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Indian Wireless

Mobile VAS: Meeting With OnMobile; Voice Platform Scores

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- **OnMobile, leveraging on voice** — We met OnMobile, a leading player in the Application Service Provider space for mobile value added services (VAS) on voice platform, to assess the potential contribution of VAS to Indian Wireless revenues and key trends.

- **Voice platform leading the charge** — Voice is scoring over text/SMS and GPRS as the leading delivery platform for mobile VAS, especially as penetration deepens. Our discussions with On Mobile reveal an increase in downloads based on regional languages, dominated by ring tones and ring-back tones.

- **Mobile VAS, all wired up** — Mobile VAS in India is taking its first steps after spending last couple of years in infancy. It has graduated from a glorified superset of peer-to-peer SMS to a well-demarcated segment. Mobile VAS currently generates 4% of revenue; estimated to increase to 7% by FY10.

- **Operators dominate the ecosystem** — The VAS ecosystem has now taken shape with a value chain of content providers, aggregators and technology providers. However, operators take bulk of the transaction value (content share is typically 20-40%), a reflection of low rev/min and fragmented content market. Value creation at the content/ASP stage is therefore dependent on volumes/scale.

- **Reiterate positive stance on Indian Wireless** — Growing contribution from mobile VAS would likely offset some of the pressure on revenue yields. Strong growth visibility and competitive equilibrium support our positive stance on the sector. Bharti (BRTI.BO - Rs544.15; 1L) continues to be top pick followed by RCOM (RLCM.BO - Rs388.85; 1M) and HTIL (2332.HK - HK$16.04; 1M).

Figure 1. Indian Wireless – Valuation Comparisons

Company	RIC	Rating	Price	Target Price	P/E		EPS CAGR *	EV/EBITDA		Dividend Yield	
			3-Nov-06		06E/ FY07E	07E/ FY08E	FY05-08E	06E/ FY07E	07E/ FY08E	06E/ FY07E	07E/ FY08E
Bharti	BRTI.BO	1L	546.65	600.0	27.1	19.5	42.4%	15.3	11.1	0.4%	0.8%
RCOM	RLCM.BO	1M	391.0	430.0	30.0	20.0	126.9%	15.4	11.0	0.5%	0.8%
HTIL	2332.HK	1M	16	18.0	180.4	54.2	NM	11.1	8.7	0.0%	0.0%
Cellular					19.0	15.8		7.8	6.5	2.6%	3.0%
Integrated					13.1	11.9		5.9	5.3	3.7%	4.7%

Source: Company Reports and Citigroup Investment Research estimates

Note: Year March 31 for Bharti and RCOM and Dec 31 for HTIL; * FY05-08E/06-09E EPS CAGR

See page 10 for Analyst Certification and important disclosures.

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OnMobile Systems Inc.- Background

On Mobile was co promoted in 2000 by Infosys Technologies Limited, Argo capital and couple of individuals (Mr. Arvind Rao and Mr. Mouli Raman). It has entered into a partnership with leading software companies for products like speech recognition, voice authentication, text-to-speech and voice browsing.

On Mobile is the leader in Application Service provider for the voice platform in India and has less presence in SMS and WAP/GPRS platform. Because of its first-mover advantage, On Mobile is the preferred client for three leading cellular operators for their voice portal services, e.g. 123 services, from Hutch, Airtel 646 service, etc., and has 90-95% share in the VAS traffic handled on voice platform. The company also offers services in various local Indian languages.

Besides being an APS for the voice portals, On Mobile has also ventured into content aggregation for the voice portals in Caller Ring Back Tones (CRBT), ringtones, etc. The company's revenue streams comprise 2/3 components – rentals/lease for hardware, charges for software applications and revenue share for content (in case On Mobile is the aggregator).

Key takeaways from the meeting

Voice scoring over other platforms: VAS delivery through voice portals (i.e. Hutch 123, Airtel 646) has been on the increase and even outpacing the other platforms viz. text/SMS and WAP/GPRS. This trend will likely continue as penetration deepens into the segments of population, which are less conversant with English or are not-so "SMS-savvy". Voice platform, therefore, has the potential to lead the increase in VAS penetration in India.

Regional languages also catching up: Given the multiplicity of languages, the company is witnessing increase in relative usage in regional languages (accounting for almost 40% of its traffic handled). On Mobile has created voice portals based on calibration of regional languages and accents, which provides it an edge over potential new entrants in the space.

Figure 2. VAS Delivery Platforms – Pros and Cons

	Voice	Text/SMS	GPRS/EDGE
Pros	• Mass adoption due to speech recognition and localization • Reach of VAS can be much more in "non-SMS savvy" markets • Building awareness is easier through umbrella advertising by the operators	• Cheaper than voice • Faster access • Less demanding on network capacity	• Easy always-on access • Could be cheaper for high user • More suited for games
Cons	• Could constrain network capacity • Speed of innovation dependent on operator to some extent • Costlier than text; incl. navigation cost + transaction cost	• Could be hindered by literacy levels after 1-2 years • Difficult to memorise short codes & key-words • High brand building expenditure by the portals/aggregators	• Only 1mn active GPRS users vis-à-vis 15-20% penetration for voice/text • Growth dependent on affordability of 2.5/3G handsets

Source: Citigroup Investment Research

Content revenue share still on the lower side: On Mobile gets a share of revenues from two/three streams. For CRBT for example, the revenue streams include 1) Rentals (Rs30 typically), 2) Download cost per song (~Rs10) and 3) Voice portal navigation charges (typically Rs6/min). The content share however is in the 20-40% range, on the lower side compared to global norms.

Tradeoff with capacity requirements: Higher capacity requirements for voice platform will ensure that the operators will try and maintain an optimum mix of voice and data (incl. SMS). Infact, this could partially explain the higher pricing for voice services (in the form of navigation charges) vis-à-vis SMS. In other words, the operators will try and maximize the revenue per erlang, even while employing voice as a major driver to increase VAS penetration.

Mobile VAS – Emerging Industry Structure

Mobile VAS in India is taking its first steps after spending the last 1-2 years in infancy. The market has graduated from being a glorified superset of peer-to-peer SMS to well demarcated revenue segment for the mobile operators. As anywhere else, the VAS value chain consists of content providers, aggregators and mobile operators with technology platform providing the base. There is overlap in the roles with leading players present in two or more segments.

Mobile VAS comprises the following.

- Ringtones (poly/mono)
- Wallpapers
- Games
- Text (SMS) based info services (News, chat, dating, cricket, horoscope)
- Voice based info services
- Caller ring-back tones (CRBTs)

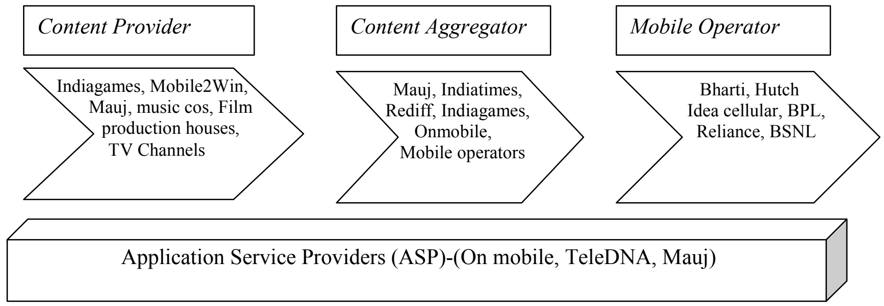
It should be noted that this list is not sacrosanct and service innovations could expand the applications and usage further. For example, CRBTs were launched about two years back has already made a significant impact.

VAS value chain

The value chain of the mobile VAS market comprises the pure content providers, content aggregators and mobile operators. Besides, the application service provider (ASPs) is the one who provide the technology platform and make the integration of mobile networks and content servers possible.

The value chain is consistent across the delivery platforms, i.e. SMS (text), voice and GPRS, which are discussed in greater detail in the subsequent sections. However, the roles are not compartmentalized and the leading VAS players are now extending their presence beyond their core strengths in the value chain. For example, mobile operators have resorted to content aggregation themselves in some cases. Similarly, the aggregator portals (Indiatimes, Rediff, Yahoo!Mobile) have in-house content creation too especially in text-based services as well as ringtones/games now. Even Onmobile, the leading ASP, aggregates content in some cases for the voice services.

Figure 3. Mobile VAS Value Chain



Source: Citigroup Investment Research

Figure 4. Service-Platform Matrix

	Text	Voice	GPRS/2.5G
Ringtones	X	X	X
Wallpapers	X		X
News, cricket, jokes, astrology	X	X	X
Games			X
CRBTs	X	X	X

Source: Citigroup Investment Research

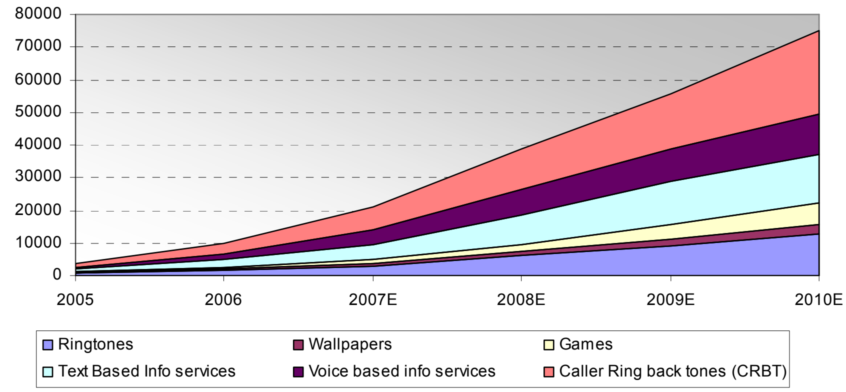
How big is the mobile VAS market?

Market estimation of the value added service is tricky because of the nascent and hence fragmented market structure in India. Besides, introduction of new innovative services could lead to quantum jumps in the VAS market. Nonetheless, we have attempted to arrive at the market estimate based on our interaction with On Mobile and other leading players in the VAS value chain. We estimate the VAS market to grow 8x to reach Rs75bn market in FY2010 at a CAGR of 66% during FY06-10. On our estimates, VAS market would reach ~7% of mobile revenues in FY2010 from an estimated ~4.0% presently.

The key drivers of mobile VAS would be as below.

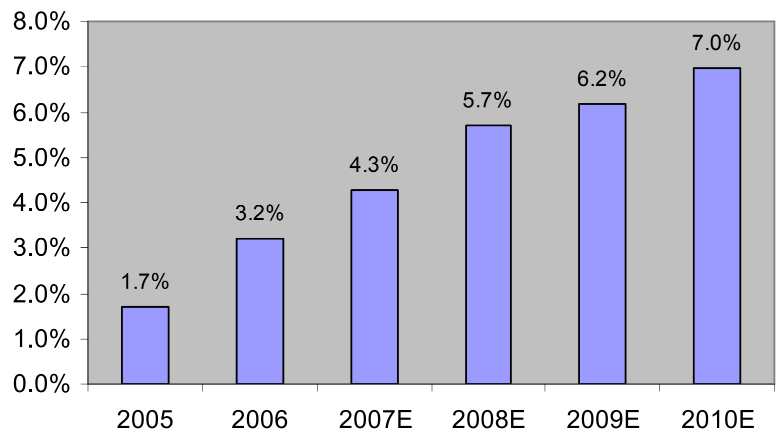
- Increasing affordability of handsets enabled with polyphonic tones, colour screens and GPRS. We estimate that about 35-40% of the new handset sales have GPRS capability.
- The present VAS charges are quite high. For example a polyphonic ringtone or CRBT costs Rs10. decline in prices would boost usage and further VAS penetration.
- India has one of the youngest average age of its population, after Philippines, in the Asian region. This could accelerate the adoption of new services among the mobile users.

Figure 5. Mobile VAS Market Estimates (Rs m)



Source: Citigroup Investment Research estimates

Figure 6. Mobile VAS as proportion of Wireless Revenues

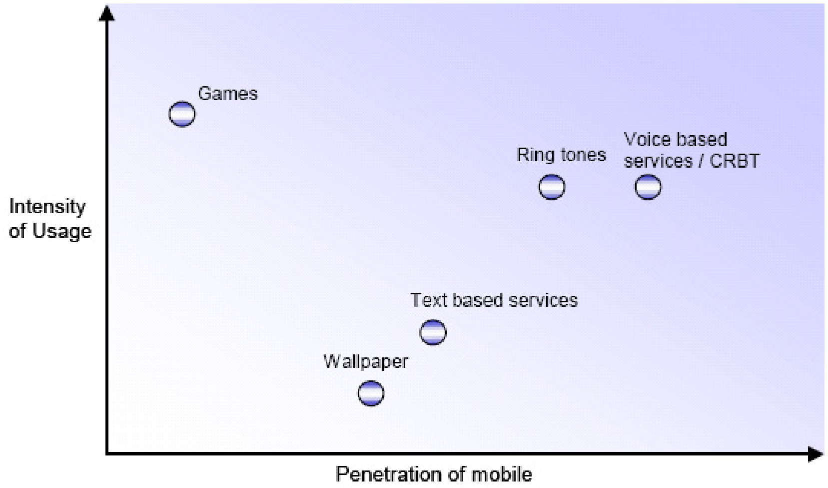


Source: Citigroup Investment Research estimates

Some of the salient observations and assumptions regarding the dynamics of the VAS market are as below.

- We expect the voice services to lead the penetration scale (i.e. % of mobile users using voice services) as it is independent of literacy levels and faces lesser problems in localizing the content unlike in text.
- The penetration of ringtones and text will be the next highest though usage of the latter may be constrained by the increasing popularity of voice platform.
- Games are an extreme example of low penetration but high intensity of usage.
- In wallpapers, we expect both the penetration and usage to remain moderate.
- We expect higher decline in text-based and voice-based services/CRBTs as operators try and increase the penetration of VAS.

Figure 7. VAS: Penetration vs. Intensity of Usage



Source: Citigroup Investment Research

Bharti (BRTI.BO - Rs544.80; 1L)

Investment Thesis

We rate Bharti as Buy/Low Risk (1L) with a target price of Rs600. We believe continued robust wireless market expansion and Bharti's ability to capture this growth profitably will be the recurring theme for the stock. We estimate an FY06-09E earnings CAGR of 42.4%, or more than double that of the broader market. We believe that competitive pressures, though intense, will continue to be rational as low revenue yields and moderate EBITDA margins leave little room for disruptive pricing. Additionally, most regulatory concerns are behind us and 3G recommendations, though discomforting, cannot derail the growth path, in our view. The strategic shareholding of SingTel, which the company has increased over time, leaves us comfortable with execution issues and new initiatives (such as electronic recharge, vendor tie-ups or a One Alliance partnership). The presence of Vodafone in the management board should add to the knowledge pool. Combined with strong brand presence and a good corporate governance standard, Bharti appears a strong investment. The company has yet to realize the benefits of economies of scale, and we expect a slight strengthening of margins.

Valuation

Our 12-month forward target price of Rs600 is based on DCF, which suggests a fair value of Rs598 as of March 2007. This is based on WACC of 10.8%, terminal growth rate of 3% and beta of 0.9 (implying a terminal EV/EBITDA multiple of 7.5x). We prefer DCF as our primary valuation methodology because the wireless market will likely continue to see robust growth requiring upfront capex but can generate significant free cash beyond 2009-10.

Our target price represents a FY08E P/E of 21.4x and EV/EBITDA of 12.1x, which is justified by 3-year CAGR of 41.2% in EBITDA and 42.4% in EPS. The target P/E multiple for Bharti is at more than a 30% premium to the broad market (15.7x FY08E), which we believe is justified by above-average earnings growth, improved earnings visibility and relative insulation from macro risks (interest rates and political risks).

Risks

Our quantitative risk-rating system rates Bharti as Low Risk. We are comfortable attributing a Low Risk rating for the following reasons: (1) Bharti has a track record of profitability and execution; (2) the company's capex plans are fully funded; and (3) the strategic shareholding of SingTel and Vodafone leaves us comfortable with execution issues and initiatives. The risks that could prevent the stock from reaching our target price include competition-led tariff pressures, un-remunerative capex, overall market downside, and more telecom-related paper entering the market.

Reliance Communications Ltd. (RLCM.BO - Rs390.05; 1M)

Investment Thesis

We rate RCOM as Buy/Medium Risk (1M) with a target price of Rs430. Continued expansion of the wireless market and RCOM's ability to capture market share profitably will, in our view, be the recurring theme for the stock. The wireless business has demonstrated higher operating leverage in the recent past and has maintained similar return parameters despite lower revenue yields.

Competitive pressures, though intense, should continue to be rational. RCOM is also planning a GSM overlay on its existing CDMA network; while there is market rationale for this (GSM has lower-priced handsets), we think the economic rationale would be determined by the deal from vendors as well as the extent of infrastructure-sharing possible. Additionally, most regulatory concerns appear behind us, and news flow now is likely to be positive.

The company has yet to realize the benefits of full utilization of its network infrastructure (especially in broadband), and we expect significant strengthening of margins as traffic increases across segments. We thus expect RCOM to register an EBITDA CAGR of 61% for FY06-09. We value RCOM at 12x FY08E EV/EBITDA.

Valuation

In valuing Indian wireless plays, we use DCF as our primary methodology given the back-ended nature of profits and cash flow. In the case of RCOM, however, we use EV/EBITDA in the absence of a detailed balance sheet, which is awaiting reorganization.

We value RCOM at 12x FY08E EV/EBITDA, similar to the implied target EV/EBITDA for Bharti based on our DCF estimate. RCOM's valuation multiples are likely to closely follow Bharti's notwithstanding the risk of technology transition due to the liquidity overflow from the latter. We use FY08 estimates in assigning target valuations as operating leverage should have played out by then, and RCOM's profitability and capacity utilization would be comparable to Bharti's.

As a secondary valuation methodology, we apply a target P/E of 21.9x FY08E for a fair value of Rs430. We believe a premium to the Sensex's 12-month forward P/E of 16.0x is justified given our projected earnings growth for RCOM of 50% yoy for FY08 and a 45% CAGR for FY07-09E against estimated market earnings growth of 23% for FY07E and 11% for FY08E.

Risks

Our quantitative risk-rating system assigns a High Risk rating to RCOM, but we believe a Medium Risk rating is more appropriate. RCOM has been de-merged from Reliance Industries, and its shareholding at the time of listing mirrored the holding of RIL. The stock is therefore unlikely to have risk factors that are typical of newly listed companies that have more limited management and operating track records. Besides, growth in the telecom sector accords visibility to RCOM's prospects – characteristics that are similar to those of its peers. However, we believe its evolving financial history and risks pertaining to GSM overlay warrants a risk rating higher than that which we assign to Bharti (Low Risk).

Additional disclosures on the balance sheet and business segments (in 4QY06 reporting) somewhat reduce the risk of the unknown. However, an evolving financial history still remains a risk, as was evident in the restatement of financials for 4QFY06. Discontinuity in financial statements pre- and post-reorganization could also pose risks in terms of analysis.

Operationally, the risks facing RCOM are slightly higher than for Bharti due to the proposed technology shift. Also, RCOM's present CDMA-led business model leaves open the possibility of the re-emergence of handset subsidies, which the company has brought under control.

Downside risks to our target price include smaller-than-expected market share, lower-than-anticipated operating leverage (especially for FY07), cost-overruns in GSM overlay, regulatory and competition risks, un-remunerative capex, delays in the ongoing re-organization and more telecom-related paper entering the market.

HTIL (2332.HK - HK$16.04; 1M)

Investment Thesis

Our rating on HTIL is Buy/Medium Risk (1M), with a sum-of-the-parts-driven target price of HK$18.0. In our view, the group's high-growth Indian assets (66.9% stake in Hutch-Essar) represent the single largest value driver at this stage. The group's recent M&A initiatives have led to the successful structuring of an all-India footprint. We believe this gives HTIL increased credibility as an alternative choice for exposure to the strong growth potential in the Indian wireless sector (our favourite wireless market in the region). Given HTIL's diverse range of assets (telecoms assets and operations in eight countries), we think NAV break-up better reflects the company's valuation than conventional metrics at this stage.

Valuation

Given the diverse range of assets in HTIL, we believe a sum-of-the-parts (SoP) analysis is best suited to value the company. There are three principal parts to our SoP analysis: Partner (Israel) is listed and thus provides the clearest and simplest indicator to the value of HTIL's stake; Hutch-Essar and the fixed-line and mobile businesses in Hong Kong are the three significant unlisted parts. We value these on a fundamental DCF basis and check their valuations based on peer group trading multiples; and outstanding shareholder loans to the operating companies. All in all, we see NAV at HK$18.0. Given majority holdings in all entities and no separately listed holdings other than Partner, we ascribe no holding-company discount, which leaves us with HK$18.0 as our target price.

Risks

Given HTIL's past loss-making status and imminent start-up businesses in Indonesia and Vietnam, we rate HTIL as Medium Risk, rather the Low Risk indicated by our quantitative risk-rating system. The following risk factors could impede the stock from reaching our target price: HTIL has been loss-making and has high debt and off-balance-sheet liabilities; the company does not intend to pay dividends in the foreseeable future; competition is tough in its subsidiaries' markets (Hong Kong, India, Thailand, and Israel); the 3G-business model in Hong Kong is still unproven and we see a large impact on profitability from 3G rollout costs and SACs in the medium term, though SAC amortization would boost reported numbers somewhat; regulatory and policy restrictions in various markets. Continuing disagreements and disputes with the Essar group in India could also develop into a risk to Hutch Essar's growth prospects.

Analyst Certification Appendix A-1

We, Rahul Singh and Anand Ramachandran, CFA, research analysts and the authors of this report, hereby certify that all of the views expressed in this research report accurately reflect our personal views about any and all of the subject issuer(s) or securities. We also certify that no part of our compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or view(s) in this report.

IMPORTANT DISCLOSURES

Bharti Airtel Limited (BRTI.BO)

Ratings and Target Price History - Fundamental Research

Analyst: Rahul Singh (covered since April 28 2006)

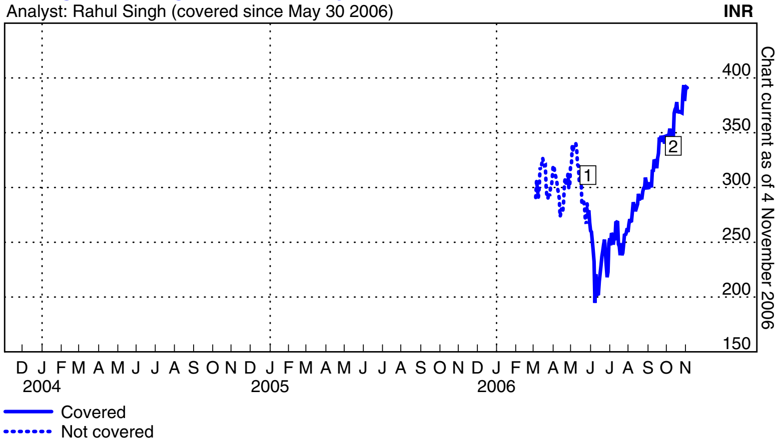
#	Date	Rating	Target Price	Closing Price
1:	20 Jan 04	1H	*160.00	118.40
2:	17 Mar 04	1H	*220.00	146.15
3:	14 Jan 05	*1M	*260.00	210.30
4:	22 Aug 05	1M	*400.00	306.10
5:	10 Jan 06	1M	*450.00	339.25
6:	13 Apr 06	1M	*500.00	395.95
7:	12 Oct 06	*1L	*600.00	475.65

*Indicates change.

Reliance Communications (RLCM.BO)

Ratings and Target Price History - Fundamental Research

Analyst: Rahul Singh (covered since May 30 2006)



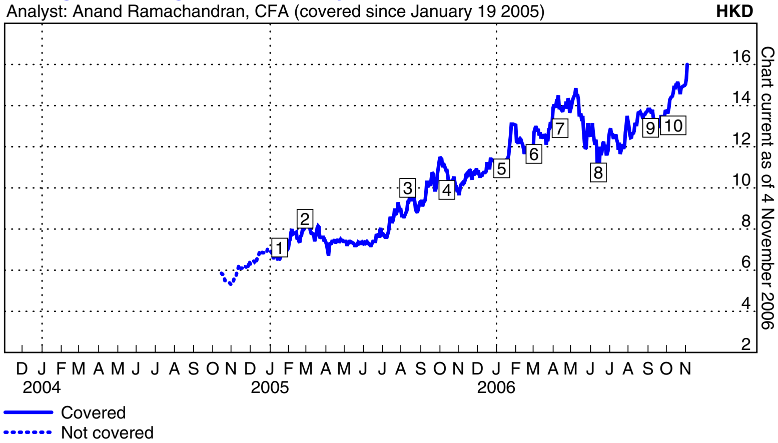
#	Date	Rating	Target Price	Closing Price
1:	29 May 06	1M	360.00	276.25
2:	12 Oct 06	1M	*430.00	345.95

*Indicates change.

Hutchison Telecommunication Intl. (2332.HK)

Ratings and Target Price History - Fundamental Research

Analyst: Anand Ramachandran, CFA (covered since January 19 2005)



#	Date	Rating	Target Price	Closing Price
1:	18 Jan 05	1M	8.00	6.55
2:	28 Feb 05	*2M	*8.80	8.50
3:	11 Aug 05	2M	*10.00	9.30
4:	13 Oct 05	2M	*12.10	10.85
5:	10 Jan 06	2M	*12.50	11.00
6:	2 Mar 06	2M	*13.00	12.70
7:	13 Apr 06	2M	*16.00	13.90
8:	14 Jun 06	2M	*12.60	10.75
9:	6 Sep 06	2M	*15.90	13.72
10:	12 Oct 06	*1M	*18.00	14.64

*Indicates change.

Rahul Singh holds a long position in the shares of Bharti Airtel Limited.

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% of companies in each rating category that are investment banking clients	44%	43%	32%
Hong Kong -- Asia Pacific (78)	51%	14%	35%
% of companies in each rating category that are investment banking clients	48%	82%	33%
India -- Asia Pacific (105)	59%	16%	25%
% of companies in each rating category that are investment banking clients	52%	65%	38%

Guide to Fundamental Research Investment Ratings:

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Risk ratings, which take into account both price volatility and fundamental criteria, are: Low (L), Medium (M), High (H), and Speculative (S).

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For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings are: Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

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