the web and selecting the most relevant web pages for specific topics and compresses them to present the content with the most value in the least storage size
 - Packs include sports, news, movie & pop stars, health, recipes, photos etc. and can also be customized with additional sites
 - Software updates itself every time user logs on to web
 - Have also started launch of mobile apps, like Reliance Money
 - **Strategy / Route to the market**
 - Tie-up with over 20 advertisers for smsgupshup, including Jet Airways, ICICI, and Citibank
 - Partnership with Acer to pre-install Webaroo on all notebooks
 - Webpacks offered in 8 foreign languages, besides English
 - Develop mobile apps in partnership with more enterprises
 - **Geographic Reach**
 - India & USA

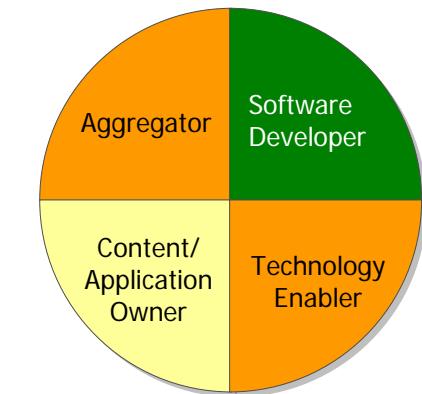
Future Plans

- Focus on promoting the SMS Gupshup mobile platform that was launched 6 months ago
- Increase the advertisers base in India
- Partnerships with carriers in the pipeline

Key Challenges

- Advertisers' mindset towards mobile marketing is a key challenge, and Webaroo is trying to get more advertising partners to support the free group SMS service
- Increasing competition in the mobile platform space for group SMS products, though at present other companies are solely focused on enterprise segment. But if the competition can attract advertisers, they can also offer free group SMS for consumers
- Need to maintain its first mover advantage in the Webaroo Software and Webpacks offerings

VAS Value Chain



■ Strong Focus ■ Medium Focus
■ Low Focus ■ No Focus



- The big 3: Google, MSN and Yahoo are present in India
- All these companies provide their internet offerings like search, mail, messenger, etc on the mobile platform
- All 3 companies are forming partnerships with operators and handset vendors to put a search box in the operator portal or default handset browser
- Google wants to understand the India market first
 - As SMS is the most used medium, Google has started SMS based search
 - Google plans to build a brand value by word of mouth rather than spending marketing dollars, i.e., by providing better quality, specially in the area of their core competency: search
- Yahoo wants to focus on utility based services
 - Yahoo is aggressively partnering with operators to incorporate a yahoo zone in their portal
 - Yahoo is also a content aggregator with an exclusive listing on the web
 - Yahoo is also focusing on P2A applications
- In India, MSN works with multiple carriers
 - Focus on mobile IM application and has seen an increase in the number of mobile email users





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