
TELECOMMUNICATIONS INDUSTRY IN GHANA

A STUDY TOUR ANALYSIS

March 31, 2011

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University of Washington - Bothell, 2011

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EXECUTIVE SUMMARY

The Emerging and Frontier markets (EMs/FMs) within today's global business economy function as the central engines of growth. Populations which previously had limited to no access to modern technological advances have now, within the telecommunications sector especially, leapfrogged generations of technology, seizing the opportunity for a better quality of living standard through mobile telephony. The white paper presented here will analyze one such emerging market in West Africa, specifically in the country of Ghana.

The paper identifies the common challenges and opportunities presented to the various mobile telecommunications industry stakeholders operating in Ghana today. The research approach uses both preliminary as well as secondary research from published data. In addition, provided is also research acquired via face-to-face interviews conducted with local senior executives with proven extensive experience working in the Ghanaian telecom sector. The wireless telecom companies and associated governmental agencies who participated in the interview process were Vodafone - Ghana, Mobile Telephone Networks (MTN), Airtel, Eaton Towers, the Ghanaian Ministry of Communications and their subgroup the National Communication Administration (NCA) of Ghana. The analysis also includes the telecommunication industry's competitive landscape in Ghana as observed, common business challenges faced by wireless carriers and the experiences of the tower management companies supporting the architectural infrastructure. References to best practices adopted in western markets which could be beneficial to the Ghanaian mobile telecommunications industry, can also be found herein.

INTRODUCTION

Emerging and Frontier markets are the engines of growth in the new global market place. Populations that previously had limited or no access to modern telecommunications have leapfrogged generations of technology, seizing the opportunity for better living through mobile telephony. There are currently over 5 billion mobile subscribers globally, with the fastest subscriber growth in Africa and Asia (ABI Research, 2010). The power of mobile technology's disruptive innovation in conjunction with the potential of the fortune at the "bottom of the pyramid" (Prahalad, 2004) have resulted in rapid economic growth, with a resulting affect of mobile devices being a necessary item rather than just a disposable or luxury item. In many African countries, mobile phones have gained much faster adoption than fixed line phones or even wired internet, owing to the lack of cable infrastructure which can be quite costly to set up in remote areas.



(Above): ABI Research Results, 2010

MOBILE TELECOM LANDSCAPE - AFRICA'S DEVELOPING WORLD



In the landscape of a typical African developing country, troubled with poor transportation infrastructure and lamentable landlines, mobile devices are the most obvious and accessible substitute for travel. They allow for quicker, easier access to information to help facilitate commerce; for example traders become better versed in what their competitors are pricing, better allowing the ability to reach wider markets, boost entrepreneurship and generally make it easier to do business and enhance livelihoods.

In the developed world, mobile phones were introduced as portable adjuncts to existing fixed lines. Mobile telephony is thus a revolutionary invention, as it is the first time access to telecommunication and hence the gateway to information (The Economist, 2009). According to a study by World Resources Institute, adding ten mobile phones per 100 users in a typical developing

country, and you would boost growth in GDP per person by 0.8 percentage points.

A high level analysis of the mobile business shows that three trends in particular are reshaping the telecom landscape (Mobile Industry Review, 2010).

- I. **Homegrown Operators:** The rise of homegrown mobile operators in India, Africa and the Middle East rival or exceed the industry's western incumbents in size. These operators have developed new innovative business models that have restructured the traditional mobile industry enabling them to make profit serving low spending customers. Airtel (India), MTN (South Africa) and Zain (Kuwait) are pioneers in adopting this new business model that serves a high volume of low spending customers.
- II. **Reduced Equipment Costs:** The second trend is the emergence of low cost equipment manufacturers, specifically from China – Huawei and ZTE, which entered the global market most prevalently within the last five years. These companies have disrupted the incumbent western equipment makers, resulting in the drastic reduction of the equipment costs to mobile operators.
- III. **Value Added Services (VAS):** The third trend is the gained momentum in the development of value added services, beyond voice and text services, in these emerging markets - causing mobile devices to become a necessity rather than an accessory item. In the developed world, mobile gaming, music players, content downloads etc. are the most commonly used VAS activities, however, in the emerging markets of Asia and Africa, mobile devices provide enormous economic and developmental benefits in the form of money transfer (Airtel Money, 2011) (MTN MobileMoney, 2011), agricultural advice (Arango, 2008) and health care.

ABOUT GHANA

Ghana is considered the gateway to West Africa, with a stable democracy, diverse culture and a vibrant economy. Ghana is a microcosm of Africa's developing world, providing ample opportunities for various industries in Africa to thrive. Ghana is a perfect case



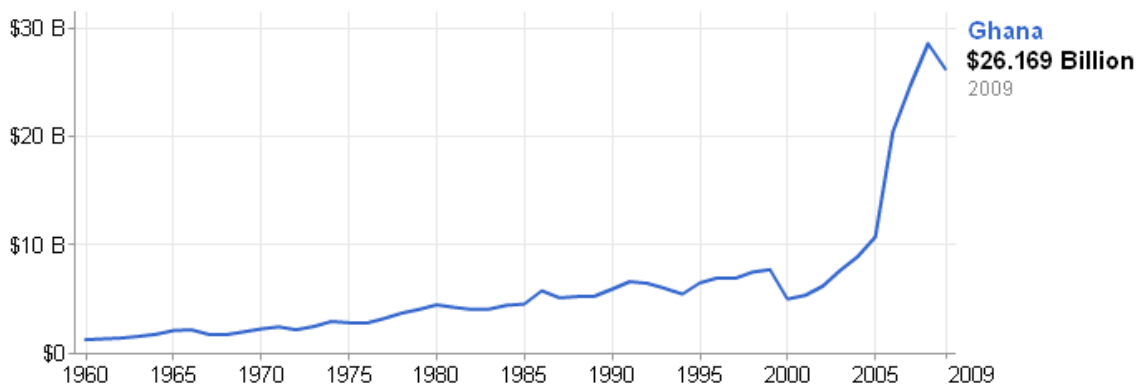
study for understanding the potential of Frontier markets in the new global marketplace.

Ghana has a population of about 25 million and 65% of population is under age of 35. The population is expected to have 2% growth per year to reach 27 million by 2016. Currently, Ghana remains very much a cash economy, with only 10% of the population using formal banking. The average income at low end is \$150 USD.

In 2009, GDP was about 26.16 Billion (World Bank) and Ghana's labor force was estimated at approximately 10.33 million (2009 est.).

Gross Domestic Product

GDP in current U.S. dollars. Not adjusted for inflation. [More info »](#)



Data source: [World Bank, World Development Indicators](#) - Last updated Mar 29, 2011

http://en.wikipedia.org/wiki/Economy_of_Ghana

Ghana Exports (Wikipedia)

\$5.737 Billion (2009 est); gold, cocoa, timber, tuna, bauxite, aluminum, manganese ore, diamonds, horticulture, oil

Main export partners Netherland 13.4%, Ukraine 11.7%, UK 8%, France 5.7%, USA 5.1% (2008)

Ghana Imports (Wikipedia)

\$9.807 Billion (2009 est.); capital equipment, petroleum, foodstuff

Main import partners China 16%, Nigeria 15%, India 5.6%, USA 5.6%, France 4.5%, UK 4.5% (2008 est.)

In 2011, the inflation rate is 8%. The domestic economy continues to revolve around subsistence agriculture, which accounts for 35% of GDP and employs 55% of the work force, mainly small landholders. Ghana remains one of the more economically sound countries in all of Africa.

MOBILE TELECOM LANDSCAPE IN GHANA

Mobile Telecom industry is one of the highly visible and successful industries in Ghana. The growth of mobile telecom in Ghana has profound effects on the economic development of the country. With a mobile phone penetration rate of ~73% and is expected to reach 80% by the end of 2011 (Wireless Federation News, 2010). The mobile phone industry in Ghana is a highly competitive and innovative industry.

The Ministry of Communication was created in 2002 in response to global development in the telecommunications industry. Its major function is to develop policies and initiatives aimed at promoting telecom growth and economic development. Number Portability and SIM card registration are two of the projects it initiated and will make a big impact to the wireless industry.

GHANA - TELECOM INDUSTRY PLAYERS

The following companies define the competitive landscape of Ghana's mobile telecom industry.

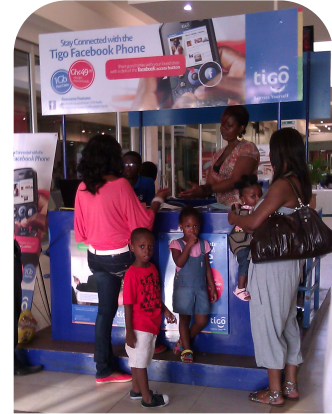
[MTN \(Mobile Telephone Network\)](#) – MTN, headquartered in South Africa is the leader with 53% of

the market share in Ghana. MTN operates in 21 countries in Africa and the Mideast. Its vision is to be the telecommunication leader in emerging markets. In Ghana, its



challenge is to maintain market share among aggressive competitors. Currently, it uses Mobile Money, zone offering and various pricing plans to differentiate itself. There are 4.3 million customers using Mobile Money. MTN is also facing regulation differences in different countries; for example some countries register SIMs and others do not. MTN just made a joint venture deal with American Towers to manage most of their cell towers.

Millicom Ghana Limited (TIGO) – Millicom Ghana Limited operates under the brand name Tigo . It holds 22% of the market share, with a key focus on targeting the more youthful demographic within the Ghanaian market.



Vodafone – Vodafone, the world’s second largest mobile telecom operator, entered the Ghana market with the acquisition of the previously state owned/run Ghana Telecom. With a market share of 14%, Vodafone is a relatively new entrant. Vodafone wants to target what they call the



“valuable” segment in an effort to differentiate itself from established players MTN, Tigo and Airtel. Vodafone also has fixed line assets in Ghana and is the clear share owner for the wired internet access.

Leveraging the ability to bundle, Vodafone plans to focus on high value and high net worth customers. Vodafone had previously pushed a heavy brand awareness campaign by painting thousands of buildings across the country with the well-known Vodafone color and logo.

Airtel – Airtel, the sixth largest mobile telecom operator, based from India, and entered Ghana via the acquisition of Zain Inc. late in 2010. They currently hold 8% of the market share in



Ghana. Airtel is still focused on transitioning consumers away from the Zain brand and has implemented a number of aggressive promotional efforts to increase the Airtel brand awareness, including a strong focus to be the low cost leader. Additionally, Airtel provides the money transfer service, Airtel Money.



Glo Mobile – Nigerian based Glo Mobile is the newest operator to enter into the highly competitive Ghanaian mobile market with the self proclaimed

strongest 4G network. (Wireless Federation News, 2010)

[Expresso Telecom](#) – Expresso Telecom is a Dubai based operator who acquired the assets of Kasapa Ghana; they currently account for 2% of the Ghanaian mobile market share. They are the sole carrier in Ghana to utilize a CDMA network, while the other telecom companies provide GSM network.

Ghana is quite favorable to foreign companies, this is evidenced by the ownership of the major telecom operators, it is one of the few African countries with a vastly liberalized telecom market. As mobile phone subscribers grow, more base stations are needed to provide coverage for communications networks, adequate capacity is also essential to provide Quality of Service (QoS). Since coverage is a key strategic factor for long-term sustainability, there are currently 3,091 cell sites around the country - MTN owning 1,652 cell sites, Tigo 699, Vodafone 378, Airtel 250 and Expresso 112 (Wireless Federation News, 2010).

The cell tower management companies are the next major investors within the Ghanaian telecommunications industry. American Towers (in a joint venture with MTN), Eaton Towers (Vodafone's outsourced tower operator) and Helios Towers (Tigo's Tower Operator) are the three main cellular tower management companies in Ghana today. Due to the highly competitive nature of the mobile telecom market in Ghana, the average revenue per user (ARPU) has fallen below \$5 per month for some of the operators. The voice market has reached a saturation rate close to 80%, the focus of the mobile industry is now towards reducing churn, customer retention, and the provision of 3G mobile broadband services (Wireless Federation News, 2010).

COMMON BUSINESS CHALLENGES

Consumer demand, access to new devices, VAS and new business/revenue models are key drivers to achieve success in the highly competitive Ghanaian telecom industry. Though it should be noted, there remains many common business challenges for the various stakeholders including, but not limited to:

I. Infrastructure

- Commercial Power & Refueling – Being a developing country still, basic power infrastructure remains a challenge across all of the carriers, especially the further out into the more rural/remote areas.

- Connectivity – Today, thanks to the technology leapfrogging, connectivity is primarily fiber, however the issue remains that without a solid infrastructure, expansion has been difficult. Moving forward though, it should be noted that submarine fiber, significantly supporting bandwidth growth, is already being used and there are plans from all carriers to continue this type of innovative expansion.

II. Government and Regulation

- Perceptions vs. Reality – Telecom companies are viewed as being the cash cows of Ghana, and as such, carriers are heavily taxed.
- Newer Government – With telecom regulation being relatively new, a number of pain points result from the attempted government regulation. Spectrum allocation is difficult to acquire, and enforce due to the lack of tested experience. Moreover, the lack of long-term historical data has caused for some costly inconsistencies for the telecom players.
 - *Best Practices – As best practices have not yet been developed, a consideration would be to review established best practices from developed markets.*
 - [NRIC Best Practices](#)
 - [FCC Best Practices](#)
 - [General FCC Best Practices](#)

III. Economic Environment

- High Inflation – The risk of higher inflation rates is part of the growing pains of an emerging economy. Ghana's inflation is tagged at 11% for 2010 and it is in the high end of the spectrum compared to the global economy. High inflation rates have a direct effect on consumer buying behavior and it doesn't help with the growth of the mobile industry.

IV. Customer Retention

- Number Portability – Number portability is a concern of for many of the carriers, as it would make staying with a single carrier merely for the phone number a concern. The stickiness of a consumer to a particular carrier may decrease significantly if they are highly dissatisfied for any reason.
- SIM Card Registration – By this coming June 2011, it will be required for all subscribers to register their SIM cards with a name and address. Initially, carriers appeared skeptical of the success of this particular initiative; however the registration of subscribers will notably support data gathering on customer needs and demographics.

- Aggressive Pricing – The high competition has caused for aggressive pricing amongst the existing carriers, impacting ARPU drastically as aforementioned.

V. Distribution Channels

- Unconventional Sales – By western culture standards, it would be unheard of purchase airtime from a man waving you down on the street, this is however, the primary channel for air distribution in Ghana today. This causes issues as the carriers attempt to gain a better understanding of the customer as they currently lack any visibility to end user.
- Remote Locations – This is a challenge, again due to the still developing infrastructure; ultimately causing additional costs for distribution of services.



VI. Risk Management

- Safety - Since most operators are public companies, OSHA regulations must be adhered to, however there are no Ghana specific regulations for work force safety. Shareholder and CSR aspects to risk mitigation and management can be challenging when carriers need to not only self-enforce, but also change the perception of a culture about workplace safety and liability.

CONCLUSION

Ghana is a case study on the growth and the impact of the mobile telecom industry in an African emerging market. With high subscriber penetration rate, the focus in Ghana is shifting from customer acquisition to customer retention. The aggressive competitive landscape and high network operating costs has led the mobile industry to look for innovative non-voice and non-text based avenues for revenue. Entry-level smartphones are entering the market that will enable and stimulate the demand for mobile Internet services such as mobile banking and mobile commerce. Even though there are business challenges and pain points in the industry, they are not insurmountable. The cultural and economic impact of the mobile telecom industry in Ghana is highly visible and has created a positive outlook for the growth of the country.

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