

WHAT ARE THE ECONOMIC AND SOCIAL IMPACTS OF THE MOBILE PHONE SECTOR IN DEVELOPING COUNTRIES?

Millicom Group – incorporated by Swedish interests – is a mobile phone company operating in 16 emerging countries in Africa, Asia and Latin America. At the end of 2008, it had a total of 32 million subscribers. François-Xavier Roger, the Group's chief financial officer, explains the financial model that allows Millicom to reach a high level of profitability while having a mass-market customer base in countries where average GDP per capita remains very low.

How to Succeed in Developing Countries for a Mobile Telephony Operator? The Case of Millicom

Some mobile phone operators invested in developing countries very early on, whereas profitability seemed to be uncertain. If such investments are to be profitable, it is necessary to respect some key criteria for success. First, the service must be financially affordable for the clients. Similarly, the operator must base its service on prepayment in order to minimize the risk of unpaid bills. Finally, it is necessary to develop an extensive sales network so that consumers can easily purchase airtime. In this context, the operator must see itself as a business selling mass consumer goods, rather than a technology earmarked for a niche market.

By François-Xavier Roger, Chief Financial Officer of Millicom

Mobile phones scarcely existed 20 years ago. It took years for penetration to pick up in developed countries because handsets and calls were expensive, and network coverage was poor. Today, however, mobile phone penetration exceeds 100% in almost all developed nations.

Nobody would have thought that mobile phones could have been as successful in emerging countries, as the barriers to entry were even greater: limited infrastructure, low purchasing power, unaffordable handsets, and illiteracy, not to mention the apparent lack of need. Finally, given the extremely low penetration rate of fixed phone lines, the case for a profitable business for mobile operators was very weak.

As a result, very few investors were truly prepared to invest in mobile licenses and infrastructure in emerging countries. Millicom, supported by its largest shareholder Kinnevik, and led by the vision of its late founder, Jan Stenbeck, acquired 13 mobile licenses around the world in the 80's, mainly in Latin America, Asia, and Africa.

This bold vision soon became reality: in countries like Guatemala, Honduras and El Salvador, to name a few where Millicom operates, more than 80% of the population now use mobile phones, and penetration rates continue to increase. In Africa, most countries still have a lower average penetration rate of around 30%, but it is highly

likely that over time, penetration rates will eventually reach the same levels as in Central America.

Two main factors, at the heart of Millicom's strategy, have driven such high growth rates: increased affordability, and improved accessibility.

Affordability

Millicom is a mobile operator exclusively focused on offering mobile services in emerging countries. Many of the countries where Millicom operates have very low GDP per capita levels: from USD 300 in DRC to USD 9,000 in Colombia. In spite of limited purchasing power, almost anybody in these countries can get access to mobile services. Affordability has proved to be a key success factor for Millicom: it removed cost as an entry barrier, even for the poorest. The introduction of prepaid offerings has been instrumental in this regard: a subscriber only needs to buy a SIM card for a token amount (around USD 1), and can then purchase airtime¹ (in the form of scratch cards or electronic reloads, for instance) in the smallest currency denomination available in his country (USD 0.5 or 0.10 is common), and is then ready to place calls. One consequence of this low entry cost with cheap SIM cards is that many customers routinely use multiple SIM cards in order to avoid "cross-net" charges (mobile operators often charge more for "cross-net" calls – i.e. calls placed from one network to another network - than for "on-net" calls - calls within the same network, for example from a Millicom number to another Millicom number)...

François-Xavier Roger 
Millicom

François-Xavier Roger holds an MBA from Ohio State University and graduated from Audencia Management School in France. He began his career at Aventis and Hoechst Marion Roussel, where he specialized in emerging markets in Asia, the Middle East, Africa and Latin America. After holding the position of Vice Chairman in charge of corporate finance at Danone, his extensive experience in developing countries allowed him to join Millicom Group as chief financial officer in September 2008.

¹ Airtime represents the amount of time a subscriber spends using his/her mobile phone.

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... Prepaid offerings are attractively priced, and allow users to have full control over their call expenses. The handsets, on the other hand, are not subsidized in prepaid offerings, in contrast to most of the postpaid packages. And many customers cannot afford even the cheapest of handsets, despite the fact that some new or second-hand handsets are for sale for as low as USD 25. Such an amount may look small, but it could represent up to a month's income for many individuals living on USD 2 a day. Mobile phone users manage to bypass the issue of handset prices though, as many don't own one individually but borrow from, or share it with, their friends and relatives. Another way to reduce the cost of mobile services has been the introduction of per second billing (as opposed to per minute billing).

Accessibility and availability

The second key success factor for emerging markets operators is to provide accessibility of the service to all customers, which means providing them with the opportunity to buy airtime anywhere at any time in the same way they can buy basic food, cigarettes or personal care products. Millicom does not see itself as a company selling technology but rather as a consumer goods company. As such, branding and distribution networks are two key elements of success. Millicom for example trades under the TIGO brand, which ranks among the three most recognised brands in most countries in which Millicom is present. The company manages more than 600,000 points of sale. These points of sale range from individual hawkers selling airtime in the street to pharmacies, supermarkets or even gas stations.

The efficient distribution of airtime through this dense network of outlets is essential to the success of the model. Millicom uses very sophisticated and powerful mapping systems, allowing it to know at any given moment the amount of airtime stock available at any single point of sale, as well precisely what street promotional material (billboards, umbrellas...) is available in any particular outlet in any country where it trades. The sales force makes direct use of this tool to generate revenue and avoid out-of-stock situations, while the technical team can manage the network and demand according to airtime consumption.

Finally, network availability is a critical point. Any operator must be in a position to offer both appropriate geographic coverage as well as excellent service levels to all customers at any time. Such re-

quirement requires major capital expenditure. A company like Millicom invested 40% of its revenues two years in a row, in 2007 and in 2008, with about USD 1.4 billion spent in capex to build infrastructure and network in 2008.

The impact of the mobile phone industry on household spending

Thanks to improved access and affordability of mobile handsets, phone services have become a significant part of household spending, and as such have triggered a notable redistribution of income and of spending habits for people living in developing countries. It is indeed often the third largest item of household expenditure behind housing and food. Analysis has demonstrated that it is fairly common to see people in developing markets spend as much as 15% of their disposable income on mobile telephony.

In Tanzania, for instance, Millicom clients' average expenses (also known in the industry as average revenue per user or ARPU) reach around USD 5.6 per month (*i.e.* USD 67 per year), representing around 5% of Tanzania's *per capita* GDP of USD 1300, or the equivalent of around 28% of GDP *per capita* in the Democratic Republic of Congo (average ARPU of USD 7 per month, *i.e.* USD 84 per year for a GDP *per capita* of USD 300). These figures are provided for illustration purposes only: the analysis obviously has to be mitigated by the penetration rate in each country (27% in Tanzania and 9% in DRC), knowing that early adopters of mobile services often belong to the wealthiest parts of the population.

Margins and returns

Considering the risks involved as well as the higher cost of capital, investors in emerging markets typically demand a higher return than would be the case in developed markets. As an example, the weighted average cost of capital of many African countries is higher than 15%, which means that investors like Millicom must generate decent returns and margins to recover their long term investment and compensate for risk factors.

As indicated above, many customers spend as little as USD 1 a month of airtime. Few spend more than USD 50 a month. On average, Millicom customers spend less than USD 10 a month on mobile phone while European spending *per capita* is about five times higher. However, profitability is not a function of spending levels per customer as business models in Europe/USA are very different from business models in emerging markets. ...

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... In Europe or in the USA, most customers subscribe to post-paid offers: they have accounts with their operators and get billed for calls per month ("postpaid" customers), or they subscribe to fixed packages with a predetermined amount of airtime. These packages usually include a handset, a system that carries a huge cost to the operator.

Millicom's model is totally different: like most operators in emerging markets, it uses the prepaid model. Prepayment means that the subscriber buys airtime that is stored in his account and that he can only call for as long as his account is loaded with sufficient airtime and credit. In Millicom's case, for example, prepaid airtime constitutes 95% of sales revenue. Such a model offers huge opportunities for operators, who shift credit risk to the consumer and do not carry the cost for expensive, "subsidized" handsets. Prepayment, however, does not mean that subscribers do not have access to sophisticated tools.

The absence of a handset subsidy and the prepaid model are the main factors behind mobile operators' capacity to generate decent margins, an absolute necessity for operators as they in-

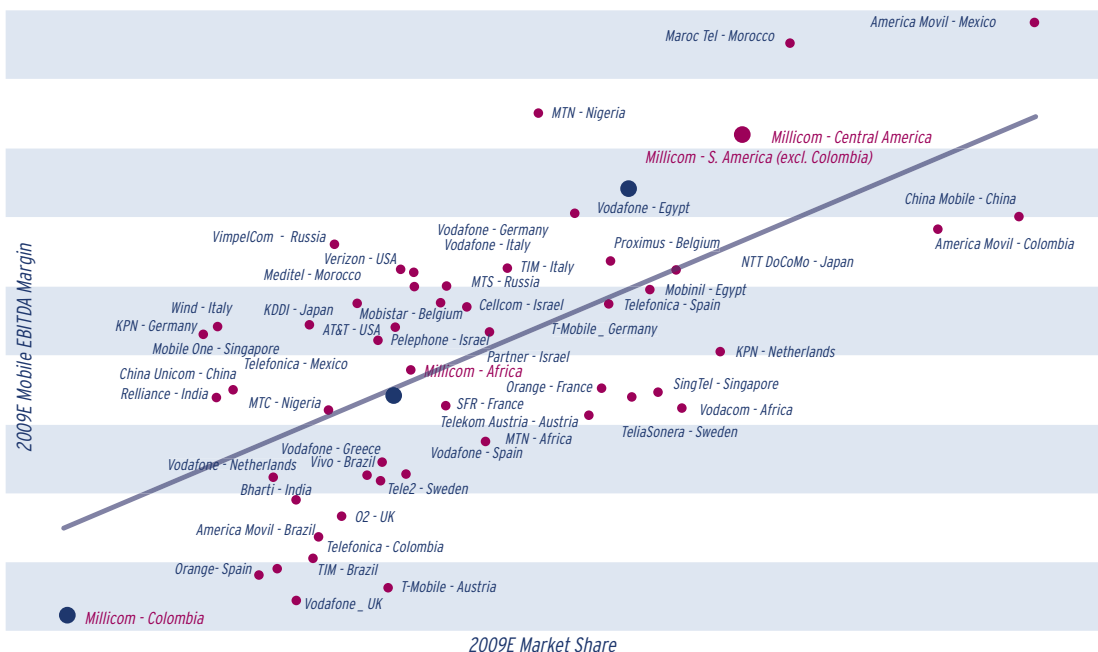
vest massively in emerging countries, often with high risk profiles.

The operators generate these high margins despite the fact that, as mentioned above, average spending *per capita* is around five times lower in emerging countries than in developed countries. Figures 1 and 2 below show that Millicom ARPU and margins tend to be related to the group's competitive position in its markets rather than the absolute level of GDP *per capita*.

² Earnings before interests, taxes, depreciation, and amortization.

Figure 1 shows a clear correlation between market share and EBITDA² margins. Figure 2 also illustrates this idea and shows the absence of correlation between ARPU and EBITDA margin, and to some extent between ARPU and GDP *per capita*. For instance Millicom's average ARPU is almost 30% higher in Central America than in South America, while average GDP *per capita* (weighted by the number of Millicom's subscribers in each country) is 13% lower, and the group's EBITDA margin in the former region is 20 percentage points higher than in the latter. Millicom holds leading positions in all of its Central American operations, while it is only number two in Bolivia and three in Paraguay. Similarly, average ...

Figure 1: Correlation between EBITDA margins and market share at a global level



Source: Millicom

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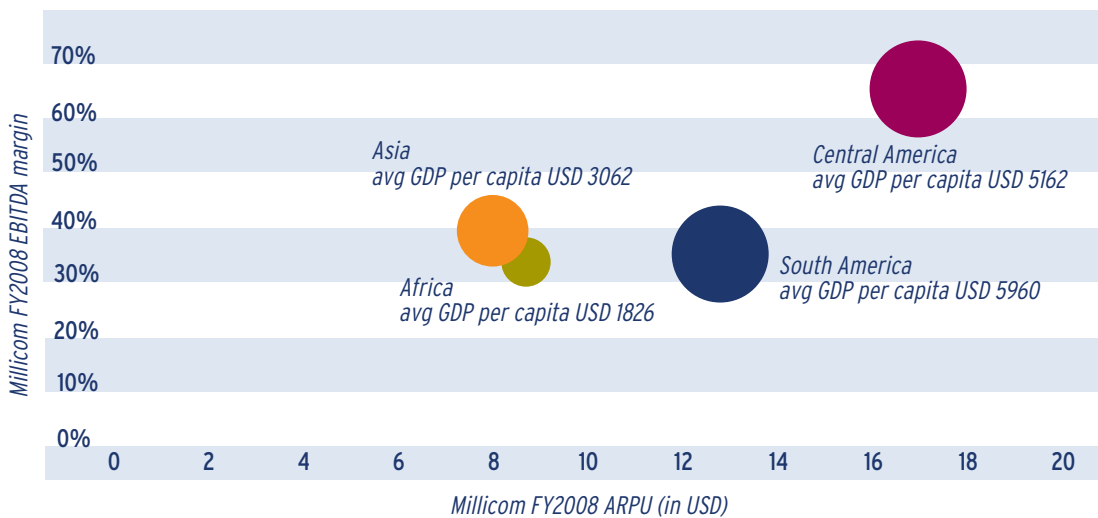
... ARPU in Africa is 9% higher than in Asia, while GDP per capita is 40% lower, but EBITDA margins remain lower in Africa than in Asia. Ultimately, EBITDA margins generated by Millicom are similar in Asia, Africa and South America, while ARPUs are very different.

New technologies and prospects for mobile operators in developing countries

Even 3G mobile data capability is now reaching emerging markets, which means that broadband and internet access will be widely available and most probably affordable to all nations in the foreseeable future. As fixed infrastructure is limited, the internet will be mobile in emerging countries. This is a significant new growth opportunity for mobile operators, but also a new challenge, as they seek to finance increasing investment and look to develop pre-pay pricing structures to make mobile internet access a mass market proposition.

The mobile industry is now looking at new opportunities beyond its traditional voice offering. Value added services ("VAS") are growing much faster than voice communication services: it ranges from simple text messaging (SMS), to information (weather forecast download, access to database), entertainment (gaming, contest, lotteries...) and even services. Furthermore, with few emerging market consumers holding bank accounts or having access to insurance services (as low as 10% in many countries), some mobile operators have taken enthusiastically to offering basic financial services such as money transfers. In Kenya for example, more than half of mobile phone users (*i.e.* more than seven million customers) regularly use cash transfer or payment facilities through their mobile phones. With so much unmet demand for financial services remaining in the emerging markets, the relevance of such services is certainly much bigger here than in developed countries. ●

Figure 2: Millicom ARPU and EBITDA margin by region



The size of each bubble is function of the weighted GDP per capita in the region (weighted with MIC subs in each country where MIC operates). The analysis presented here must be taken with care as the level of penetration differs from one country to another, and therefore the level of GDP per capita of the people having a mobile phone as well. Source: This graph is based on Millicom figures as of end 2008. GDP per capita figures come from the CIA Worldfactbook database.