

Reliance Communications

The Technology Dilemma

Case study

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Reliance Communications: The Technology Dilemma

- R Rajnikant, IRC, Chennai

Make a phone call cheaper than a postcard and you will usher in a revolutionary transformation in the lives of millions of Indians.¹

- Dhirubhai Ambani, Founder and ex-Chairman, Reliance Industries Limited

India, the second most populated country and the fifth largest mobile user in the world, was one of the most prospective markets for the telecom industry. In 2005, the Indian mobile market was growing at a fast pace adding 2 million new mobile subscribers per month. In spite of its rapid growth India generated the lowest revenue (Rs. 370² per subscriber compared with the global average of Rs. 986.19) due to low income level of masses, high levels of industry specific taxes³ and inadequate margins owing to high levels of competition. This, according to experts, acted as a hindrance of the Indian mobile market.

Reliance Communications Ventures Ltd. (RCVL)⁴ entered the mobile market in a substantial way in 2002 through its fully owned subsidiary Infocomm which used the CDMA⁵ technology. By 2006, it became the second largest mobile operator in India using cost leadership strategy, differentiation strategy and innovative sales and marketing techniques. Though the strategies of Infocomm gave a lead, it was not long before its GSM⁶ competitors adopted similar strategies backed by the initiatives taken by the government and mobile manufacturers. The higher average revenue per user (ARPU)⁷ and economies of scale of GSM technology also enabled GSM operators to realize a much higher profit than Infocomm, thus acting as a serious threat to it. Due to this, RCVL planned to enter the GSM segment as well, using Reliance Telecom⁸, though it faced restrictions from the government, which hindered Reliance Telecom from operating in telecom circles⁹ where Infocomm had a presence. If RCVL withdrew itself from the CDMA technology and shifted to GSM it required infrastructure investments to the toll of 40%-50% of Infocomm's project cost¹⁰. In addition, the GSM venture would add heavy handset switching costs¹¹ to Infocomm subscribers. Also, RCVL would have to face a number of established players in the GSM segment. The situation left RCVL in a dilemma if it should shift from CDMA to GSM.

¹ "Reliance Infocomm Highlights", www.relianceinfo.com, 1999

² 1\$= Rs46.3 as on July 25, 2006

³ License fees, spectrum charges, import duties, and interconnect charging arrangements were the various taxes charged. The taxes accounted for 17% to 26% of the revenue of mobile operators excluding sales tax.

⁴ Reliance Communications Ventures Ltd. was a part of India's third largest business house Reliance-Anil Dhirubhai Ambani Group

⁵ Code Division Multiple Access (CDMA) was a military technology, developed by the Allies in the World War II. In CDMA, the data was transmitted in a manner, similar to the data sent over the Internet. CDMA conversations were "spread" when sent and reassembled upon arrival i.e. CDMA used spread spectrum by multiple transmitters to send to the same receiver on the same frequency channel at the same time without harmful interference. This technology allowed multiple calls to be carried over one channel.

⁶ Global System for Mobile Communications was a digital European cellular standard, based on TDMA technology, specifically developed to provide system compatibility across country boundaries. This compatible network enables GSM cellular users to use a single cellular phone throughout Europe, most of Asia, and parts of North and South America and have every call billed to one account. GSM has become the world's most widely used mobile system. It was used on the 900 MHz and 1800 MHz frequencies in Europe, Asia and Australia, and the MHz 1900 frequency in North America and Latin America.

⁷ Average Revenue Per User (ARPU) was the measure of average monthly revenue generated for each customer unit. Due to increased competition, ARPU in most markets has been constantly degrading in the last three years. Severely declining ARPU typically was a negative sign that may indicate a carrier is adding too many low-revenue generating customers to its rolls. Mobile data service revenues were expected to be a key driving factor in supporting and increasing operators' ARPU. For the quarter ending March 2006, the all India average revenue per user for GSM operators was Rs. 366 and for CDMA operators was Rs. 256.

⁸ Reliance Telecom Limited (RTL) was a fully owned subsidiary of RCVL. It began operations in 1997-98. As on April 2006 it provided GSM services in 7 telecom circles belonging to the 'B' telecom circles and 'C' telecom circle segment. It covered 206 towns in 11 Indian states and had a subscriber base of over 2 million.

⁹ As on May 2006, India had three types of telecom circle. 'A' for the best market, 'B' for the medium market and 'C' for the small sized market. These telecom circles were more or less representative of the different states in India.

¹⁰ The total project cost of Infocomm as on 2003 was Rs. 250 billion.

¹¹ Approximately Rs. 60 billion for changing the existing Infocomm subscriber handsets from CDMA to GSM.

Indian Mobile Market

The foundation of the Indian telecom industry was laid by the British who ruled the country till 1947. They were responsible for the first telecom wires and telegraph services in the country. From the time of independence in 1947 till 1985, telecom and telegraph services were controlled and monitored by the Government of India through the Posts and Telegraphs Department, run by the Ministry of Communications. In the late 1970s and early 1980s, protests by subscribers, politicians, industrialists and business leaders against poor service coincided with global and national pressure for liberalization.

This led to bifurcation and the creation of a separate department (Department of Telecommunications or DoT) along with two autonomous public sector undertakings¹². These were mainly created for the expansion, development and management of the Indian telecommunications system. In spite of the bifurcation, there were thousands of villages in India without a single telephone connection, not to speak of the cities, where there were long waiting lists for the same. Realizing the importance of liberalization and private sector participation in economic development, the Government of India allowed private players into the market in 1994. Due to the above regulatory changes, there emerged, apart from fixed landline telephone services, new markets like cellular telephone services, internet and WLL¹³ services.

The government invited bids from the private sector for licenses to provide basic telecom services. However, it did not allow foreign companies, not registered in India, to enter the industry. To operate in India, foreign companies had to have an Indian partner with a 51% share in the joint venture. For ease of operations, the DoT also divided India into various Telecom Circles.

In 1994, licenses were granted by the DoT to eight operators¹⁴ to operate cellular mobile services in the four metropolitan cities with a restriction which prevented the entry of a third cellular operator in each telecom circle. In 1995, Modi Telstra¹⁵ launched the first cellular operation in the country in Calcutta under the brand name *Modi Telstra*. The Telecom Regulatory Body Authority of India (TRAI)¹⁶ was also formed in 1997 in order to create and nurture conditions for growth of telecommunications at a pace which enabled the country to play a leading role in the global information society.

In the initial five to six years the subscriber base increased every month by 0.05 million to 0.1 million and the total number of mobile subscribers in December 2002 was 10.5 million (Annexure I). High handset costs, tariffs and activation charges were the reasons hindering growth. Due to the proactive initiatives¹⁷ taken by the government, mobile operators and the

¹² Department of Telecommunications was established as the exclusive, self-regulating provider of domestic and long-distance service and had the role of policy framing, licensing and coordinating matters relating to telegraphs, telephones, wireless, data, facsimile and telematic services and other like forms of communications.

Videsh Sanchar Nigam Limited (VSNL) was set up to run international services. The Mahanagar Telephone Nigam Limited (MTNL) was set up to run services in Delhi and Mumbai, (formerly Bombay) which together account for 25 percent of the nation's phone lines. Telecommunication in the rest of the country continued to be run as a government department because of staff resistance to change.

¹³ Wireless local loop (WLL), was the use of a wireless communications link for delivering telephone service and broadband Internet to telecommunications customers. WLL was available in CDMA for which there was an independent standard defining every aspect of modulation, protocols, error handling, etc.

¹⁴ In Delhi, Bharti Cellular Limited and Sterling Cellular Limited were offered licenses. In Mumbai, BPL Mobile Communications Limited and Hutchison Max Telecom Limited were offered licenses. In Calcutta Modi Telstra and Usha Martin Telekom were offered licenses and in Chennai, RPG Cellular and SkyCell Communications were offered licenses.

¹⁵ The Modi Group, established in 1932, operated from hi-tech electronic items, tyres, textiles to pharmaceuticals and many others. It established a joint venture with Australian Telecommunication Company called Telstra and entered the Indian mobile market.

¹⁶ The main objective of TRAI was to provide fair and transparent policy and environment which promoted a level playing field and facilitated fair competition.

¹⁷ The Government of India took a number of initiatives which led to the growth of Indian Mobile Market. Some prominent initiatives were reduction in license fees, legalizing entry of third, fourth, fifth and sixth cellular operator, and WLL (CDMA) operator, increasing FDI capital and removal of mobile phones as criteria for filing income tax. The government also opened up additional

mobile manufacturers, the monthly mobile subscriber additions increased to around 2 million per month in 2003 and 2004. As on March 2006, the mobile subscriber base crossed 90 million (GSM 69.2 million and CDMA 20.94 million). Share of prepaid subscribers in GSM subscriber base was 80.54% and in CDMA subscriber base was 79%. In spite of high prepaid users, the average revenue generated by a postpaid user was 2.1 times higher in the case of GSM and 2.9 times higher in the case of CDMA when compared with that of a prepaid user (Annexure II).

In May 2006, India became a part of the elite club¹⁸ with the subscriber base crossing the 100 million mark. Experts also forecast that the subscriber base would reach 200 million by 2007. Of the total subscribers, almost 75% belonged to the GSM segment and the rest belonged to the CDMA segment. In 2005, the mobile tariffs in India also became the lowest in the world resulting in the decrease in average revenue per user from Rs.651 in September 2002 to Rs.375 in September 2005 (Annexure III and Annexure IV). There was also an increase in demand for value added services in India with games having the highest demand followed by music, MMS and internet.

As on July 2006, India was divided into 23 telecom circles and had a subscriber base of 110.69 million. Bharti¹⁹ was the market leader with market share of 21.9% followed by RCVL (21.18%) and BSNL²⁰ (16.37%). Bharti and BSNL operated using GSM technology whereas RCVL operated using GSM and CDMA technologies (Annexure V and Annexure VI).

Entry Strategies of Infocomm

*Make the tools of infocomm available to people at an affordable cost. They will overcome the handicaps of illiteracy and lack of mobility.*²¹

- Dhirubhai Ambani, Founder and ex-Chairman, Reliance Industries Limited

Infocomm was part of the Reliance Group²² founded by late Dhirubhai H. Ambani²³. It was the outcome of late Dhirubhai Ambani's dream of bringing about a digital revolution in India which would take means of information and communication to every Indian's doorstep at an affordable cost. Infocomm offered telecom services which included mobile services, fixed line telephone, broadband internet services, data centers and carrier services for national and international calls.

sources of revenue for the cellular and WLL operators by legalizing related diversification of mobile operators and allowed mobile phones to be offered on equated monthly installments. These initiatives of the government reduced the operating expense for the mobile operators who were able to delegate it to the consumers thereby benefiting the consumers. In the manufacturing sector the government had allowed FDI investments up to 100%. This led to the manufacturing facilities from handset makers (LG, Ericsson, Nokia, and Motorola) in India. GSM Mobile handset manufacturers had also taken efforts to bring the cost of handsets to the barest minimum, so as to make these instruments affordable to a majority of the people. And companies have achieved some success in this regard, and made it possible to procure a handset for as low as Rs. 1800.

¹⁸ A country became a part of the elite club when the total mobile subscribers in the country reached 100 million. China, US, Japan and Russia were a part of elite club.

¹⁹ Bharti Telecom was India's largest mobile phone operators. It had more than 21.8 million subscribers as on May 2006. It offered its mobile services under the Airtel brand and was headed by Sunil Mittal, one of India's richest men with a total worth of \$2.6 billion. The company comprised several subsidiaries, such as Bharti Televentures and Airtel.

²⁰ Bharat Sanchar Nigam Limited was India's largest Communication Service Provider (CSP), and seventh largest in the world. Previously known as DoT (Department of Telecommunications) when it was under federal government control, it became a corporation in 2000. BSNL had footprints in entire India except for the metropolitan cities of Mumbai and New Delhi which were managed by MTNL. BSNL had over 40 million landlines and 18 million mobile subscribers.

²¹ "About us", www.relianceinfo.com

²² Reliance Group was India's largest private sector company with a turnover of \$18.773 billion and profit of \$2.125 billion for the fiscal year ending in March 2005. It was founded by Dhirubhai Ambani in the 1970s. Reliance Industries Limited had a wide range of products from petrochemicals, garments, telecommunications and energy generation and distribution.

²³ Dhirubhai H. Ambani was born on 28 December 1932, in the state of Gujarat, India. When he was 16 years old, he moved to Yemen and worked there as a gas-station attendant, and as a clerk in an oil company. Ten years later, he returned to India and started a business (Reliance) with a capital of Rs. 15000. Over time his business diversified with core specialization in petrochemicals and additional ventures in telecommunications, information technology, energy, power, retail, textiles, infrastructure services, capital markets, and logistics. Dhirubhai Ambani was named the *Indian Entrepreneur of the 20th Century* by the Federation of Indian Chambers of Commerce and Industry (FICCI). A poll conducted by The Times of India in 2000 voted him *greatest creator of wealth in the century*. He died on 6 July 2002 and was survived by his wife, two sons, Mukesh Ambani and Anil Ambani, and two daughters.

Due to the demerger of the group in 2005, Infocomm and other telecommunications companies²⁴ became fully owned subsidiaries of RCVL (Renamed as Reliance Communication from May 2006) (Annexure VII). RCVL became a part of Anil Dhirubhai Ambani Group (ADAG). ADAG was involved in telecommunications, financial services, generation and distribution of power and gas supply²⁵. It was amongst the top three business houses in India. As of 2006, it had a net worth of Rs.250 billion, operating profit of Rs.50 billion and a market capitalization of Rs.860 billion.

*The RIM service will bring not just a mobile phone service but the fascinating world of mobile applications to the lives of millions of Indians in a very affordable manner.*²⁶

- Mukesh Ambani, Ex-Chairman, Reliance Infocomm

Infocomm revolutionized the Indian mobile market by extending its efforts beyond the traditional value chain and developing telecom solutions targeting the masses and not the affluent class. In order to reach the masses it offered its Reliance *IndiaMobile (RIM)* (Renamed as Reliance Mobile from May 2006) service at the lowest cost when compared with the competitors who targeted the affluent class and charged premium rates. This business model adopted by Infocomm enabled it to increase its reach and also generate profits.

In 2000, Infocomm started to lay the backbone of its telecommunication venture (60,000 kilometers of optic fibre²⁷) which connected 90% of India's population and reached 600 towns and cities. The cost of manufacturing of the optic fibre was reduced by the use of the Reliance Group manufacturing facilities. To reduce the number of employees, Infocomm used a centralized approach. The National Network Operations Center (NNOC), which was located in the corporate office of Infocomm (The *Dhirubhai Ambani Knowledge City*), was the central unit which monitored and controlled the entire network of Infocomm. This approach reduced the number of employees by half for every 1000 lines. Apart from this, the hiring of experienced people from big players of top notch companies²⁸ ensured the success of Infocomm in its telecom venture and also enabled it to save on training costs.

During 2000 and 2002, the economy of the world was in turmoil. The global slowdown was accentuated by terrorist attacks in the US on September 11, 2001. During this time, the huge orders placed by Infocomm, helped it to secure lower prices from nearly all vendors who were trying to push out equipment from their warehouses. Experts believed that, Infocomm procured discounts of up to 90% on the market prices from certain vendors.

Due to the high entry fee²⁹ of GSM network, Infocomm entered the Indian mobile market using the Wireless Local Loop (WLL) based on Code Division Multiple Access (CDMA) technology. Infocomm entered the market using CDMA as it believed that this technology delivered the highest voice capacity, voice quality, and lesser number of call drops, reduced background noise, higher voice clarity, high speed data access and minimal interference with other electronic devices. Infocomm also used corDECT³⁰ technology to a great extent which helped it reach rural

²⁴ Reliance Communications Infrastructure Ltd and Reliance Telecom Ltd. As on June 2006, Reliance Infocomm held 45.34% equity share holding, Reliance Communications Infrastructure Limited held 45% equity shares and Reliance Telecom Limited held 35.6% equity shares. The shareholding pattern of RCVL as on June 30, 2006 was Domestic Institutions / Mutual Funds (6.21%), Foreign Investors and others (14.44%), Public (13.91%) and ADAG (65.44%).

²⁵ Reliance Communications Ventures Ltd., Reliance Capital Ventures Ltd., Reliance Energy Ventures Ltd. and Global Fuel Management Services Ltd. were the four companies under ADAG which were involved in telecommunications, financial services, generation and distribution of power and gas supply.

²⁶ "Reliance infocomm launches indiamobile service nationwide, enrolls 50,000 Dhirubhai Ambani Entrepreneurs", www.relianceinfo.com, January 14, 2003

²⁷ An optical fiber or fibre was a thin, transparent fiber, usually made of glass or plastic, for transmitting light. Fiber optics was the branch of applied science and engineering concerned with such optical fibers. Optical fibers were commonly used in telecommunication systems, as well as in illumination, sensors, and imaging optics.

²⁸ FMCG, credit card, insurance, competitors and technology companies

²⁹ Cellular services license was 4 times high when compared with WLL

³⁰ corDECT was a wireless local loop standard developed in India by Indian Institute of Technology - Chennai under leadership of Prof Ashok Jhunjhunwala, based on the DECT digital cordless phone standard. It has extremely low capital costs and was ideal for small start ups to scale, as well as for sparse rural areas

areas lying beyond the scope of CDMA. Reliance Telecom helped Infocomm to learn and manage cost structures and allowed Infocomm to gain a foothold in the North Eastern market, where it did not possess telecommunication licenses initially.

On December 28, 2002, the 70th birthday of late Dhirubhai H. Ambani, *RIM* was launched. *RIM* was the first gigantic telecom initiative of Infocomm and was launched with two handset models and one post paid scheme (*Dhirubhai Ambani Pioneer Offer*³¹). The brand name (*Reliance IndiaMobile*), was targeted at the patriotic feelings of customers and limited handset varieties assisted Infocomm in achieving cost efficiency³². *Dhirubhai Ambani Pioneer Offer* guaranteed cash flow to the company for a minimum period of three years and was more economical when compared with the prepaid and post paid schemes available in the market (Annexure VIII).

The handsets offered by Infocomm were full fledged handsets³³ and had a variety of mobile applications. The mobile applications were made available to its customers at an affordable cost through *R World*³⁴ (Renamed as *Reliance Mobile World* from May 2006) (Annexure IX). Cost of development of mobile applications was reduced by the use of Infocomm's Application Development Laboratories at the corporate office supplemented by the *Dhirubhai Ambani Developer Programme (DADP)*³⁵.

*Reliance Developer Programme is unique where-in a Carrier has, for the first time in the country, taken an initiative to build indigenous content for the Indian consumers. This would go a long way in making 'Wireless Data Services' a success in India*³⁶.

- Kapil Sood, Head - Telecom Vertical, Sun Microsystems India

Innovations in Sales & Marketing

Infocomm redefined marketing models in India and engaged individuals and enterprises through its aggressive and unconventional tactics, changing the rules of mobile marketing.

From January 15, 2003, demonstration of *RIM* was conducted in all major towns and cities accompanied by registration of customers. In order to have a wider reach, the *Dhirubhai Ambani Entrepreneur Programme (DAEP)*³⁷ was also launched. The *DAEP* targeted every entrepreneur's

³¹ Dhirubhai Ambani Pioneer Offer was priced in line with Dhirubhai Ambani's dream of making phone calls affordable for every Indian. Under this scheme consumers were required to pay a one-time fee of Rs. 3000 as membership charges and Rs. 600 per month as telephony charges via post dated cheque. Consumers got a free digital mobile phone, billing at 15-seconds pulse rate, voice-mail service, call waiting, call hold, call divert, call conferencing, caller line identification, caller line identification restriction, dynamic STD/ISD locking, text messaging and 400 minutes of outgoing calls free for every month. If an individual exceeded the 400 minutes, outgoing calls were charged at 10 paise for 15 seconds and national long-distance call to any *RIM* in the country was charged at Rs. 0.40 for a minute. Customer also had the option of paying an amount of Rs. 21000 and save on the financial charges of Rs. 3600.

³² Due to limited handset varieties Infocomm was able to enter into exclusive agreements with handset vendors like LG and Samsung with a guaranteed purchase of huge volumes, at discounted prices. Experts estimated that the handset model which was available on the open market at a price of Rs.10, 500 was procured at Rs.800 by Infocomm.

³³ The handsets were Java and multimedia enabled and had polyphonic sounds. In addition to these, 3-way conferencing, call forwarding, in-built phonebook memory, organizers, calendars, and world clock and lithium ion battery were its additional features. The handsets and in-box accessories had a 12-month warranty and were covered with insurance, free of cost, for a period of three years.

³⁴ Through *R World*, Infocomm allowed download speeds of up to 144 kbps from an applications suite which had over 120 applications. Till April 2005 *R World* was offered free of cost and created a world record in mobile downloads during September 2003 by promoting Indian festival (Navratri). After *R World* became chargeable it generated revenue of Rs. 10 million in two days through its scoreboard of Indian cricket match between India and Pakistan.

³⁵ The *DADP* was aimed at capitalizing the Indian software and IT talent pool and sourcing the best of breed applications from the developer community. Individuals or companies enrolled in the *DADP* had the freedom of converting their ideas into products backed up by the infrastructure facilities, access to comprehensive technical documentation and support from Infocomm. The programme presented developers an opportunity make money by pursuing their passion. Individuals enrolled in these programmes were also offered special mobile tariff plans designed for the developer community. Infocomm also announced a nationwide contest for mobile application developers in October 2003 and November 2005. The contest selected the best mobile applications and the best mobile application ideas from thousands of talented individuals across the country.

³⁶ Mobile Application Contest - Quotes of Judges and winners", www.dadp.com

³⁷ Individuals enrolled in *DAEP* had the responsibility of acquiring new customers, based on flawless service and a sense of satisfaction. These entrepreneurs underwent single-day training and were backed up by Infocomm executives across the country.

network of friends and relatives and helped Infocomm in launching a huge public relations exercise around the launch of *RIM*. Apart from entrepreneurs, Infocomm also appointed dealers for some particular areas who acquired the rights to sell *RIM* in their areas by paying an amount five times more than the entrepreneur. Reliance Group's entire marketing and distribution network was used for the retail distribution of *RIM*. Companies of Reliance Group were roped in to push *RIM* services in the market and to their shareholder base.

Considering the cultural diversity of India, *RIM* was promoted through advertisements on every television channel and newspaper available. In order to save advertisement costs, co-branding³⁸ of mobile phones was also used. Infocomm booked about 5,000 spots on 40 Television channels, 1 million square feet of space on hoardings across the country and inserted ads in over 70 publications in national and regional languages. The outdoor advertising campaign covered 500 cities across 18 telecom circles and included hoardings, branded telephone kiosks and signboards. The bulk purchase of signboards also ensured lower costs when compared to market prices. Telecom towers of Infocomm had glowing signboards on them which lit up during the night. This, according to experts, was an innovative and cost effective strategy, as most of the towers were in highly populated and visible areas.

The first television advertisement, however, did not create much impact, as it appeared to be iconizing Dhirubhai Ambani rather than talking about what Infocomm was offering. Infocomm reacted to the poor response to its first television advertising campaign and changed its television advertising strategy. The next set of campaigns talked about the innovative product features which differentiated Infocomm from its competitors. Infocomm also started riding on movies and cricket as themes, which were the passion of Indians.

Being part of a service industry, Infocomm also concentrated heavily on offering good customer service. It offered a 24x7 customer service from its corporate office in Mumbai, in 10 languages, which broke the language barrier. In addition, customer service departments were set up in every town. The technological advancement was also used to render effective employee management. In October 2003, Infocomm organized a live web cast through the groups' intranet network. Infocomm employees from over 140 sites across the country participated in the live web cast which made them feel a part of the Infocomm family.

Problem Phase

Dhirubhai Ambani Pioneer Offer, though priced low when compared with other plans in the market, was not very clear for the layman. The high numbers of entrepreneurs, enrolled through *DAEP*, were given only a day's training. This led to variation in explaining the schemes to the consumers creating confusion among them. In turn many avoided subscribing to *RIM*. To overcome this failure, Infocomm dissolved 40% of the entrepreneurs by returning their deposits and clearing commission payments. They also adopted vertical integration and launched their own chain of retail outlets (*Reliance WebWorld*) in February 2003. Initially *Reliance WebWorld* was opened in 16 cities but was later opened in other towns and cities, so that one *WebWorld* was present in all the towns where Infocomm operated. In 2005, a franchised retail chain (*WebWorld Express*) of 1,160 stores across 680 cities was opened by Infocomm. By 2006, *WebWorld* also became the one-stop-shop for Infocomm products and services³⁹. This was the largest, exclusive retail network by a single telecom operator in India showcasing *RIM* and *Reliance IndiaPhone* (Renamed as *Reliance Phone* from May 2006) products.

Individuals enrolled in these programmes were also offered special mobile tariff plans designed exclusively for the entrepreneur community.

³⁸The company logo was included on the mobile phones sold to its subscribers

³⁹ As on 2006, Reliance Infocomm *WebWorld* offered a wide array of services like Broadband Surfing, Multiplayer Online Gaming, Video Conferencing, Digital Electronic News Gathering, Digital Services, eLearning, Virtual Office & more, besides offering Reliance Infocomm phones, accessories and related services.

Infocomm also faced opposition from its GSM rivals who demanded that Infocomm pay an upfront interconnect fee⁴⁰ besides termination charges⁴¹ for calls made on their networks. GSM players were also willing to pay termination charges to Infocomm for calls made from their networks. But Infocomm refrained from paying for incoming calls as incoming calls were offered free for *RIM* subscribers. Due to this, the GSM operators refused to sign interconnect agreements with Infocomm. The issue was also taken to the regulatory bodies though there was no sign of a permanent solution. Following this, Infocomm and the market leader Bharti resolved the issue themselves by signing a deal⁴² for interconnectivity. With the interconnect issues solved, *RIM* was commercially launched in May 2003, in 92 cities, with a customer base of 1 million subscribers.

In order to make its tariff plan more consumer friendly, two new post paid plans (*Budget 149* and *Budget 249*) were launched in June 2003 (Annexure X). Though this plan enabled the consumer to limit the monthly mobile expenditure it did not reduce the entry level cost. Reacting to this, in July 2003, a limited period offer known as *Monsoon Hungama* was launched. Consumers were able to subscribe to *RIM* at an upfront payment of Rs. 501 and were able to choose from the existing tariff plans (*Dhirubhai Ambani Pioneer Offer*, *Budget 149* and *Budget 249*). Infocomm's CDMA competitors required a payment of Rs. 999 and its GSM competitors required consumers to purchase handset costing Rs. 4000-Rs. 8000. Due to this, *Monsoon Hungama* was a success and created a world record enabling Infocomm to acquire one million customers in ten days.

Though the campaign was a splendid success it gave rise to logistics, billing, frauds and collection problems and also led to heavy bad debts. Experts opined that Infocomm's bad debts for the year 2003-2004 amounted to 16% of service revenues, the highest in the industry⁴³. To resolve the delayed billing problem, billing details and bill payment option from credit cards and mobile banking was made available through *R World*. Infocomm also opened up many venues for bill payments⁴⁴ and made the bill collection activity full fledged, which helped in reducing the bad debts.

Infocomm had positioned *RIM* as inferior⁴⁵ to GSM mobiles when entering the market but claimed just the opposite in the market place. The GSM operators took the issue to the regulatory body, which in turn put forward its recommendations to the government. This was endorsed by the government at the end of October 2003 which paved the way for a unified license regime in the country. In mid-November 2003, Infocomm migrated to the unified license, which legally allowed it to offer the same unlimited mobility services as cellular operators. It paid an additional cost of Rs.15.42 billion including a fine of Rs.5.26 billion for offering services similar to GSM operators.

With the laws and strategies in place, Infocomm offered full mobility services (Annexure XI) on *RIM* without any restrictions. Infocomm also changed its marketing strategy by dividing the country into smaller parts due to variations within each telecom circle. Big cities started

⁴⁰ Interconnect fee was the fee paid by a mobile operator to another mobile operator in order to enable movement of calls from the former to the latter.

⁴¹ Termination fee was the fee paid by a mobile operator to another mobile operator when a call was made from the former to the latter.

⁴² According to this deal, a one-minute Bharti to Reliance Infocomm call costs airtime, pocketed by Bharti, plus Rs.0.38, which went to Infocomm. A one-minute call from Infocomm to Bharti cost Rs.0.40 airtime, retained by Infocomm, plus Rs.0.38 handed over to Bharti. The charges payable to other operators by Reliance Infocomm were delegated to its customers.

⁴³ The company provisioned Rs. 4.36 billion for bad debts, while service revenues for the year 2003-2004 amounted to Rs 27.07 billion.

⁴⁴ As on August 2004, Customers were able to pay bills through company using Visa, Master, Citibank eCard or Diners Club credit cards, through Reliance Infocomm WebWorld, through 2679 cheque drop boxes across the country where 679 collection points operated by channel partners where customers paid bills by cash, cheque or credit card, 83 counters at Reliance Infocomm offices and 161 bank counters across the country, tie-ups with 'Bill Desk' and 'Billjunction' portals for making online bill payments

⁴⁵ *RIM*, according to the license issued by the government, was supposed to be a limited mobility service without roaming facilities. But Infocomm offered the subscribers of *RIM* roaming facilities by issuing a new telephone number when entering a different telecom circle and forwarding the calls received by the subscriber to the new number.

functioning under separate heads while smaller cities were grouped under single heads. These city heads directly reported to a city co-coordinator at the Infocomm headquarters which enabled better control. Infocomm, which was encouraged by the success of *Monsoon Hungama*, launched many offers, revised its tariff structures⁴⁶ from time to time catering to the varied needs of individuals and also included new mobile applications in order to acquire new customers and retain existing customers (Annexure XII). Infocomm also offered a variety of handset⁴⁷ choices to *RIM* customers and also broke the limitation which CDMA had, by the launch of packages which enabled subscribers to change mobile number without changing their handsets and vice versa.

The restructuring of strategies generated profits after losses for two years. Infocomm earned a profit of Rs. 523.5 million for the fiscal 2004-05, reversing the loss of Rs. 4.01 billion in 2003-04 on a project cost of Rs. 250 billion. Infocomm also bagged a number of awards and financial support from leading organizations which supported Infocomm's telecom project in India (Annexure XIII).

In February 2004, *RIM* Prepaid was launched. Infocomm ventured into the prepaid segment due to reduction of bill collection costs and also due to stability achieved in its post paid segment. Penetration pricing was again used as the entry level strategy followed by a series of promotional offers, value added services and tariff restructuring which reduced the entry level barrier for the customer, helped Infocomm in increasing its subscriber base and also retained existing subscribers (Annexure XIV and Annexure XV). Reliance Infocomm also ventured into handsets which did not have multimedia⁴⁸ functions through its prepaid venture. But in order to provide its users with the features of *R World*, it launched the 1234 SMS services⁴⁹ during the same month.

GSM- To Shift or Not To Shift?

*The cost of offering GSM services is definitely much lower. Thanks to the larger volumes (because of more players), equipment costs are lower.*⁵⁰

- Kobita Desai, Principal Analyst, Gartner

Worldwide, CDMA operators were switching to the GSM either as an overlay, or as a replacement of the existing CDMA systems whereas the converse was not happening. GSM's unrivalled economies of scale due to the huge subscription base⁵¹, feature rich services, the high number of terminals, low subscriber acquisition cost for operators, ubiquitous international roaming, and future-proof evolution were believed to be the reasons for the shift. One more reason for the shift was the need for the royalties to be paid to Qualcomm⁵² on every handset for the usage of CDMA technology. Qualcomm charged royalties from the handset manufacturer and from the operator. According to estimates, the average royalty charged by Qualcomm per CDMA

⁴⁶ As on July 2006, Reliance Infocomm offered more than 25 postpaid tariff plans catering to varied needs of individual. Reliance Infocomm also offered plans depending on the locality making it competitive with its competitors and also matching the needs of its customers.

⁴⁷ As on July 2006, Reliance offered 15 black and white handsets, 12 color handsets, 10 camera handsets, 5 video camera handset, one watch handset and one PDA handset

⁴⁸ Multimedia was the use of several media (e.g. text, audio, graphics, animation, video) to convey information.

⁴⁹ Users were able to get required information from *R World* by sending keywords to 1234 via SMS. Even though this service was designed specifically for non multimedia handsets, it was made available to all handsets.

⁵⁰ "More on Reliance GSM", www.monilepundit.com, 2006

⁵¹ As on March 2006, the worldwide mobile subscribers totaled 2.11 billion. 84% of the mobile subscribers belonged to the GSM segment and the rest belonged to the CDMA segment

⁵² Qualcomm was a wireless telecommunications research and development company based in San Diego, California. It was founded in 1985 and was among the top 20 semiconductor sales company. Qualcomm developed a digital cellular telephony technology based on CDMA; the first version was standardized as IS-95. It has since developed newer variations on the same theme, including IS-2000 and 1xEV-DO (IS-856). It formerly manufactured both CDMA cell phones and CDMA base station equipment. Qualcomm sold its base station business to Ericsson and its cell phone manufacturing to Kyocera, and focused on developing and licensing wireless technologies and selling ASICs that implemented it.

handset from RCVL was 7%⁵³. This not only reduced the profit for RCVL but also made it impossible for the handset manufactures to reduce prices matching the competition. Due to this, RCVL had been in dialogue with Qualcomm regarding the waiver of royalties. But Qualcomm declined to negotiate on royalty but offered volume discounts on handsets, which was not accepted by RCVL. Qualcomm had planned to discuss the matter with equipment manufacturers for reducing handset prices based on large volumes, though RCVL was interested in lower royalties alone. RCVL, being one of the largest customers for Qualcomm, might have been able to influence Qualcomm with some waiver on royalties giving consumers the benefit of 12-15% lower handset costs.

It was anticipated that RCVL would face problems with cost of handsets if it continued with the CDMA technology. As more and more mobile operators started shifting from CDMA to GSM the number of handsets manufactured would also start to decrease. This reduction in manufacturing would give handset manufactures low economies of scale forcing them to manufacture limited variety of CDMA handsets thereby increasing the costs. If RCVL shifted to GSM it would not have to worry about the handset cost or carrying it on its balance sheet.

RCVL's move into GSM enabled it to have wider spectrum bandwidth⁵⁴ and high average revenue per user. Experts opined that the shift also made good business sense, as GSM was an open standard and the similar backend for CDMA and GSM, would enable RCVL to shift to GSM with infrastructure investments to the toll of 40%-50% of Infocomm's project cost. Although CDMA was considered a spectrum-efficient technology, RCVL was touching the upper limit of spectrum usage in some of the high growth places like the metros. Therefore it may not be able to add new subscribers if it does not get additional spectrum.

The ARPU of RCVL, for the quarter ending June 2006, was Rs. 379⁵⁵ (Annexure XVI). Analysts estimated that the ARPU of *RIM* which was Rs. 267 was comparatively low when compared with its GSM competitors⁵⁶ and Reliance Telecom (Annexure XVII).

The brand perception of consumers made high-end users to avoid *RIM* making RCVL lose a lot on ARPU. RCVL, which targeted the mass market, had created a consumer perception of it being a poor man's phone. Due to this, it lost the affluent consumers who were heavy users of mobile services. RCVL's GSM competitors adopted a strategy that was just the opposite. They launched their service targeting the affluent class but were also able to target the mass market due to changes in government policies and reduction of handset costs. GSM operators even offered mobile application services similar to *R World*. The mobile applications were made available in GPRS⁵⁷ or EDGE⁵⁸ enabled handsets and was priced high compared to *R World* application. These handsets were not affordable for the masses and the high prices of applications suited high end users giving the benefit to the operators.

Though the GSM venture might be beneficial for RCVL it would be expensive for its customers. The handset switching cost for the current customer base of more than 20 million worked out to be Rs. 60 billion. If RCVL subsidized this cost the customers might have stayed with RCVL, but if the customers were to bear the cost, there was a possibility of RCVL losing its customers to competitors. Added to the switching costs, the government had also restricted mobile operators from providing services on GSM and CDMA platforms simultaneously in a circle under one

⁵³ The royalty on the chipset charged from Indian operators like RCVL was 7%, in China 2%, Korea 2% and for US 0%.

⁵⁴ GSM spectrum between 15 MHz and 37 MHz allotted in different service areas and CDMA spectrum between 2.5 MHz and 15 MHz allotted in different service areas.

⁵⁵ Average of CDMA Mobile's ARPU + GSM Mobile's ARPU + Reliance Phone's ARPU + PCO's ARPU was Rs. 379

⁵⁶ ARPU of Bharti for the quarter ending June 2006 was Rs. 441. ARPU of BSNL/MTNL was Rs. 391 for the quarter ending March 2006. ARPU of Hutch was Rs. 454 for the quarter ending March 2006.

⁵⁷ General Packet Radio Service (GPRS) was a mobile data service available to users of GSM mobile phones. It provided moderate speed data transfer, by using unused channels in the GSM network.

⁵⁸ Enhanced Data GSM Environment (EDGE) was a faster version of GSM wireless service. EDGE enabled data to be delivered at rates up to 384 Kbps on a broadband.

license. RCVL had licenses for both cellular and unified access services in eight circles where it was allowed mobility both on CDMA and GSM technologies. In the rest of the country, RCVL was advised to vacate the CDMA spectrum in telecom circles where it wanted to operate using GSM technology. If RCVL shifted entirely to GSM, it would be required to make infrastructure investments to the toll of 40% to 50% of Infocomm investments. Though it was expensive, it was economical in the long run.

As of 2005, the revenue generated by 25 million CDMA subscribers was Rs. 77.5 billion. Since RCVL controlled 80% of this market, the revenue it acquired from its subscriber base was Rs. 62 billion. In 2006, the revenue from 75 million GSM subscribers was Rs. 358.79 billion which was shared between 6 GSM operators⁵⁹. If RCVL's venture into GSM enabled it to acquire a minimum market share of 10% it would account for Rs. 35.87 billion which was equivalent to revenues generated by 50% of Infocomm subscribers.

Though the GSM venture looked more beneficial for RCVL than its continuance in CDMA, experts felt that RCVL could increase its revenue in CDMA if it succeeded in changing its brand perception and also increased the consumer awareness and consumer usage of mobile applications and value added services⁶⁰ (Annexure XVIII). Apart from creating awareness, RCVL could also develop a pre-used handset market which would reduce the entry barrier for multimedia handsets and would also increase the usage of mobile applications. CDMA enabled RCVL to offer speeds of 144 kbps, compared to 9.6 kbps of GSM and 56 kbps in a GPRS enabled network. In spite of the high speed mobile applications, the non-voice revenue of the GSM was higher than RCVL. For the quarter ending June 2006, the non voice revenue and SMS revenue of Bharti- Airtel was 10.8% and 6.4% of the total mobile revenue of Rs. 28,411 million. This was extremely high when compared with that of RCVL.

Experts believed that one possible reason for this was the customer base of RCVL. With lack of international roaming on CDMA networks there was very little reason for the top end users to move to RCVL. On the other hand, GSM operators had the customer base capable of using and paying for better data offerings but their GPRS networks were too slow. Experts also opined that RCVL could increase the non voice revenue if it developed specialized content catering to the needs of masses apart from entertainment based content.

Clearly, RCVL could offer data speeds, which GSM would have very little chance to match until the entry of 3G GSM (Third Generation GSM)⁶¹. The government had planned to release spectrum for 3G GSM services by the end of 2006. 3G GSM offered GSM operators higher data speeds compared with CDMA. 3G GSM services were also likely to be used more by high end customers and were likely to be having more profitable value added services around it. If the existing GSM service providers rolled out the 3G GSM network faster than RCVL, the company may lose out. Even though 3G GSM offered high speed services it was expected to be expensive due to high license fees and high handsets costs and hence may not be affordable for the masses.

If the restriction imposed by the government which hindered co existence of CDMA and GSM was removed, then RCVL could operate using both the technologies. Though the investments would be high for starting GSM operations, RCVL would be able to save 30% on basic infrastructure, because the cell sites, the steel structures and the back haul network was common for CDMA and GSM networks. RCVL would also be able to save 15% on distribution as it would use its *WebWorld* to sell the GSM service. Adding to this, branding cost would be lower as the main brand was already well established.

⁵⁹ Bharti Airtel, BSNL, MTNL, Hutchison Essar, IDEA Cellular and Spice Communications

⁶⁰ The value added services market was forecasted to grow from Rs. 3.5 billion in 2005 to Rs. 38 billion in 2010.

⁶¹ 3G GSM had the ability to transfer both voice data (a telephone call) and non-voice data (such as downloading information, exchanging email, and instant messaging) at the speeds of 384kbps for mobile systems and 2Mbps for stationary systems.

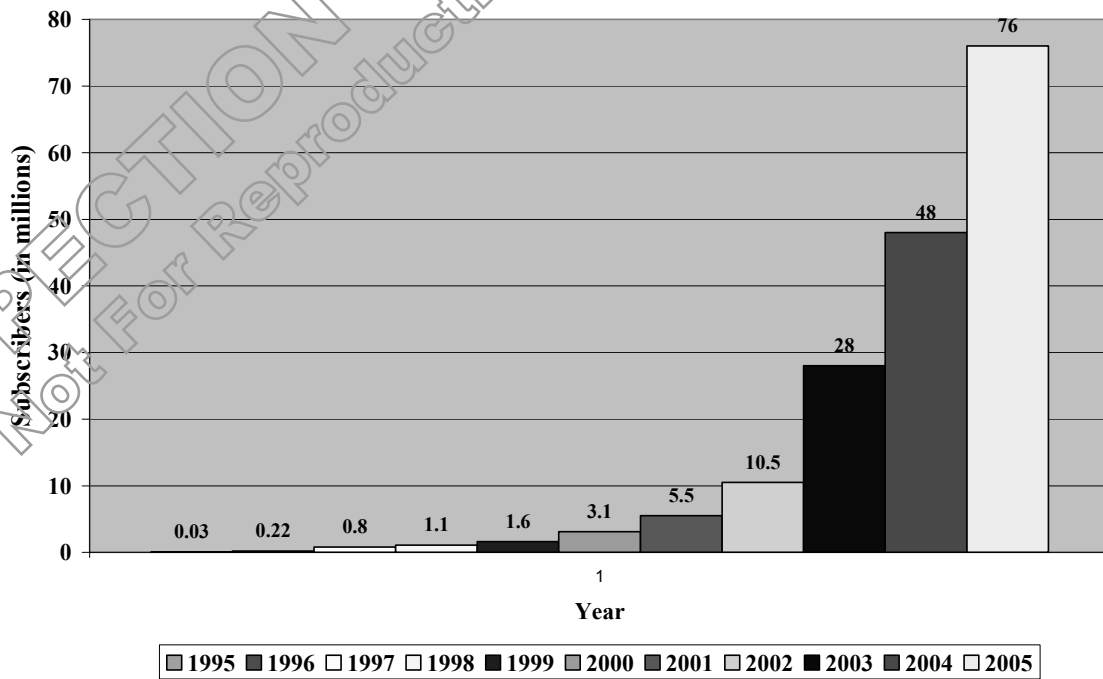
We are committed to pursue the world's leading mobile technologies, whether CDMA or GSM, to provide the best and most competitive services to our many million customer.⁶²

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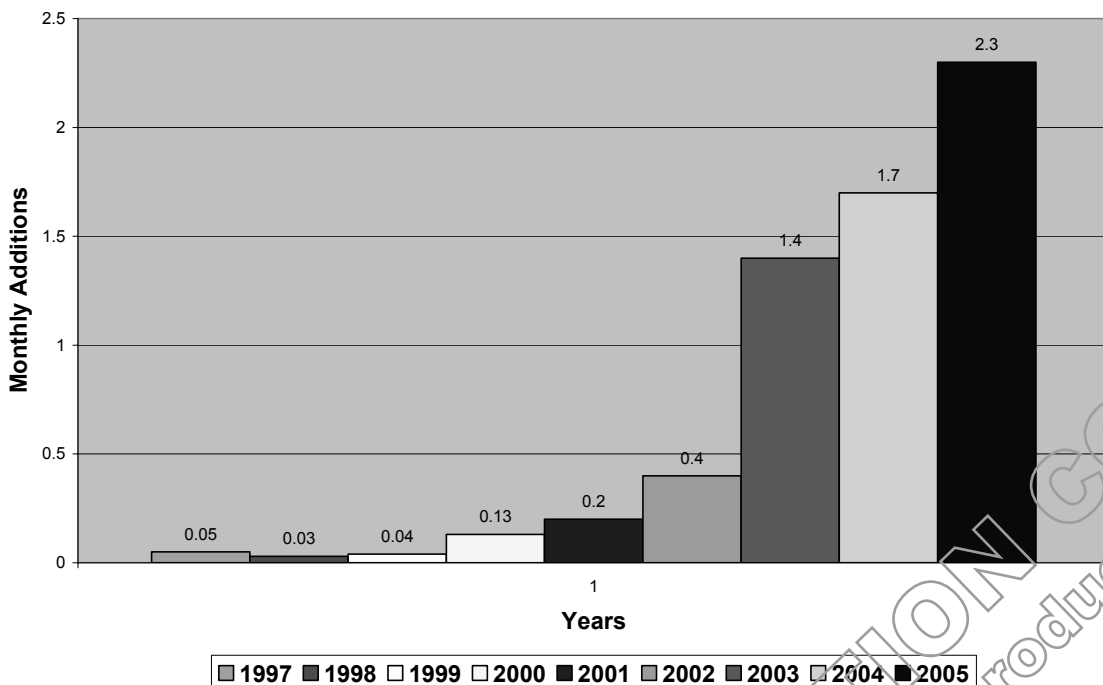
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⁶² RCVL Company Spokesperson, Nivedita Mookerji, "Anil Ambani's GSM move sets a cat among pigeons", June 14, 2006, www.dnaindia.com

Annexure I
Mobile Subscriber Base In India



Monthly Growth (Mobiles)



Source: Compiled by Case Author

Annexure II

Revenue Per Minute and Usage Pattern

GSM

Average Revenue Per User (ARPU) - GSM

Circle	Postpaid	Prepaid	Blended ARPU
Circle A	625	284	354
Circle B	499	306	338
Circle C	551	329	378
Metro	775	295	420
All India	628	298	366

Circle	Postpaid				Prepaid			
	Outgoing MOU	Incoming MOU	Total MOU	Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU	Outgoing SMS
Circle A	381	428	809	47	120	196	316	65
Circle B	279	309	588	44	126	182	308	33
Circle C	283	287	570	49	149	231	380	15
Metro	330	415	745	55	94	193	287	47
All India	330	379	709	49	119	193	312	46

CDMA

ARPU (Rs. per month during the quarter) - CDMA

Circle	Postpaid	Prepaid	Blended ARPU
Circle A	562	182	254
Circle B	494	182	237
Circle C	578	165	207
Metro	574	191	287
All India	547	184	256

	Postpaid				Prepaid			
	Outgoing MOU	Incoming MOU	Total MOU	Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU	Outgoing SMS
Circle A	519	331	850	11	205	235	440	13
Circle B	520	309	829	6	248	247	495	10
Circle C	744	460	1204	4	336	293	629	6
Metro	501	317	819	13	205	270	475	12
All India	518	323	841	10	226	251	478	11

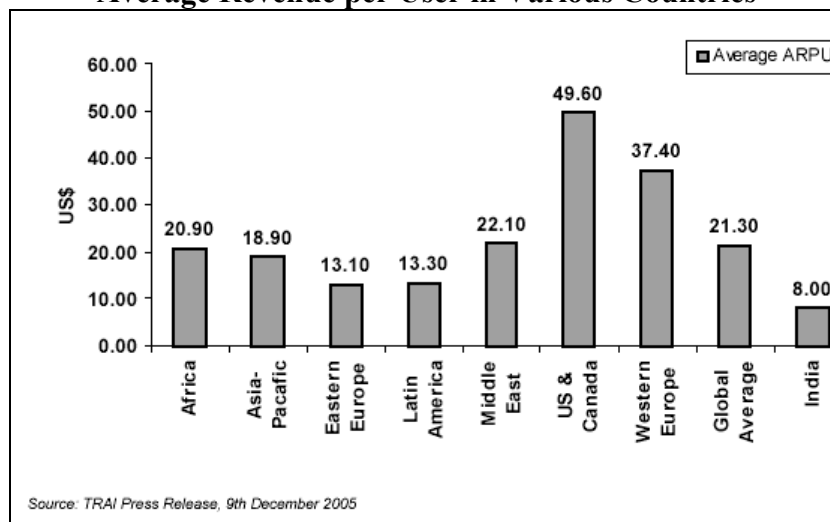
Source: "The Indian Telecom Services Performance Indicators for Financial Year Ending 31st March 2006", June 28, 2006, www.tra.gov.in

Annexure III
Per Minute Cellular Tariffs

S.No	Countries	Per Minute Cellular Tariffs (in US Cents)
1.	India	2.5
2.	China	3.5
3.	Bangladesh	6.5
4.	Nepal	6.5
5.	Pakistan	8.4
6.	Sri Lanka	11.0
7.	Bhutan	11.4
8.	Maldives	14.4

Source: "The Indian Telecom services Performance Indicator: Report for the Quarter ending September 2005", www.trai.gov.in, January 31, 2006

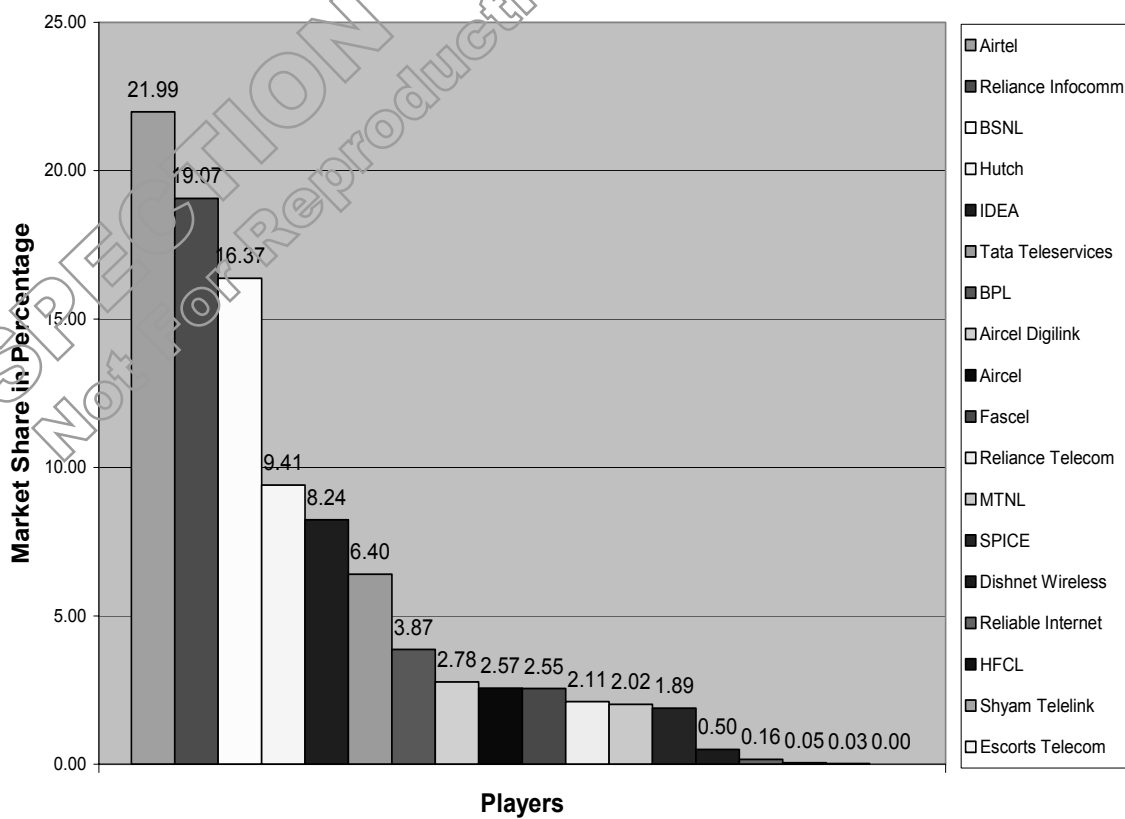
Annexure IV
Average Revenue per User in Various Countries



Source: "COAI Annual Report 2005", www.coai.in, January 2006

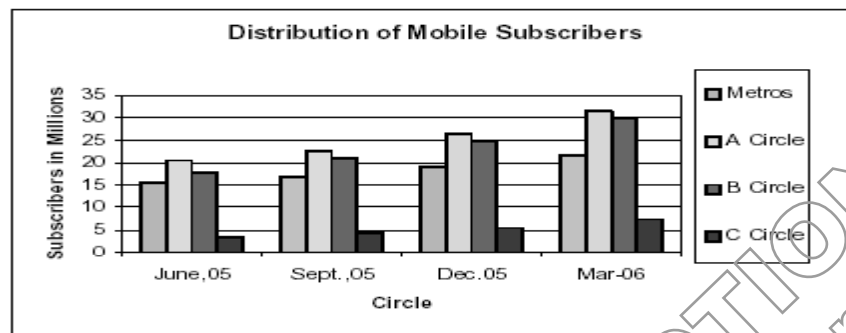
Annexure V

Market Share of Mobile Operators As On July 2006



Growth Pattern in Mobile Subscriber Base

	June,05	Sept.,05	Dec.05	Mar-06
Metros	15.54	16.91	19.04	21.71
A' Circle	20.58	22.81	26.46	31.35
B' Circle	17.83	21.01	24.88	29.76
C' Circle	3.41	4.34	5.56	7.31
Total	57.37	65.07	75.94	90.14



Source: Compiled by the Case Author

Annexure VI
Distribution of Subscribers as on July 2006

Distribution of GSM Subscribers												
	Metros (4 Circles)		'A' Circle (5 Circles)		'B' Circle (8 Circles)		'C' Circle (6 Circles)		Total Subscribers	Market Share (%) Within GSM/CDMA		
	Circles Operating	Subscriber Base	Circles Operating	Subscriber Base	Circles Operating	Subscriber Base	Circles Operating	Subscriber Base				
Airtel	4	29.91%	5	30.96%	8	25.34%	6	37.9%	243378377	29.53		
Hutch	4	32.65%	2	7.94%	3	8.5%			10413154	12.64		
MTNL	2	12.73%							2237800	2.72		
IDEA	1	5.73%	3	15.62%	4	12.81%			9119881	11.07		
BPL	1	24.54%	3	8.21%	1	2.12%			4280312	5.19		
Aircel	1	4.63%	1	6.90%					2839525	3.45		
BSNL	2	6.01%	4	18.97%	8	30.20%	6	40.03%	18124922	21.99		
Reliable Internet	1	1.03%							180213	0.22		
Fascel			1	9.62%					2824503	3.43		
SPICE			1	1.77%	1	5.73%			2094700	2.54		
Aircel Digilink					3	11.17%			3071966	3.73		
Escorts Telecom					2	0.01%	1	0%	1653	0.00		
Reliance Telecom					2	3.78%	5	16.26%	2336576	2.84		
Distnet Wireless					1	0.32%	4	5.81%	552004	0.67		
Total Number Of Subscribers		17577301		29359359		27512397		7965989	82415046			
Distribution of CDMA Subscribers												
Reliance Infocomm	4	71%	5	77%	8	74.52%	4	74%	21,106,749	74.63		
Tata Teleservices	4	29%	5	23%	8	24.59%	3	26%	7,089,727	25.07		
HFCL					1	0.60%			57,738	0.20		
Shyam Telelink					1	0.29%			28,388	0.10		
Total Number Of Subscribers		1,367,095		9,767,540		9,674,019		1,473,948	28,282,602			

Source: Compiled by the Case Author

Annexure VII

Proforma Consolidated Results of

(Rs Million, except ratios)

Particulars	Qtr ended 31/3/06	Qtr ended 30/6/06
Total revenues	29,704	32,501
Services and sales	29,704	32,501
Total operating expenses	19,228	20,439
License fees and access charges	10,291	9,286
Network operations	3,349	3,816
Employees	1,824	2,157
SG&A (note 1)	3,764	5,180
EBITDA before extraordinary item	10,476	12,062
Finance charges (net) (note 1)	479	999
Depreciation / amortization	5,457	5,514
Profit before tax and extraordinary item	4,541	5,549
Extraordinary item (note 2)	374	150
Profit before tax	4,167	5,399
Provision for tax	137	272
Net profit after tax	4,029	5,127
Ratios		
<i>EBITDA margin (%)</i>	<i>35.3%</i>	<i>37.1%</i>
<i>Net profit margin (%)</i>	<i>13.6%</i>	<i>15.8%</i>

Notes to the Proforma Consolidated Results of Operations

- Foreign exchange adjustments, which were previously grouped and classified as part of "SG&A", are now grouped with net interest and classified as "Finance charges". Corresponding adjustments have been made to the grouping and classification in the quarter ended March 31, 2006.
- Regulatory authorities may require verification or re-verification of all wireless customers. The company estimates the cost of such an exercise in a full year at Rs 600 million and accordingly on a conservative basis an amount of Rs 150 million has been provided in the quarter ended June 30, 2006 so as to meet the costs of any such exercise. The extraordinary item of Rs 374 million in the quarter ended March 31, 2006 related to employee restructuring costs.

Proforma Statement of Operations by Segment-RCVL Wireless (GSM&CDMA)

(Rs Million, except ratios)

Particulars	Qtr ended 31/3/06	Qtr ended 30/6/06	Q-on-Q Growth (%)
Gross revenue	21,200	24,320	15%
Net revenue	12,645	16,544	31%
EBITDA	7,571	8,746	16%
EBIT	3,998	5,144	29%
<i>EBITDA margin (%)</i>	<i>35.7%</i>	<i>36.0%</i>	

Source: "Report on the Proforma Unaudited Financial Status, Results of Operations, and Cash Flows for the Quarter ended June 30, 2006", www.rcvl.com, July 31, 2006

Annexure VIII
Comparison of Dhirubhai Ambani Pioneer Offer with Bharti s' Scheme

Tariffs for monthly customer spend of Rs400 (US\$8.33)			
	Reliance (Will)	Bharti postpaid*	Bharti prepaid ^a
Effective monthly cost to consumer (Rs)	400	400	400 ^b
Rental/ fixed cost (Rs)	14,400 for 3 years	295 per month	146 per month
Airtime (min outgoing)	400	42	85
Outgoing airtime rate Rs per min	0.40 (US\$0.0083)	2.50 (US\$0.052)	2.98 (US\$0.062)
Billing	15 sec pulse	30 sec pulse	30 sec pulse
Incoming airtime rate Rs per min	Free	2.50 (US\$0.052)	2.98 (US\$0.062)
Bandwidth (kbps)	144	9.6	9.6
Handset	Rs6,600 (US\$137.50) ^c	Rs5,000 upwards	Rs5,000 upwards

^a "Airtel Dream Plan" for post-paid and Airtel Magic for prepaid in the state of Maharashtra
^b Estimated (Rs 400 recharge denomination not available)
^c Introductory offer. Later on the handset cost will increase to Rs10,600 (US\$220.83)

Source: "Shaking the foundation", *The Economist Intelligence Unit, Volume X, No.2, February 2003*

Annexure IX
Important *R World* Application

Period	Application Launched
May 2003	High School exam results. Movies were promoted. Subscribers were able to view trailers, participate in contests and also participate in polls relating to the movie promoted.
September 2003	Festivals were promoted. Ring tones, greeting cards, pictures and video clips relating to the festival were made available Television serials were promoted. Contests, video clips, images and ring tones relating to the television serial were made available
October 2003	Mobile banking
December 2003	Online mobile credit card payment
March 2004	Multiplayer game.
April 2004	Auction bidding services Matrimonial services
May 2004	Infocomm tied up with news channel and provided hourly news updates of actual newscast with streaming video
September 2004	Ticket booking for railways
November 2004	<i>'KidzWorld</i>
August 2005	In Case Of Emergency service which hosted its mobile users' personal information and "health card" on <i>R World</i> .
September 2005	Bombay Stock Exchange
November 2005	Airline ticket booking
March 2006	<i>R World</i> was offered in more than one language
June 2006	Disney World was launched on <i>R World</i>

Source: www.relianceinfo.com

Annexure X
Comparison of Budget 149 and Budget 249

	Budget 149	Budget 249
Monthly Rent	Rs149	Rs249
Plan Charges	Rs100	Rs150
Free outgoing talk time	Rs100	Rs150
SMS Charge	Rs0.5/message	Rs0.5/message
Call Charges To WLL <50kms	Rs1/min	Rs1/min
Call Charges To WLL >50kms	Rs1.99/min	Rs1.99/min
Call Charges To Fixed Landline/GSM mobile	Rs1.99/min	Rs1.99/min
Incoming Call Charges	Nil	Nil
Handset Purchase Option 1	Rs6350	Rs6350
Handset Purchase Option 2	Rs4850+Rs50*36months	Rs4850+Rs50*36months
Handset Purchase Option 3	Rs3350+Rs100*36months	Rs3350+Rs100*36months
Handset Purchase Option under Monsoon Hungama	Rs501+Rs200*36months	Rs501+Rs200*36months
Additional Benefits	CLIP, Call Hold and Call Wait, <i>R World</i>	CLIP, Call Hold and Call Wait, <i>R World</i>

Source: www.relianceinfo.com

Annexure XI
Full Mobility Services

Period	Feature
November 2003	International Short Messaging Service, to 159 countries and 430 operators
December 2003	Nationwide roaming
February 2004	Wireless connectivity to Internet
April 2004	International roaming on GSM networks across 300 mobile networks in 172 countries
November 2004	Handset change card and number change card
January 2005	SMS based infotainment services offered by websites
August 2005	International roaming facility with CDMA operators in the world
March 2006	Roaming with a single number on international CDMA & GSM networks

Source: www.relianceinfo.com

Annexure XII

Post Paid Promotional Schemes		
Period	Scheme	Features
August 2003	Color Hungama	Handsets worth Rs. 25000 were offered at Rs. 5001 plus Rs. 300 to Rs. 400 monthly fee for 36 months. Customer can choose from Budget 149 or Budget 249 or Dhirubhai Ambani Pioneer Offer tariff plan
September 2003	Free Talk Hungama	Free unlimited local calls to one local RIM number of the customers' choice for 10 months at a charge of Rs. 50 per existing RIM connection per month. This charge was waived for new RIM subscribers for a limited period.
		10000 outgoing domestic SMS messages at Rs. 99 for two months. This charge was waived of for new RIM subscribers for the first two months.
		Free local calls to any CDMA mobile phone between 10 pm and 8 am at Rs. 49 per month. This charge was waived for new RIM subscribers for the first two months.
October 2003	Diwali Offer	Month long promotion scheme which offered several prizes given on the basis of daily, weekly and bumper lucky draws. The total value of all the prizes given away via lucky draw was Rs.100 million. New customers also got the benefit of Free Talk Hungama along with this offer.

Source: www.relianceinfo.com

Annexure XIII

Awards And Financial Support Won By Infocomm

- *Most Promising Service Provider of the Year 2003 (Asia Pacific)* award at the Asia Pacific Technology Awards instituted by Frost & Sullivan
- Infocomm's, ex-Chairman, Mukesh Ambani received the World Communication Award as *Most Influential Person in Telecommunications in 2004* in October 2004
- *The 3G CDMA Industry Achievement Award for International Leadership* was instituted by the CDMA Development Group, and was presented to Infocomm for emerging as the largest wireless operator in India since deploying CDMA2000 in March 2003, with more than eight million customers
- Rs. 13.89 billion syndicated term loan managed by ABN Amro NV, Australia and New Zealand Banking Group, Bank of Baroda, BNP Paribas, DBS Bank, ICICI Bank, Mashreqbank and Rabobank
- Debt financing facilities worth Rs. 34.7 billion from Export Import Bank of the US, Export Development Canada and Citigroup
- Asian Mobile News Award (*Best Mobile Operator Marketing Campaign*) for its *R World* in Singapore in June 2005

Source: www.relianceinfo.com

Annexure XIV
Prepaid Schemes

Period	Scheme
February 2004	<i>RIM</i> prepaid connection with recharge coupons equivalent to the cost of the handset purchased was the launch scheme for prepaid.
August 2004	Prepaid tariffs reduced by 60%.
September 2004	Recharge vouchers without talk time was launched. This targeted customers whose primary need of mobile phone was to receive incoming call.
October 2004	Recharge vouchers which enabled customers to talk endlessly to any <i>RIM</i> of Reliance <i>IndiaPhone</i> within the telecom circle was launched
January 2005	E Recharge was launched
December 2005	Lifetime validity prepaid voucher was launched. Customers also had the option of choosing from other tariff plans for a particular duration depending on their need.
January 2006	<i>One-Nation, One Tariff</i> was launched. This enabled customers to call from <i>RIM</i> prepaid across India with cost of Rs. 1 per minute.

Source: www.relianceinfo.com

Annexure XV

Table 1 **Subscriber numbers (million) by service provider**

Service Provider	June '03 After Pioneer scheme	Sep '03 After Monsoon Hungama	Dec '03 One year after launch	Mar '04 After pre- paid launch	Mar '05 One year after pre- paid	Sep '05 Latest scenario
Reliance Infocomm	1.82	4.20	6.24	7.26	10.45	12.99
Bharti	3.75	4.62	5.50	6.50	10.98	14.07
BSNL	3.19	4.04	4.94	5.53	9.90	12.38
Hutch	2.62	3.22	3.77	5.15	7.80	9.71
MTNL	0.29	0.31	0.42	0.46	1.08	1.44
BPL	1.17	1.31	1.54	1.88	2.58	2.81
Tata	0.2	0.4	0.56	0.63	1.09	2.06
Total	17.32	23.03	28.44	33.69	52.22	65.07

Source: TRAI documentation

Source: Sangeeth Varghese, "Reliance Infocomm's Strategy And Impact On The Indian Mobile Telecommunication Scenario", www.lse.ac.uk

Annexure XVI

Metric	Unit	Qtr ended 31/3/06	Qtr ended 30/6/06
Circles operational	Nos	23	23
Census towns covered	Nos	3,824	3,881
Non-census towns/villages covered	Nos	242,814	245,728
Wireless customers	Nos	20,211,674	22,522,329
GSM Wireless	Nos	1,904,028	2,316,771
CDMA Wireless	Nos	18,307,646	20,205,558
Wireless market share (All India)	%	21.0%	20.6%
Wireless net adds	Nos	3,181,911	2,310,655
Market share – wireless net adds	%	21.5%	17.6%
Pre-paid % of total wireless	%	79.3%	79.4%
Pre-paid % of wireless net adds	%	89.0%	80.0%
Wireless ARPU	Rs/sub	379	379
Wireless net ARPU	Rs/sub	226	259
Wireless churn	%	2.1%	2.6%
Wireless minutes of use (MoU)	Bn mins	29.69	31.44
Wireless MoU per customer/month	Min/sub	532	491
Wireless revenue per minute (RPM)	Rs/min	0.71	0.77
SMS revenue (% of ARPU)	%	1.7%	1.8%
Non-voice revenue (% of ARPU)	%	6.1%	6.2%
Wireless multimedia users	Nos mn	6.4	7.9
Wireless internet users	Nos	320,440	354,673

Source: "Report on the Proforma Unaudited Financial Status, Results of Operations, and Cash Flows for the Quarter ended June 30, 2006", www.rcovl.com, July 31, 2006

Annexure XVII

The big picture

	INDIA	RELIANCE
Mobile subscribers	100.52 million	21.48 million
GSM	75.29 million	2.15 million
New subscribers*	31.95 million	0.79 million
GSM growth rate	73.67 per cent	58.08 per cent
GSM ARPU _s	Rs 356	Rs 277
CDMA	25.23 million	19.33 million
New subscribers*	13.86 million	9.05 million
CDMA growth rate	123.5 per cent	88.03 per cent
CDMA ARPU _s	Rs 256	Rs 267**
Total base stations	70,000+	20,000+

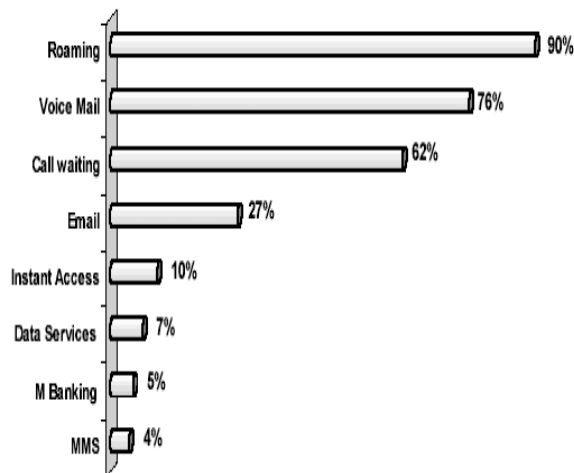


*June 2006-May 2006; **BW estimate; ARPU_s are monthly figures; Source: COAI & BW research

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Annexure XVIII

Consumer Awareness for Data Services in India



Source: www.coai.org

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