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Bharti Airtel in Africa

The jury is still out on Africa. The cost of operations is still higher than expected, elasticity of demand could fail to kick in, and competition could intensify. But the business metrics are showing early signs of a turnaround. My gut feel is that we can make this work.

— Sunil Mittal, Chairman, Bharti Airtel

In February 2012, Sunil Mittal walked past the illuminated hoardings for Airtel's mobile services plastered across the walls of Nairobi airport, and wondered if Bharti would be able to overtake MTN in Africa by replicating the high-volume, low-cost telecom business model that it had pioneered for the Indian masses.

Founded in India in 1995, Bharti Airtel (Bharti) had rewritten the rules of the global telecommunication industry. The cellular operator had defied conventional Western telecom wisdom that emphasized high tariffs for wealthy customers, and had instead chosen to concentrate on India's mass market, including the rural poor. In order to focus on acquiring customers, the company had made the bold decision to outsource large portions of its operations. By February 2012, Bharti had been India's market leader for some time, with 183 million customers, and had pioneered a high-volume, low-cost telecom model with tariffs of less than one cent per minute, which had previously been considered unviable.

By 2009, growth in India had begun to taper off, and Mittal began to look for new opportunities. Africa seemed to present just the right option. Its vast population of over a billion people with low per capita incomes mirrored India's demographics. Africa's real mobile penetration was 30% and growing rapidly, and high mobile tariffs in Africa, combined with low monthly minutes of use per customer, indicated that there was room to grow the market not just by increasing mobile penetration, but also by intensifying usage.[1] In June 2010, Bharti acquired the 15 African operations of Bahrain-based Zain Telecom, for $10.7 billion – the largest M&A deal in the global telecom industry for that year, and the largest ever cross-border deal in an emerging market.

When they reached Africa, Bharti's leaders discovered that employee morale at Zain was low, work cultures between the two continents differed vastly, and market share revenues and EBITDA were falling every month. Infrastructure was poor, hardware and software equipment was obsolete, access to equipment supplies was limited, skilled technicians were in short supply, and the cost of doing business was turning out to be much higher than Mittal and his team had anticipated. Bharti's initial experiments with leveling tariffs and removing Zain's 20% to 30% premiums in its

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Professor Krishna Palepu and Research Associate Tanya Bijlani from the India Research Center prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Francophone and Anglophone regions had not increased demand to the extent that they had expected; and it was unclear whether lowering prices would drive mobile usage in the hinterland of the continent.

Despite the challenges, Bharti initiated multiple transformations in Africa, including outsourcing active and passive managed services (networks) for all of its 16 countries; outsourcing its IT and call centre support to BPO[1] firms for the first time in Africa; revamping its distribution network; integrating its brand, and implementing a host of human resource-related initiatives to inculcate the company's DNA in its new operations. Bharti's executives felt that these measures had comprehensively changed the structure of the telecom industry in Africa.

Africa was turning out to be far more complex than Mittal and his team had imagined. By February 2012, it had been over a year and a half since the acquisition, and Bharti was leading in revenue market share in 9 of 16 countries, including Zambia as well as some smaller markets like Malawi and Gabon. In Africa's other larger markets, such as Nigeria, Ghana and Uganda, MTN, its chief competitor, continued to lead. (**Exhibit 1:** Bharti's Position in Africa). In Nigeria, Africa's largest market, MTN was improving the quality of its network, emphasizing advanced data offerings, rolling out mobile payments solutions, conceptualizing applications such as mobile healthcare, and holding onto its undisputed position as the market leader.

If Bharti continued with its India plan in Africa, investing in rural networks and slashing tariffs, and demand failed to pick up, the company risked losing money. With a $12.9 billion unpaid loan (largely on account of an approximately $9-billion unpaid loan from the Zain acquisition) still lingering on Bharti's balance sheet, Mittal wondered if that was something they could afford. The other option was to wait and watch, leave prices at market levels, and focus on urban and suburban areas, until it was clear that the money had trickled into the villages. As Mittal got into his car and drove towards Bharti's Nairobi headquarters, he wondered what their strategy in Africa should be.

Bharti in India

The Early Days

Mittal started manufacturing bicycle parts at the age of 18, with approximately $200 borrowed from his father, a Member of Parliament from the north Indian state of Punjab. He subsequently imported portable generators, and assembled push-button telephones in India. In 1992, soon after the Indian telecommunications market liberalized, Mittal secured a partnership with three other companies, including Compagnie Generale des Eaux, the precursor to Vivendi of France, to make a joint bid for the first round of cellular licensing in India. Mittal took a three-month sabbatical to prepare for the bid, and spent $220,000 on the presentation, which included aerial photography and satellite imagery[2].

The Government of India gave the consortium a license to build a cellular phone network in India's capital, New Delhi, and Mittal's newly-incorporated Bharti Cellular became the first company to launch mobile telephony services in New Delhi, in 1995, under the brand name of Airtel. The company sold equity interest to British Telecom and Warburg Pincus in order to raise the funds it needed to acquire licenses to operate in new geographies, and by 2003, Bharti had acquired mobile licenses for 15 out of India's 23 circles. By 2004, Bharti was a pan-India operator with running operations in all circles.

[1] BPOs are Business Process Outsourcing firms

Like many Indian enterprises, Bharti contained elements of a family business. Bharti was Mittal's middle name. Mittal was Chairman and Group Managing Director of the company, while his brother, Rajan Mittal, was Joint Managing Director, and a third brother, Rakesh Mittal, was on the board of directors. Akhil Gupta, a chartered accountant and a friend of the family was Chief Financial Officer, and later became Deputy Group CEO and Managing Director of Bharti Enterprises.

The Minute Factory Model

"In the early days, telecom was an industry where the complexity was daunting," Gupta said. "We were committed to making it a very simple industry. So we equated ourselves with manufacturing. The only difference was that another factory could be manufacturing nuts and bolts, while we manufactured minutes."

Bharti learnt the business of telecom from their early European partners, British Telecom and Telecom Italia. Conventional wisdom then was that mobile telephony was meant for upper class customers who could pay premium prices. Operators preferred to keep tariffs high, thereby protecting Average Revenue per User (ARPU), considered one of the most important metrics in the business. High tariffs, they felt, discouraged users from talking too much, which in turn, minimized the need for network infrastructure, thereby reducing capital expenditure, and improving return on investment.

But Mittal and his team felt that at an ARPU of Rs. 1000 (approximately $22[2]) - then considered a minimum requirement for a telecom operator to be profitable - their customer base would be restricted to a small segment of wealthy customers in major cities and a few large towns, and decided to turn the model on its head. Gupta explained:

> The goal of a manufacturing organization is to maximize the number of units produced while maintaining margin per unit. Similarly, we decided that we would expand production of our principal output, minutes, keeping margins per minute more or less constant. As we scaled up, we would pass any cost savings we achieved onto the customer by lowering tariffs, which would increase demand further, and would allow us to go deeper into the market and reach lower-income customers. This would result in a rapid increase in minutes and consequently, overall margin.

Mittal and Gupta believed that how they utilized existing capacity, and how much revenue they collectively earned from that capacity, mattered most. The focus, therefore, was on growing total revenues, reducing operating expenses as a percent of revenues (opex productivity), and increasing revenues as a percent of cumulative capital expenditures (capex productivity). **(Exhibit 2:** Bharti's Key Performance Metrics**)**

Outsourcing Operations

A telecom company, it was originally thought, would have to be an infrastructure company, a network company, an IT company, and a customer service company rolled into one. But in early 2004, given that Bharti was growing rapidly, expanding into new territories, and entering new businesses like fixed line services and long distance operations, Mittal and his team were forced to question what constituted their core activity. "Again, we broke away from traditional telecom wisdom," Gupta said. "We had no choice; at our back end, we were collapsing."

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[2] Converted using an exchange rate of Rs. 45 to one US dollar.

They decided to outsource some of Bharti's key activities, and based their decision of whether to retain an activity in-house or to outsource it, on three key factors. First, who had better domain knowledge; second, who enjoyed better economies of scale; and finally, who could attract better human resources. For instance, managing a telecom network required deploying thousands of engineers to multiple sites, ensuring that equipment was functioning, and spare parts were available. Nokia and Ericsson, having served hundreds of customers across the world, enjoyed far superior domain knowledge than Bharti; economies of scale that Bharti could never match, and were able to attract better telecommunications engineers than Bharti ever would.

As a result, they decided to outsource the building and maintenance of Bharti's telecom networks to Nokia and Ericsson. Similarly, Bharti gave its IT operations, including supplying, installing and managing all the company's hardware and software, to IBM. Mittal and his team contracted customer service to business process outsourcing firms IBM Daksh, Mphasis and others.[3] Finally, they spun off passive infrastructure, which involved building and managing the company's telecom towers, into a separate company, Indus Towers, in a joint venture with competitors Vodafone and Idea Cellular, in order to reduce duplication and other costs.

Outsourcing, Gupta felt, freed the company to focus on marketing and customer acquisition while improving the quality of services it offered, from network availability to customer care. "Operators are basically marketers," Gupta said. "To tell them to put up a tower, run generators and fill diesel in them, goes against their grain." Mittal added, "It allowed the team to completely focus on their biggest strengths – understanding customers and the market place."

Gupta also believed that outsourcing allowed the company to improve its cost structure. In network management, purchases were now of capacity, expressed in erlangs[3] of traffic, rather than of equipment or salaries. Similarly, in IT, a predetermined percent of the company's revenues was shared with IBM. Paying vendors later, after capacity was up and running, and ready to monetize, released a $1.5 billion of cash flow for the small, resource-strapped company. "I am convinced that if we had attempted to do it all ourselves, we would have collapsed. Even theoretically, if we had succeeded, the costs and investments would have been absolutely horrendous." Gupta concluded.

Creating a Market

In order to access the low-income market, Bharti decided to focus predominantly on prepaid customers. This, they felt, would prevent the need for a costly billing and collection machinery, reduce the risk of delinquency, and provide the company cash up front. They relied on a network of mom-and-pop shops, including grocery stores, mobile handset and repair shops, phone booths, and other small outlets to offer customers Airtel SIM cards and prepaid recharge cards across the country.

Bharti forged unusual partnerships to expand this network of retailers. In 2008, the company marketed Airtel SIM cards and recharge coupons through post offices across the state of Kerala, in South India, in a tie up with the Department of Posts. The same year, Bharti distributed its prepaid cards at thousands of retail outlets at gas stations and cooking gas distribution centers across the country, through a partnership with state-owned Indian Oil. Executives referred to this as the 'matchbox strategy,' or making Airtel recharge cards available wherever matchboxes could be found.[4]

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[3] An erlang is a unit of telecommunications traffic measurement, and is generally used to describe the total traffic volume of one hour.

In urban areas, Bharti created a two-layer distribution model in which a network of small, family-run enterprises, serviced retailers directly. In rural areas, where the population was more spread out, they created a three-layer model of 'super distributors,' who served rural distributors, who in turn, serviced retailers. Distributors appointed field staff who sold retailers Airtel SIM cards and recharge coupons, provided promotional materials, collected payments, and resolved complaints. To keep costs low, the company adopted a high-volume, low commission incentive structure for its dealer network.

Bharti marketed its services in India's remotest villages. The company trained its rural distributors and retailers to teach rural customers, many of whom were first-time phone users, how to operate mobile handsets. In 2008, the company offered farmers Airtel connections along with voice updates about crop diseases, market prices, and other information, through a tie-up with the Indian Farmers Fertilizer Corporation, thereby incentivizing them to purchase mobile phones. In the same year, the company tied up with SKS Microfinance, which provided microloans in the interiors of India, to provide free Airtel SIM cards to SKS members. In 2009, Bharti made its way into villages in branded vans, in partnership with Nokia, raising awareness about how mobile phones could change peoples' lives, offering them connections, and showing them how to use handsets. In 2004, the company became the first private telecom operator to launch mobile services in Jammu and Kashmir, a state marred by a history of political unrest.

To stimulate demand, Bharti reduced the minimum cost of recharge for prepaid cards in 2004 from $6.7 to $1.1, and allowed customers to top up their cards with any value suiting their budget. In the same year, the company slashed local call tariffs by 60%, to approximately 2.2 cents per minute, and long distance calls within India to approximately 4.4 cents per minute, for prepaid users calling within the company's network. In 2005, the company introduced a lifetime prepaid card, whereby, for a one-time fee, a user could continue to receive calls for life. In 2008, the company began selling talk time in denominations of 66 cents, 44 cents, and 22 cents in order to get users in India's poorest states such as Bihar to talk more.

By March 2006, Bharti had over 20 million customers, and was adding a million every month.[5] By 2011, Bharti had a distribution network of 2.5 million retailers and distributors South Asia and Africa. By February 2012, the company had acquired 246 million subscribers in South Asia and Africa, and was producing 2.8 billion minutes a day.[6] "Hutch, which was a credible competitor at the time, stayed only in cities, and we kept on going to tier two and three cities, and rural India," Mittal said. "States like Orissa, West Bengal, Jammu and Kashmir, that were considered very poor and difficult to make money, became roaring successes for us." (**Exhibit 3:** Bharti's India Subscriber Metrics)

New Avenues for Growth

Bharti's annual revenues soared from $54 million in 1999 to $8.2 billion in March 2009. During the same period, the company moved from making a loss of $7.2 million to a profit of $1.9 billion.[7] By 2009, Bharti's 33% revenue market share was reaching a steady state and Mittal started to look for a new growth engine. Bharti Enterprises, Bharti's holding company, had tried to branch into new industries in India, though joint ventures with AXA in insurance, Wal-Mart in retail, and Del Monte in food and beverage. But Mittal soon realized he needed to focus his entire attention on telecom, which, he felt, not only had more to offer, but was also an industry in which he could create new peaks. With this in mind, he resigned from the boards of the joint venture companies. "It's best to be in a business you're passionate about, that you understand, that you can do in your sleep," he concluded.

Mittal considered entering the telecom business in Europe, where average monthly minutes of use, at 161, were far below India's 449[8], and he perceived some room for growth. But after careful evaluation, Bharti concluded that the most natural fit would be other emerging markets, where according to Gupta, "you could expect massive growth." Africa looked like it might present just that opportunity. Its population of 1.2 billion was similar to India's, and barring a few high-income countries like South Africa and Gabon, income levels, Mittal felt, were similar to India's, providing the company an ideal platform to operate its high-volume, low-cost telecom model. Africa's population was expected to grow to two billion over 40 years, overtaking both India's and China's. With a median age of 17, compared with 25 in India, Africa's was also the world's youngest population. [9]

Language, culture, and government were other reasons they chose Africa. Gupta felt that the two regions were connected by their similar colonial legacies and large English speaking populations. A few tensions aside, he believed that the general view of India and Indians in Africa was positive, with political leaderships in both regions respectful of each other. Finally, Mittal felt that dealing with government in Africa was relatively easy. Regulators allocated mobile operators large chunks of spectrum, similar to Western levels, enabling them to provide high-quality service to customers. Taxes and license fees were also reasonable in most countries, and the process of allocation, more transparent than India. "Regime and regulatory-wise, Africa is more evolved than India," Mittal said. "In fact, it is cutting edge."

Africa's Economy

In 2011, Africa was the world's poorest and most underdeveloped continent, with a majority of its billion people living below the poverty line.[10] At 52 years, Sub Saharan Africa had the lowest average life expectancy of any region in the world.[11] Malnutrition, illiteracy, inadequate water and sanitation, and diseases like malaria and HIV/AIDS, affected a large proportion of its population. Many attributed these challenges to the continent's history of autocratic and corrupt governments, human rights violations, internal conflicts and genocides.

Despite its poverty, Africa had a wealth of natural resources, including half of the world's gold reserves; a third of its diamonds; and vast reserves of petroleum, bauxite, cobalt, platinum, chromium, and other metals and minerals. African governments had historically worked in partnership with businesses, including multinational corporations, to extract and trade in these reserves. Public opinion commonly viewed this commodity-driven growth as benefitting only a handful of individuals on the continent, leaving the vast majority of the population to fend for itself.

In recent years, however, African countries had seen an increased move towards democratic elections. Countries like Nigeria were undertaking regulatory reforms and privatization, and blocks of African countries were taking steps towards increased trade and economic integration with each other.[12] The IMF expected Sub Saharan Africa's[4] economies to expand by 5.75% in 2012, with some larger countries reaching growth rates of 10%.[13] Ethiopia, once considered a famine-stricken nation, was estimated to have grown by 7.5% in 2011. During 2001-2011, six of the world's ten fastest growing countries were African, and by 2011, a middle class had emerged in Africa, with 60 million households having incomes greater than $3,000. This middle class was expected to reach 100 million households by 2015, almost mirroring that of India.[14]

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[4] Sub Saharan African countries are geographically located partly or fully south of the Sahara desert. Countries north of the Sahara are considered part of the Arab world.

Between 2005 and 2010, the Chinese invested $13.8 billion in Sub Saharan Africa, including agreements to finance and build airports mines, roads, hospitals, and universities across the continent.[15] Indian companies, too, were making headway in Africa. The three-wheeled local taxis commonly found on the streets of Maputo, Mozambique, were manufactured by Bajaj Auto, India's second largest manufacturer of two wheelers. The Tata Group, a leading Indian conglomerate, counted $600 million in Africa revenues, in businesses ranging from trucks to hotels.[16] Godrej Consumer Products, a leading Indian FMCG, had made three acquisitions in Africa spanning hair and personal care. Indian IT training firm NIIT was setting up centers in six African countries, while Indian state-owned Oil and National Gas Corporation had invested $2.5 billion in Sudanese oil fields. The Confederation of Indian Industry, India's premier business association, expected $25 billion of Indian investment to pour into Africa by 2016.[17]

Africa's Mobile Telecom Market

Mobile penetration in Africa was increasing rapidly. Between 2001 and 2011, the number of mobile connections grew an average of 30% annually, and by September 2011, the continent had 620 million mobile connections, making it the second largest mobile market in the world, after Asia.[18] This number was forecast to reach 735 million by the end of 2012.[19] Market penetration of cell phones in Africa was 37% in 2009, and was expected to grow to 60% by 2012, and the continent was expected to bypass fixed line communications in favor of mobile technology.[20] In 2011, 96% of mobile subscriptions in Africa were prepaid, with voice revenues dominating, although revenues from data services were growing quickly.[21]

A lack of infrastructure across the continent meant that value added mobile services in banking, agriculture, education and healthcare, were gaining popularity and becoming a major driver for the industry's growth.[22] Mobile operators in several countries had launched money transfer services, revolutionizing financial services to low-income groups on the continent, and putting Africa at the forefront of the mobile banking revolution. Kenya-based Safaricom's M-Pesa was the world's leading platform for mobile money transfer transactions, in terms of value.

Despite the developments in Africa's cellular industry, a lack of liberalization in international gateways resulted in high termination charges[5] for roaming and international calls along several routes.[23] Operators charged 5.5 cents for terminating calls in markets like Nigeria and 7.5 cents in Tanzania, compared with a mere 0.44 cents in India.[24] The cost of accessing mobile services in Africa remained high, with call rates averaging approximately 6-12 cents per minute, compared with a cent per minute in India. Monthly minutes of use per customer were a low 60-80 in Africa, compared with 450-500 in India.[25]

Africa's Mobile Operators

Most African countries allowed private investment into their mobile markets by 2008, and by 2011, there were several players on the continent. (**Exhibit 4:** Mobile Players in Africa)

MTN Founded in 1994, and headquartered in Johannesburg in South Africa, the MTN Group was Africa's leading mobile operator, with $12.5 billion in Africa revenues and over 115 million

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[5] Termination charges are the tariffs a telecom operator charges another for terminating calls on its network.

subscribers.[6] Its largest shareholder was Public Investment Corporation, South Africa's state-owned pension fund, with a 13.5% holding, followed by Newshelf 664, a company owned by MTN's management and staff, with a 13% holding; and Bharti's executives believed that MTN had no dominant single owner. MTN's management encouraged local shareholder participation in its national operations, and relied heavily on local talent.[26] The company's executives considered corporate social responsibility to be an integral part of its strategy, and in 2008, MTN was the only African telecommunications firm to set aside a percent of its annual earnings to social initiatives.[27]

MTN operated in 16 countries across Africa, offering a range of mobile services to its subscribers. The company priced its offerings at market levels, and was neither a premium operator like Vodacom, nor a low-cost provider like Bharti in India. Nigeria was the largest and most profitable of MTN's geographies, and Bharti's executives believed that the company had recently made inroads into South Africa, where Vodacom led the market, among people of African descent. Apart from basic voice services, MTN offered its customers value added services such as ring tones and caller tunes, and advanced data services including a 3G mobile internet card. The company advertised heavily in Africa, including a sponsorship of the 2010 FIFA World Cup in South Africa, and its brand was widely recognized on the continent.

Nazir Patel, MTN's Chief Financial Officer, felt that data services were the future of the mobile industry.[28] In August 2011, MTN signed a deal to provide its customers in Africa access to Norway-based Opera Software's mini browser for mobile phones, thereby allowing faster and cheaper internet search through Opera's compression technologies. In October 2011, MTN was making plans to offer a $50 Nokia Smartphone in its African markets, in order to increase accessibility of the mobile internet and drive demand for mobile data. In 2011, the company was also using social media to build its brand, engage with customers, and drive sales.

MTN was also rolling out mobile payments solutions in Africa and exploring mobile healthcare applications. In 2009, the company launched mobile money transfer services in Ghana, Uganda, Rwanda, Cote d'Ivoire and Benin, to enable unbanked populations to send and receive money and top up accounts using mobile phones. By 2011, its Mobile Money offering had been launched in 12 countries with over five million subscribers. In June 2009, MTN Uganda launched an SMS-based service offering health tips and clinic locations to its rural subscribers in partnership with Google. In February 2011, MTN signed an MOU with Sanlam, a South Africa-based insurer, to offer mobile medical advice and healthcare services to customers in remote locations with little access to medical facilities.[29]

Vodacom Owned by UK-based Vodafone, Vodacom was the second largest player in Africa, with $8.9 billion in revenues and nearly 53 million subscribers,[7] and the leading mobile operator in South Africa. With tariffs of approximately 25 cents per minute, Bharti's executives viewed Vodacom as a premium service provider. An Airtel executive, who had worked previously for Vodacom, felt that the company had an extravagant mindset. "Vodacom is opulent," he explained. "There's a layer of cream in almost everything you touch."

Orange With $4.8 billion in revenues and 64.9 million subscribers, France Telecom-owned Orange had traditionally focused on the French-speaking countries of West Africa. In recent years,

[6] Based on full year results as at December 2011.

[7] Vodacom, Orange and Safaricom data annualized based on December 2011 quarterly results.

the company had expanded into East Africa, through acquisitions in Kenya and Uganda. Orange had recently introduced a line of low-cost handsets and services like voice SMS for the illiterate. In 2011, its mobile commerce offering, Orange Money, was available in eight African markets and had three million subscribers.[30]

Safaricom The leading mobile operator in Kenya, Safaricom had $1.4 billion in revenues and 18.6 million subscribers. Safaricom launched its M-Pesa money transfer service in 2007, allowing users to deposit, transfer and withdraw cash via mobile phones, through a network of agents. In the first 30 months of the service $3.7 billion worth of transfers were made, representing approximately 10% of the country's GDP. In April 2010, Kenya had 18,000 M-Pesa agents, as compared with 491 bank branches.[31] In 2011, M-Pesa had nearly 14 million subscribers, comprising over 80% of the company's total customer base, and $142 million in revenues[8], which contributed to approximately 12% of the company's revenues.[32]

The Nigerian Mobile Market

Nigeria was one of Africa's most promising mobile markets, but had its share of challenges. Nigeria was Africa's most populous country, and had the continent's largest cellular market, with nearly 90 million subscribers in June 2011.[33] Mobile penetration in Nigeria was projected to increase from 50% in 2011 to 80% by the end of 2015.[34] But a lack of electricity and poor infrastructure in the country meant that mobile network coverage was poor, particularly in rural areas, resulting in subscriber complaints to the regulator, and hampering customer growth and usage of mobile services.

An expanding middle class in Nigeria and increasing availability of Smartphones and tablet computers meant that use of advanced mobile data services in the country was expected to increase. By 2011, the majority of GSM[9] operators in the country offered 3G services. (**Exhibit 5:** Mobile and 3G Subscribers in Nigeria) By December 2011, approximately 94 million Nigerians had mobile phones, while only 22 million had bank accounts. With recent reforms in Nigeria's banking sector, analysts also felt that the country had the potential to become Africa's largest market for mobile money transfers.[35]

MTN was the largest mobile operator in Nigeria, with a 45% customer market share and nearly 60% revenue market share, followed by privately-owned Globacom, with nearly 22% of the market, and Bharti in third place with a nearly 16% customer market share.[36] (**Exhibit 6:** Mobile Players in Nigeria). Competition in the Nigerian mobile industry was increasing, mobile tariffs were falling, and many operators were experiencing slower revenue growth.[37] (**Exhibit 7**: Airtel and MTN's Mobile Tariffs for the Nigerian Mass Market) The launch of mobile number portability in 2012 was expected to increase competition further, by allowing users to change their service providers more easily.

MTN in Nigeria

Nigeria was MTN's strongest market. In 2010, Nigeria comprised 29% of the MTN group's revenues and 41% of its EBITDA.[38] 2010 was MTN Nigeria's highest growth year ever, during which

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[8] Converted using an exchange rate of 83 Kenyan shillings to 1 US Dollar.

[9] GSM (Global System for Mobile Communications) is a standard set to describe technologies for second generation (2G) digital cellular networks.

the company added 7.7 million new subscribers to its customer base. In 2010, the company's EBITDA margins increased by 3.7 percentage points, to 62.9%. But MTN's ARPU levels fell in 2009, and in the second quarter of 2011, they dropped below $10 for the first time.[39]

MTN enjoyed the widest mobile coverage in Nigeria, and was focused on expanding and improving its network. In October 2010, the company signed a deal worth over $40 million with China's Huawei Technologies for the deployment of rural telephony infrastructure in 350 villages across Nigeria.[40] In 2011, the company spent $1 billion in order to relieve congestion and improve the quality of its Nigerian network, and announced that it planned to spend another $1 billion in 2012.

MTN Nigeria was also focused on acquiring, retaining, and up-selling customers. In 2010, the company enhanced its distribution channels, segmented customer promotions, and improved its customer service, including call center operations. The Opera mini browser, launched for MTN's data subscribers in August 2011, received 1.9 million downloads from Nigeria within a month of its launch. In December 2011, MTN Nigeria launched a loyalty program for its high-value customers, in order to prevent churn in that segment.

In 2011, MTN Nigeria was implementing its mobile payments offering and defining its mobile health strategy. In December 2011, the company launched Mobile Money in Nigeria, in partnership with GTBank, a commercial bank, and Fortis, a microfinance firm, to provide its subscribers facilities to transfer money, pay bills, top-up airtime and shop from their mobile phones. In October 2011, MTN facilitated a workshop in Lagos, Nigeria, to define the future of mobile health in the country, with participation from government, non-profit organizations, and the private sector.

The Zain Acquisition

"You must always gamble at a table that is of your standard, because if you ever gamble at a table that plays a smaller stake than you're used to, you are bound to lose," Gupta said. Bharti set its sights on MTN, but after several months of talks, negotiations fell through. Weeks later, the opportunity came to acquire Zain's African operations, and "this time," Mittal said, "we were determined not to let go."

In June 2010, Bharti completed a deal to buy Zain's Africa business for $10.7 billion, arranging an approximately $9 billion loan to finance the transaction. (**Exhibit 8:** Bharti's Balance Sheet) The second largest acquisition by an Indian entity, and the largest ever cross-border deal in an emerging market, it would give the company 36 million revenue earning customers across 15 African countries from Sierra Leone in the West to Madagascar in the East. (**Exhibit 9**: Bharti's Africa Operations)

Mittal announced, "This agreement is a landmark for the global telecom industry and a game changer for Bharti. We are excited at the growth opportunities in Africa, and believe that the strength of our brand and the historical Indian connect with Africa, coupled with our unique business model, will allow us to unlock the potential of these emerging markets."[41] Bharti's stock dropped by 6% on the day the company announced it had completed the acquisition, although it rebounded a few weeks later (**Exhibit 10:** Bharti's Share Price).

Manoj Kohli, former head of Bharti's India and South Asia operations, and the new CEO of Bharti's African business, stated that the company had set an Africa target of $5 billion in annualized revenues and $2 billion EBITDA by 2013. In December 2009, six months prior to the acquisition, Zain had reported revenues of approximately $3.7 billion and an EBITDA of $1.1 billion for the African operations it sold to Bharti. But its 30% EBITDA margins for the half year ended December 2009 had already slipped to 27% by June 2010.

Market reactions varied. "The acquisition provides Bharti with meaningful growth opportunities in Africa, which still has relatively low mobile phone penetration, and an opportunity to improve Zain Africa's relatively lower EBITDA margins," said one analyst.[42] Another cautioned, "We need to understand at what rates the debt has been raised. There are challenges for Bharti because the acquisition entails an upfront cost and it will take two or three years to see any benefits that might come out of the deal. I do not think it will be positive and don't expect the stock price to go up."[43] A third countered, "Bharti's balance sheet is very strong and it has tied up enough debt to fund the deal. This will only add value to the stock. The benefit that it will get in the long term will be more than the cost they will pay."[44]

A New Continent

Soon after the acquisition, the newly-formed Airtel Africa, led by Kohli, conducted a workshop for 120 managers from across the continent, in Kampala, Uganda. They worked with the ex-Zain team to co-create a vision for the continent, and identified and recruited talent from within the company, into leadership positions (**Exhibit 11**: Bharti's Vision for Africa). These individuals, along with a team of approximately 80 expats transferred from India and 45 from Zain's headquarters at Bahrain, and a few others recruited from the outside, formed Bharti's core Africa team.

Kohli and his team then traveled around the 16 African countries, including existing operations at Seychelles, communicating their vision to all employees, and meeting with government officials, distributers, financers, and other stakeholders. They streamlined and integrated backend functions like accounting, quality assurance and human resources on a common platform across South Asia and Africa. Finally, they began efforts to outsource the company's network, IT and customer service operations and build a unified global brand, Airtel, across India and Africa.

Talent Shortages

Getting Bharti's experienced Indian employees to move to Africa to help set up the business turned out to be much more difficult than Mittal had anticipated. "I thought I'd have planeloads of volunteers but that didn't happen," he admitted. Inder Walia, Group Director of Human Resources at Bharti, explained, "Indians' aspiration of where they would want to be next was Europe or America, which was completely divorced from what we were doing. Also, Indians have so many opportunities today that we had to pay them a lot more via mobility-related packages to facilitate their movement to Africa. Simultaneously, we also worked on making the roles meatier and aspirational in order to make the move to Africa worthwhile for people."

In order to encourage its employees to move, Bharti posted a group of eight young leaders on month-long assignments in different African countries. These employees returned to India full of positive feedback about their experiences, which they posted on the company's intranet. Their experiences encouraged their colleagues to consider moving to Africa, and by December 2011, Bharti had over a hundred Indian expats in Africa, including its Nairobi head office.

In the long term, however, Kohli wanted the Africa business to be run primarily by Africans. But a limited pool of skilled talent across the continent meant that it was difficult to get a team in place at short notice. "In some countries where we are operating, if we put an advertisement for Technical Network and IT positions, chances are that we will get few local applicants for the level of expertise that is required," admitted Yves Mayilamene, Chief HR officer of Airtel Africa. "The few Africans who excel in this area are rare and expensive, and will sometimes cost me as much as it would to bring in an expat from India."

Mayilamene encouraged Indian expats to transfer their knowledge to the Africans and help develop local talent, and incorporated people development as an important component of performance appraisals. The company, in partnership with business schools and other institutions, set up academies to train fresh graduates in IT and Networks; and middle managers in leadership, marketing, human resources, and other areas. Bharti also implemented buddy programs between India and Africa, and sent its African employees to India on short assignments and yearlong exchange programs, in order to expose them to Indian distribution, partnership, and outsourcing models. By end 2011, over 200 African employees had visited India.

Cultural Challenges

Bharti's leaders discovered that Zain's previous managers had been disconnected from their Africa business. N. Arjun, Bharti's integration director, estimated that in the two years leading up to the acquisition, Zain lost eight percentage points of Nigeria, its largest market, to MTN, and also lost share in other large markets like Zambia, DRC, Tanzania, and Uganda. In Sierra Leone, Zain's market share fell from over 70% in previous years, to less than 40% in 2010. He explained:

> Zain's promoters were based in Bahrain and had a Middle Eastern mindset, which is quite different from the mindset that it takes to do business in Africa. They appointed expats from countries like France, Lebanon and Jordan, to run the Africa business. These people spent a lot of time traveling, and relied on multiple consultants to make decisions. Zain's African employees were not empowered in the decision making process, which lowered morale at the company. As a result, Zain's ability to grow became restricted over time, and the promoters stopped making new investments in the business. A year and a half prior to the Bharti acquisition, they were in talks with other companies for a possible sale.

After the acquisition, Kohli's team got to work instituting processes to increase accountability and to decentralize and expedite decision making among employees. Although these measures increased employee morale and helped build trust with the new leadership, the sheer scale of Bharti's task ahead in Africa meant that employees went from having little work to being saddled with enormous responsibility.

Apart from the differences in leadership styles, cultural differences between the company's African and Indian employees abounded in the first six to nine months after the acquisition. Some Bharti executives felt that Indians were used to putting in long hours and working weekends, while people in Africa had more of a European mindset, and preferred a greater balance between their professional and personal lives. The Indian work culture, they felt, was one of multitasking, while in Africa, like Europe, people preferred to focus on a single project at a time. Tiemoko Coulibaly, CEO of Francophone Africa, disagreed:

> There's a great deal of misunderstanding about the ability of our executives in Africa to work hard. People look at a few disengaged employees and set them as benchmark for the entire continent. When there is no clear purpose or engagement, people are bound to lack motivation. It's all about making a connection and sharing a vision to convince people that they can contribute to something great. Our Africa employees work long and hard, including weekends.

Communication styles also differed across the regions. Bharti's leaders felt that the Indian style of workplace communication was more direct than what the African team was traditionally accustomed to. The Africans, they found, had a more emotional style of communication. Mayilamene explained:

> One General Manager from India was having problems communicating with his direct reports in Africa. My advice to him was that if an African is not enjoying his work environment, he will escape, even if he has numbers to achieve. In Africa, if you connect emotionally with somebody, he will give a hundred percent of himself, and will go the extra mile for you. You will be able to keep him in the office overnight, without a problem. Africans have strong pride, and if they are admonished in public, they will resign even if they don't have a job.

Misunderstandings added to these differences. Bharti's Indian employees in Africa preferred to speak to each other in their native language, Hindi, in the initial days, unconsciously shutting their African colleagues out of communications. African employees complained about their Indian colleagues disturbing them early in the morning, and not being sensitive to the differences in time zones between East and West Africa. Previous generations of Indian businessmen living in East Africa carried the reputation of being poor paymasters, and Bharti's African employees initially equated the firm with these smaller businesses. "There was anxiety among the Africans that their salaries would be cut, and that they wouldn't be rewarded well," a senior Bharti executive explained. "All of this alienated the Africans, who had apprehensions that the Indians' attitude would be one of conquest rather than collaboration."

Bharti's Human Resources team organized activities for people to get to know each other outside the workplace. They encouraged Indian executives to take their African counterparts out to make them open up. The company also created a competitive compensation and bonus strategy, benchmarking itself with global companies. According to Mayilamene, "These measures increased comfort and trust within the organization, and the stigma associated with Indian employers being poor compensators has gone." Arjun concluded, "We exceeded the expectations of the workforce by being fair, honest and transparent. Even though the cultural integration took longer than expected, the acceptability of the people to an Indian company has been a positive surprise. Despite many initial challenges, in 18 months, there has been a high degree of cultural integration."

Rising Costs

To ensure a robust mobile network, Bharti had to quickly double its 10,000 towers in its 16 African markets. But given the landlocked nature of most countries, equipment could not be transported by ship, increasing time and costs involved in operations. Bhaskar Chakraborty, Chief Supply Chain Officer of Airtel Africa, explained, "Logistics in Africa are a nightmare. In many countries in the hinterlands, there are no proper roads, and materials have to be sometimes delivered via helicopter or elephant. Sometimes it takes 15-20 days for goods to reach from ports, and up to two months in the rainy season. The costs are huge." "We've even had to build, in a few cases, short stretches of roads so that we can transport fuel to keep the networks up and running," Coulibaly added.

With poor flight connections, travel across the continent was also time consuming and expensive, and flights from countries like Sierra Leone to Airtel's Nairobi headquarters, could take upwards of thirty hours. A lack of direct flights meant that travelers between countries in West and East Africa often had to route their tickets through Europe, further increasing the time and cost of travel.

Chakraborty found that Africa lacked a strong manufacturing industry, and even basic raw materials like steel and cement had to be imported into the continent, further driving up the costs of operations. "In the long run, everything cannot come out of the US, Europe and China," he concluded, and found himself encouraging suppliers to set up operations in Africa, in order to create a supply chain ecosystem.

"Though Africa is a low per capita income continent, they have adopted the cost structure of Europe," Chakraborty added. "India doesn't have that cost structure." A paucity of local industry in Africa meant that costs of essentials, from milk to water, were two to three times those in India. A scarcity of talent and higher people costs meant that service-related costs were also higher. The cost of constructing a tower in Africa was 60% to 70% higher than India, with prices mirroring those in Europe. The overall cost of operations in Africa, Mittal estimated, was one and a half to two times the cost of India, depending on the country. This, combined with lower monthly minutes of use per customer, meant that Bharti's cost per minute remained four times higher than India. Mittal reflected:

> While we were aware of the higher costs in Africa, the actual cost of doing business in Africa has surprised us. Everything has to be imported, everything has to be lugged, and access to electricity is few and far between. Take the case of people; I am surprised that we have to pay more in Africa than in India. And I thought putting up a hoarding in Dar es Salaam[10] would be similar to putting one up in Jalandhar[11], but one guy controls it, he charges what he wants, and the cost is the same as South Mumbai. That has shocked me.

Outsourcing Obstacles

Outsourcing, too, had its share of challenges. Most of Bharti's partner firms were based in the Middle East, and did not have headquarters in Africa. Chakraborty felt that these firms preferred to do business on a transactional basis in Africa, and were not comfortable working with contracts. Moreover, companies like Ericson were used to making high margins in Africa, and it was difficult to convince them to drop their margins to lower levels as were the norm in India

Chakraborty brought in specialists from India to educate Airtel Africa's employees and partners about the benefits of outsourcing. "The partner ecosystem in Africa is weak," he admitted. "It took me six months to convince our partners about the right level of pricing, and to get a good deal. Given the challenges in Africa, we also had to give them more time to achieve their KPIs[12]."

In the process of outsourcing, Bharti transferred a little over 5,000 employees from its Networks, IT and Call Center operations to its partners. Although many were happy to move to well-known firms like IBM, Nokia, and Ericsson, some of those who were transferred to less-known companies, did not view the transition as favorably. In October 2011, the Nigeria Labor Congress accused Bharti of unfairly sacking thousands of employees, and a group of people attacked the company's switchboard in the capital and forcibly shut down fifteen showrooms, cutting millions of customers from its network.

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[10] Dar es Salaam is the largest city in Tanzania and a financial hub in the country.

[11] Jalandhar is a small city in the state of Punjab, India.

[12] Key Performance Indicators

Some Bharti executives in Africa felt that the company moved too quickly with outsourcing. Meanwhile, in India, senior management wondered why it was taking longer than the six months they had estimated. "Changing attitudes doesn't happen overnight," Chakraborty explained. "People need to be aligned, and the entire ecosystem needs to be aligned."

Despite the challenges, within a year of the acquisition, Bharti had outsourced network management to Ericsson, Nokia, and Huawei; IT to IBM, who saw it as an opportunity to build their Africa business; and call centers to IBM, Tech Mahindra, and Spanco, who set up operations in each country to serve customers in local languages..

Multiple Countries

"India is one country, with one Government, one Department of Telecommunications, one currency, one Prime Minister, one time zone, one Bollywood, and one cricket. Africa is much more complex and diverse than India," Kohli shared. "Governments are different, regulations are different, currencies are different, time zones are different, and languages and cultures are different."

Each African country had its own set of rules governing telecom carriers, and dealing with multiple regulators complicated Bharti's operations on the continent. Import duties also varied across countries, and the company faced constraints in bringing telecom equipment into some countries. Multiple tax regimes in Africa led to duplication and wastage in the company's cost structure. Most African countries in which Bharti operated had not signed double taxation avoidance treaties, which meant that the company would lose substantial money if it were to set up a centralized billing system. Unlike India, where a single company, Indus Towers, was formed for tower sharing, in Africa, Bharti had to set up 16 separate corporate entities.

Building the Airtel brand across the continent was also a complex task. "Most of the young boys and girls in urban India are united by shared cultural interests - watching the same television channels and a love for cricket - with a few core regions having a unifying language and culture," Kohli said. "In Africa, on the other hand, there is greater diversity, and we've had to customize marketing much more than we thought." Kohli's team also customized customer service operations across countries and languages.

Human Resource policies also had to be customized across Africa. For instance, job titles had to be altered in languages that were understood and appreciated by different communities, in order to ensure that people were happy with their designations. Bharti's HR team encouraged executives from India to travel across Africa, rather than staying in Nairobi, and conducted induction programs for Indian colleagues to explain cultural differences among Africans. They also urged senior management to customize their speeches and other communications across the continent.

Differences between Bharti's Anglophone culture and its seven Francophone countries also prevailed. The company relied on bilingual senior management to bridge the language gap between its English-speaking leaders and its French-speaking employees. According to Coulibaly, the cost of business in Francophone countries like Chad and Niger was higher, and market penetration of mobile phones, relatively lower (around 20%, barring small countries like Gabon), than in Anglophone countries. Strict labor laws in Francophone countries made outsourcing more difficult in those markets, and also made it more difficult to let go of non-performers.

Distribution Monopolies

Accessing the African market wasn't much easier. Unlike India, where thousands of small distributors serviced millions of outlets, most African countries had four or five large financiers who distributed consumer goods for multinationals like Unilever and Coke. These distributors dictated what products they would sell at what price, leaving consumers with little choice.

Some African dealers, at odds with Bharti's tariff structure and its 4% margins, as opposed to the 10%-12% norm in Africa, refused to sell the company's SIM cards, or marked them up as they pleased. Bharti soon found itself forced into legal battles in countries like Tanzania, and began to appoint its own distributors to break the monopoly, but change was slow. "It's a stranglehold they have in the market, and our model doesn't work if you have only a handful of distributors," Mittal concluded.

Customer Challenges

Because of poor infrastructure in Africa, network outages were common across carriers, and it was not uncommon for customers to carry three to four SIM cards each. "Customers in Africa are very smart and well informed," Andre Beyers, Airtel Africa's Chief Marketing Officer, explained. "They move depending on the status of your network at the time, and your offer in the market."

Kohli also discovered that despite offering a better network and lower tariffs in some countries, competitors' mobile commerce offerings made it difficult to get customers to switch over to Airtel. In Kenya, for instance, Safaricom's customers relied heavily on M-Pesa, its mobile commerce offering, for daily transactions, including payments on public buses, where cash payments were not possible after 10 pm. (**Exhibit 12:** Mobile Commerce Players in Africa)

By March 2012, Kohli and his team had launched Airtel Money in ten African markets, with a goal to facilitate a cashless system in each country. (**Exhibit 13:** Airtel hoarding in rural Kenya) (**Exhibit 14:** Banking Penetration and Cash Payments in Africa) The platform would enable consumers to pay bills, board commercial vehicles, make payments in stores, and receive salaries from employers. Bharti was in the process of tying up with financial institutions, supermarkets, utility companies, and employers; obtaining regulatory approvals; setting up an agent network; and educating consumers about the offering. The company also hoped that its planned launch of 3G in 10 of the 16 markets by March 2012 would support uptake of m-commerce. (**Exhibit 15:** Status of Bharti Airtel's 3G Footprint in Africa)

Inelastic Demand

Hoping to replicate Bharti's Indian experience, Kohli's team began to cut tariffs to widen the base of the market. In Kenya, the company slashed tariffs from 7.2 cents to 3.6 cents per minute in August 2010[13]. This prompted rivals Safaricom, Orange Kenya and Essar Telecom Kenya (Yu) to respond with similar cuts. In January 2011, Bharti reduced tariffs further, to 1.2 cents. Safaricom CEO Bob Collymore estimated that the tariff cuts would wipe out $306 million in industry revenues, while Orange Kenya CEO Mickael Ghossein added that the future of the industry's profitability looked grim if such price wars were allowed to prevail.[45]

[13] Converted using an exchange rate of one US dollar to 84.9 Kenyan shillings.

Between 2010 and 2011, African operators reduced prices on an average of 18%, and Mittal felt that while the cuts had stimulated demand to some extent, the response was weaker than expected, which led him to believe that the buying power was limited in many markets. (**Exhibit 16:** Socioeconomic indicators in India and Africa) Beyers agreed, "Africa is still by and large a continent where people have to eke out a living. There's no social support, and everyone has to fend for themselves on sixty cents or a dollar a day. Even when the price drops, there isn't much more to be had out of that budget." As a result, Kohli concluded that elasticity of demand was below one in most African markets. (**Exhibit 17:** Bharti's Africa Subscriber Metrics)

Coulibaly felt that although mobile tariffs in Africa were high, they remained in line with consumer expectations. He explained, "I recently met a shop owner in a village in Burkina Faso, and asked her what she thought of our prices. She told me that 30 CFA Francs is the price of bread, and although it's a challenge to find something to eat at this price, she can make a call and communicate at this price. Our challenge is more about being able to find handsets at very low prices so that people in villages can have access to phones." Kohli added:

> The Indian government began to open up the economy in 1991, and the trickle-down impact of liberalization began in 1995. IT and telecom took off together and were catalysts for increasing growth from 4% to 9%. The money didn't stay in the top 25 cities, but went down into the next 5,000 towns, and today it has reached the top 400,000 villages. In Africa, on the other hand, liberalization is just beginning, and many countries are still very controlled. To reach 9% growth will take another five to seven years. We need to follow the income as it flows into the smaller towns and villages. We can't go so early that we go into losses, or so late that someone else comes in and we miss the opportunity. We need to make sure that the timing is right.

Strong Competition

Bharti's executives also found that unlike India, where they had enjoyed an early mover advantage, by the time they reached Africa, competition was entrenched. In September 2010, Etisalat, Nigeria's fourth largest mobile operator, cut its tariffs to approximately 10.55 cents per minute across all networks, compared with an industry average of approximately 23 to 28 cents per minute. Three months later, Airtel Nigeria introduced a new product that brought rates down by 40%, to 12.6 cents per minute, and offered competitive tariffs for calls to the United States. Globacom followed, launching a new product at 10.1 cents per minute, along with benefits for each of its subscriber segments. Finally, MTN launched three new packages giving subscribers free talk time, off peak discounts, and other benefits.

Bharti's executives found that despite the competition, Airtel Nigeria's revenues and margins had increased as a result of its tariff cuts and operational investments in the country, and customers were staying with the company and using its service more.[46] However, some analysts felt that MTN's emphasis on greater usage and improvements in its network had allowed the company to increase its subscriber base and retain its leadership, despite falling prices, making it difficult for other operators to gain ground.[47]

The Way Ahead

Despite the challenges, by early 2012, Airtel Africa was showing early signs of a turnaround. In Gabon, Africa's most saturated market, the company gained 5% revenue market share in 2011. In Nigeria, the company increased its revenue market share by 2%, to 17% in 2011, making up for a 3%

loss in 2010, around the time of the acquisition. By late 2011, Bharti's executives found that the company's costs were staying constant, despite expanding its network, and that EBITDA margins had increased from approximately 19% at the end of 2010, to close to 27% by late 2011. Kohli concluded:

> Africa is the biggest bet Bharti has taken in its lifetime. We arrived in Africa in June 2010 with deep conviction that we would replicate the India model and achieve rapid fire success. However, the diversity and complexity of 17 African nations is more daunting than we expected.[14] Whilst we have made good progress, a significant amount of transformation remains ahead of us.

Mittal reached Airtel's Africa headquarters, a modern yet simple high-rise on the edge of Nairobi, for a review with Kohli and his team. As he looked out over the city, he wondered what the right strategy for Africa was. Should they proceed as per their original plan, investing in the hinterland and slashing tariffs in the hope that demand would kick in? Or should they hold tariffs constant, focusing instead on urban areas and larger towns, and waiting for demand to eventually pick up? Would growth in their business come from mobile commerce or some other, completely unexpected applications? Would Bharti be able to beat MTN in its own backyard through the high-volume, low-cost business model that it had pioneered so successfully for the Indian masses? Would Bharti achieve its dream to be number one in Africa by 2015?

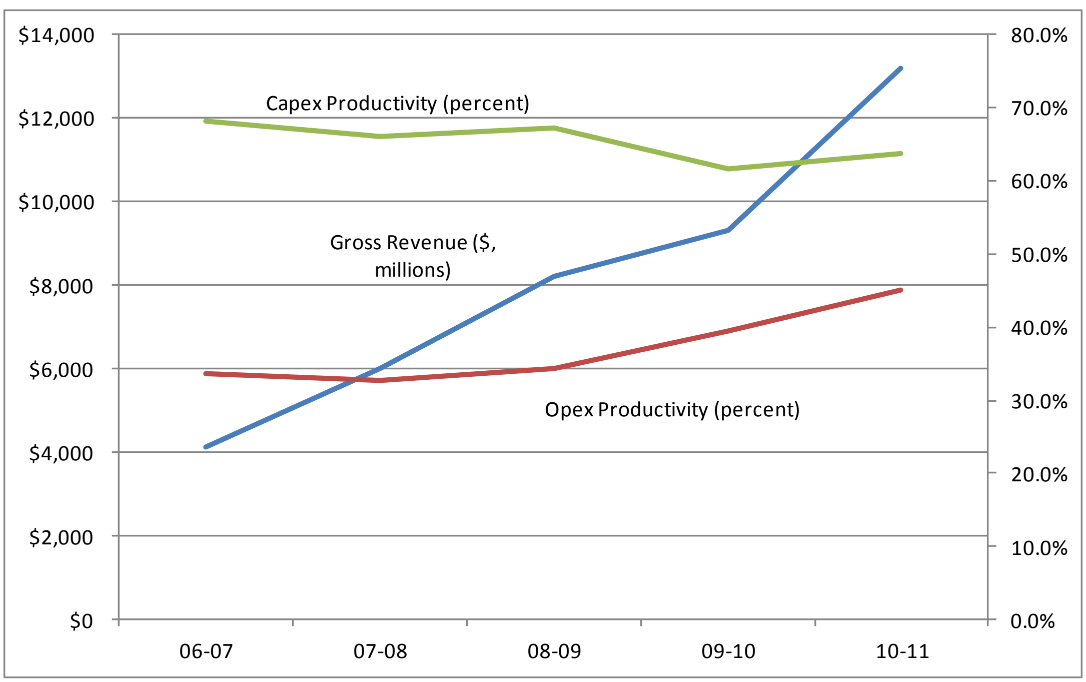
[14] Airtel was awarded a license for mobile operations in Rwanda in September 2011, with operations expected to be launched in March 2012.

Exhibit 1 Bharti's Position in Africa

Country	Subscribers (Million)*	Market Leader	Airtel Customer Market Share (%)
Nigeria	94.3	MTN	15.8%
Kenya	28.1	Safaricom	13.3%
Tanzania	23.2	Vodacom	24.4%
Ghana	20.3	MTN	12.3%
DRC	15.1	Vodacom	35.1%
Uganda	16.9	MTN	21.5%
Madagascar	7.0	Orange	35.4%
Zambia	7.0	Airtel	53.5%
Burkina Faso	7.6	Maroc	37.0%
Chad	3.4	Tigo	42.5%
Niger	4.6	Airtel	49.7%
Malawi	3.8	Airtel	55.1%
Congo B	4.1	MTN	38.2%
Gabon	2.1	Airtel	52.8%
Sierra Leone	3.7	Africell	35.5%
Seychelles	0.3	Airtel	50.5%

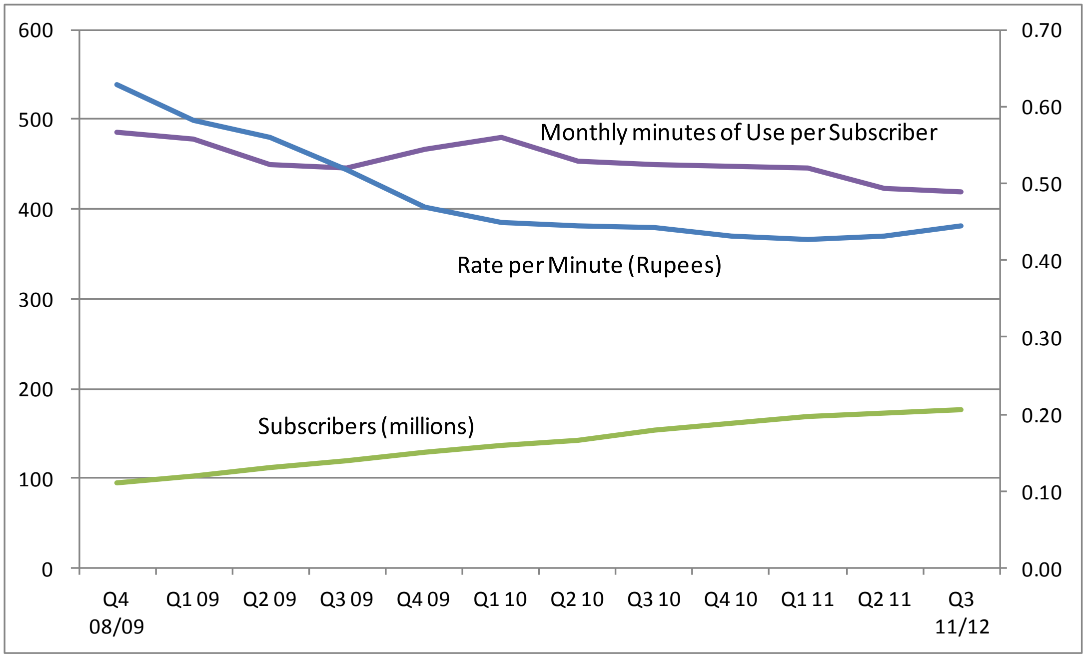
Source: Compiled from World Cellular Information Service, December 2011, and Company Documents.

Exhibit 2 Bharti's Key Performance Metrics (2007-2011)



Source: Company documents.

Exhibit 3 Bharti's India Subscriber Metrics (Q4 2008/2009 – Q3 2011/2012)



Source: Company documents.
Note: Data pertains to financial year running from April till March.

Exhibit 4 Mobile Players in Africa

	MTN	Vodacom	Airtel Africa (previously Zain)	Orange	Safaricom
Headquarters	South Africa	South Africa	Kenya	Ghana	Kenya
Revenues	$12.5bn	$8.9bn	$4.2bn	$4.8bn	$1.4bn
Customers	115.2mn	52.9mn	51.5mn	64.9mn	18.6mn
Countries of Operation	16	5	16	15	1
Overlapping with Bharti	Nigeria, Zambia, Gabon, Congo B, Uganda	DRC, Tanzania, Kenya, Ghana	N/A	Kenya, Uganda, Niger, Madagascar	Kenya
Major Owners	Public Investment Corporation, South Africa	Vodafone (UK)	Bharti Airtel (previously Kuwait Investment Authority)	France Telecom	Vodacom

Source: Company documents.

Notes:

MTN data based on full year results as at December 2011
Airtel Africa, Vodacom, Safaricom and Orange data annualized based on December 2011 quarterly results

Exhibit 5 Mobile and 3G Subscribers in Nigeria

	2009	2010	2011f	2012f	2013f	2014f	2015f	2016f
Mobile phone subscribers (thousands)	73,096	87,298	94,893	103,528	110,982	118,196	125,288	130,049
3G Phone subscribers (thousands)	1,500	3,200	6,037	8,707	11,327	14,183	18,426	23,073
3G Market as % of Mobile Market	2.1%	3.7%	6.4%	8.4%	10.2%	12.0%	14.7%	17.7%

Source: Business Monitor International.

Exhibit 6 Mobile Players in Nigeria (December 2011)

Operator	Mobile Subscribers (Millions)	Customer Market Share (%)	Revenue Market Share, Dec 2011 (%)
MTN Nigeria	42.9	45.6%	58.7%
Globacom	20.2	21.8%	13.9%
Airtel Nigeria	14.9	15.8%	16.7%
Etisalat Nigeria	11.5	11.8%	9.1%
Visafone	2.8	2.9%	0.9%
Starcomms	0.99	1.0%	0.3%
Multilinks	0.71	0.8%	0.3%
Reltel	0.32	0.3%	0.1%
Total	**94.3**		

Source: Company documents.
Notes:

December revenue markets share as per signed off report

Exhibit 7 Airtel and MTN's Mobile Tariffs for the Nigerian Mass Market (2011)

	AIRTEL		MTN
Plan	**Big Family Xtra**	**Steady Steady**	**Funlink Reloaded**
On net	0.1 cents/sec	below 65 cents : 0.39 cents/sec 65 cents - $1.94 : 0.2 cents/sec above $1.94 : 0.16 cents/sec	*0.1 cents/sec (4:30am - 4:00pm) 0.2 cents/sec (4:00pm - 12:30am)
Off net	0.2 cents/sec	below 65 cents : 0.39 cents/sec 65 cents - $1.94 : 0.2 cents/sec above $1.94 : 0.16 cents/sec	0.23 cents/sec
SMS	3.2 cents/ 6.5 cents/ 9.7 cents	3.2 cents/ 5.8 cents/ 9.7 cents	3.2 cents/ 6.5 cents/ 9.7 cents
International	0.13 cents/sec	standard rates apply	standard rates apply
Happy Hour	On net- Free Off net- 0.2 cents /sec	N/A	Free
Additional	* 1st min @ 0.39 cents/sec 40 sms/day 4MB data/day	N/A	1st min @ 0.37 cents/sec (12.30am - 4.30am)
Launch Date	**May-11**	**Dec-11**	**Aug-11**

Source: Company documents.

Exhibit 8 Bharti's Balance Sheet ($, millions)

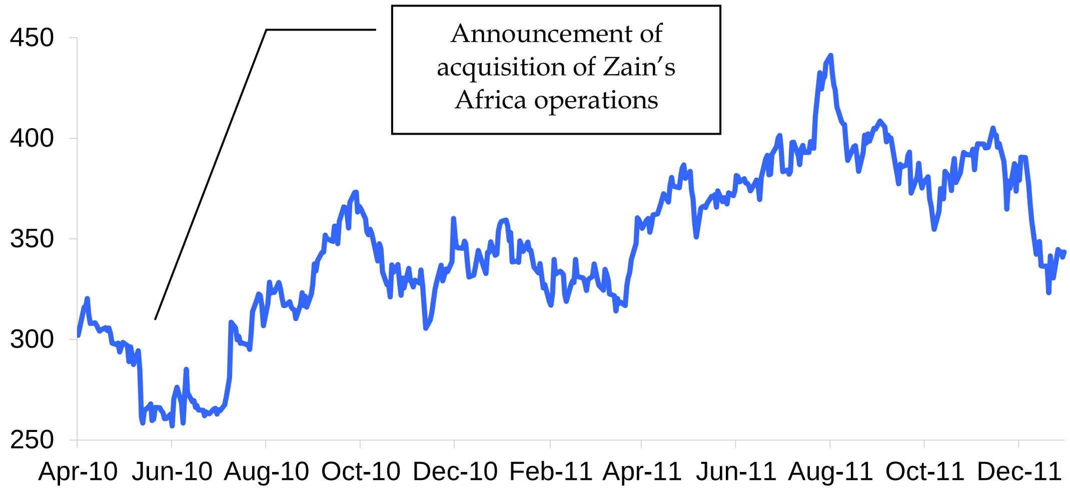
	As of March 31,2011	As of March 31,2010
Assets		
Non-current assets		
Property, plant and equipment	14,476	10,725
Intangible assets	14,163	1,331
Investment in associates		1
Derivative financial assets	44	74
Other financial assets	176	164
Other non-financial assets	206	166
Deferred tax asset	1,001	278
	30,066	12,739
Current assets		
Inventories	48	11
Trade and other receivables	1,221	794
Derivative financial assets	60	3
Prepayments and other assets	678	463
Income tax recoverable	117	63
Short-term investments	138	1,161
Other financial assets	17	2
Cash and cash equivalents	213	563
	2,491	3,060
Total assets	32,557	15,799
Equity and liabilities		
Equity		
Issued capital	422	422
Treasury shares	(6)	(2)
Share premium	1,256	1,256
Retained earnings/(deficit)	7,943	6,696
Foreign currency translation reserve	312	18
Other components of equity	911	986
Equity attributable to equity holders of parent	10,837	9,376
Non-controlling interest	635	562
Total equity	11,472	9,938
Non-current liabilities		
Borrowings	11,830	1,811
Deferred revenue	193	249
Provisions	135	84
Deferred tax liability	277	83
Other financial liabilities	308	241
Other non-financial liabilities	119	87
	12,866	2,562
Current liabilities		
Borrowings	1,875	454
Other current liabilities	6,344	2,845
	8,219	3,299
Total liabilities	21,085	5,860
Total equity and liabilities	32,557	15,799

Source: Adapted from Bharti Airtel's Annual Report, 2010-2011, p. 105.

Exhibit 9 Bharti's Africa Operations

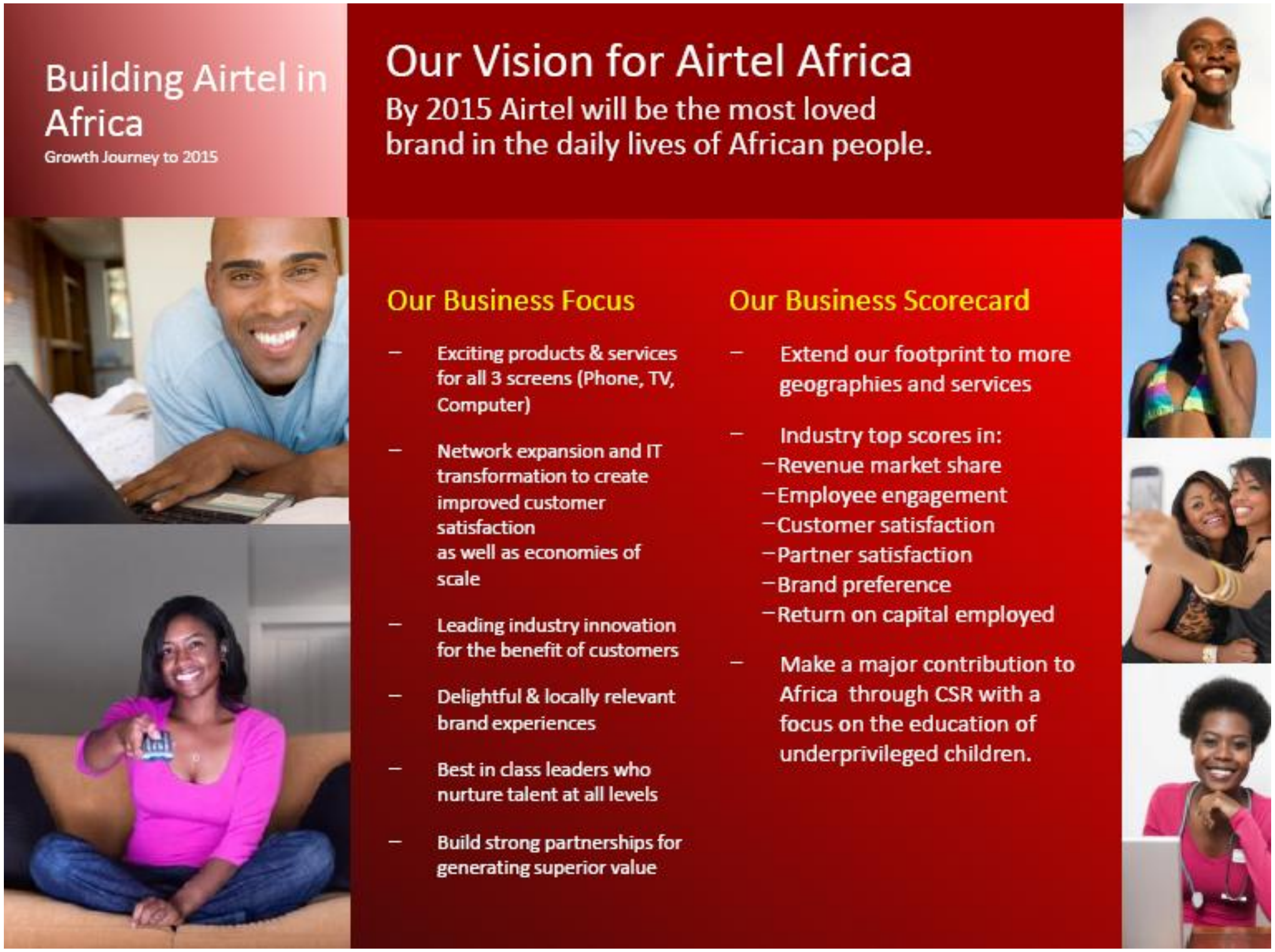
Source: Prepared by case writer with data from www.aneki.com, accessed in April, 2012.

Exhibit 10 Bharti's Share Price Movement (June 2010 – December 2011)



Source: Adapted from Bloomberg.

Exhibit 11 Bharti's Vision for Africa



Source: Company documents

Exhibit 12 Mobile Commerce Players in Africa (March 2012)

Anglophone	Airtel Money	Main Competitors	No. of Players	Potential Entrants
Ghana	✓	MTN, Vodafone, Tigo, Txt and Pay	4	✗
Kenya	✓	Safaricom, Yu, Orange	3	✗
Malawi	✓	✗	✗	TNM
Sierra Leone	✓	Splash	1	Africell, Comium
Tanzania	✓	Vodacom, Tigo, Zantel	2	✗
Uganda	✓	MTN, Orange	2	✗
Zambia	✓	Cellpay	1	MTN
Seychelles	✗	✗	✗	✗
Francophone				
Burkina Faso	✗	✗	✗	Onatel
Chad	✗	✗	✗	Tigo
Congo B	✗	✗	✗	MTN
DRC	✓	✗	✗	Vodacom, Tigo
Gabon	Pilot	✗	✗	Gabon Telecom
Madagascar	✓	Telma	1	Orange
Niger	✓	✗	✗	Orange
Nigeria	✗	MTN		Glo

Source : Company documents.

Exhibit 13 Airtel hoarding in rural Kenya

Source: Case writer.

Exhibit 14 Banking Penetration and Cash Payments in Africa

	Country	Mobile Penetration	Banking Penetration	Domestic Cash Payments ($ millions)
Anglophone				
	Ghana	67%	16%	6,214
	Kenya	56%	10%	10,990
	Malawi	20%	21%	1,535
	Uganda	40%	20%	9,677
	Sierra Leone	37%	13%	1,713
	Tanzania	45%	5%	12,179
	Zambia	42%	15%	6,162
	Seychelles	109%	41%	135
Francophone				
	Burkina Faso	23%	26%	3,914
	Chad	24%	20%	5,047
	Congo B	73%	41%	2,695
	DRC	19%	20%	13,350
	Gabon	112%	39%	2,865
	Madagascar	24%	21%	6,915
	Niger	20%	31%	2,510
Nigeria		59%	15%	37,040
Total				122,941

Source: Mobile Money for the Unbanked, December 2010.

Exhibit 15: Status of Bharti's 3G Footprint in Africa (March 2012)

OpCo	3G License Status	Launch Status	3G Competition
Nigeria	Yes	Launched	Glo, MTN, Etisalat
Kenya	Yes	Launched	Orange, Safaricom
Tanzania	Yes	Launched	Vodacom, Tigo, Sasatel, Zantel
Ghana	Yes	Launched	MTN, Glo
Uganda	Yes	TBD	UT Mobile, MTN
Zambia	Yes	Launched	MTN
Sierra Leone	Yes	Launched	Africell
Seychelles	Yes	TBD	C&W
Malawi	Yes	TBD	TNM
Congo B	Yes	Launched	N/A
Gabon	No	N/A	N/A
Chad	Pending	TBD	N/A
DRC	No	N/A	N/A
Burkina Faso	Pending	TBD	N/A
Madagascar	No	N/A	Telma, Orange
Niger	No	N/A	N/A

Source: Company documents.

Exhibit 16 Socioeconomic Indicators for India and Africa

	India	Sub Saharan Africa
GDP per capita, PPP [a]	$3,582	$2,254
Household final consumption expenditure per capita [b]	$493	$392
Rural population (% of total population)	70%	63%
Rural population growth (annual %)	94%	169%
Life expectancy at birth, total (years) [c]	65	54
Health expenditure per capita [c,d]	$45	$76
Primary school completion rate, total (% of relevant age group)	96%	64%
School enrollment, secondary (% gross) [e]	60%	35%

Source: The World Bank.

Notes:

[a] current international dollar

[b] constant 2000 US dollar

[c] 2009 data

[d] current US dollar

[e] 2008 data

Exhibit 17 Bharti's Africa Subscriber Metrics

Parameters	Unit	Dec 2011	Sept 2011	June 2011	March 2011	Dec 2010
Customers	000's	50,949	48,437	46,306	44,206	42,124
Average Revenue Per User (ARPU)	US$	7.1	7.3	7.3	7.2	7.3
Average Rate Per Minute (ARPM)	US cents	5.7	5.7	6.0	6.2	6.1
Average Minutes of Use per User	Min	125	128	121	115	120
Total Minutes on Network (Net)	Mn Min	18,496	17,950	16,337	14,915	14,904
Total Revenue	USD Million	1057	1030	979	924	911

Source: Company documents.

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