

## Mobile phones for development and profit: a win-win scenario



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‘Increasing mobile penetration brings developmental benefits, but effective regulation is required to ensure fair competition and encourage roll-out to underserved areas’

The number of mobile subscribers globally is estimated to have reached four billion in 2008 (ITU, 2008), with mobile penetration reaching 61%. Around 58% of subscribers are in developing countries, and subscriber growth in Africa – more than 50% per year – is the highest in the world.

Studies have shown that this rapid increase in mobile penetration has contributed significantly to economic growth. Fuss, Meschi and Waverman (2005) looked at 92 countries, both developed and developing, to estimate the impact of mobile phones on economic growth for the period 1980 to 2003. They found that a 10% difference in mobile penetration levels over the entire sample period implies a 0.6% difference in growth rates between otherwise identical developing nations. The effect of mobiles was twice as large in developing countries as in developed ones (Waverman, 2005).

Mobile phones have brought three kinds of benefits (id21, 2007). First, **incremental benefits**, improving what people already do – offering them faster and cheaper communication, often substituting for costly and risky journeys. Fishermen in India, for example, can earn more money and waste less fish by phoning coastal markets to see which market has a shortage of supply.

Second, **transformational benefits** that offer something new. Innovative applications, such as m-banking and m-commerce, are bringing banking services to millions for the first time, and enabling people to use mobile phones to pay for goods and services.

Third, **production benefits** that result from the creation of new livelihoods, not only through professional telecommunications jobs but also through activities like re-selling air-time or phone cards. Since the liberalisation of Nigeria’s telecommunications sector in 2000, the industry has become a key source of new jobs in the economy, employing about 5,500 professionals, and responsible, indirectly, for another 450,000 jobs.

### The Business Model for success in developing countries

The expansion of mobile phone services in developing countries has been very profitable

for mobile phone companies, who have used business models that differ from those used in the developed world. Most developing countries have liberalised their telecommunications sectors only recently, and have many people on low incomes who have never had access to a telephone before. Most successful operators maximise profits by attracting as many subscribers as possible before their competitors, and by offering a product tailored towards the mass market.

Low-income users have different preferences, usage patterns, and cash-flow restrictions. In addition, the dominance of pre-paid subscriptions in developing countries makes it more challenging to maintain brand loyalty. Operators must offer additional incentives to maintain customers, for example, by packaging prepaid minutes in lower denominations to accommodate users’ limited cash flow, and by offering free off-peak minutes.

Moreover, many operators have realised additional revenue by delivering value-added services such as mobile banking and internet services to the poor, who not had access to banking or the internet before. Capitalising on expanding mobile phone penetration in this way has not only benefited the companies but their poor customers as well. In short, mobile providers are able to make large profits in the developing world, while delivering development benefits.

Examples of profitable operators in Africa include Safaricom and Celtel. Safaricom is the Kenyan operator with most subscribers and widest geographical coverage, and users with special SIM cards can transfer money and conduct mobile banking (Safaricom, 2008). Since 2006, it has made annual net profits in excess of \$100 million, with its highest figure of \$180 million in 2008.

Mo Ibrahim, Celtel Founder comments that mobile companies can thrive in the poorest nations, but need a good investment climate, the rule of law, and less corruption (Waverman, 2005). Celtel operates in African nations with the lowest penetration rates, the lowest GDP per capita, and the lowest GDP growth (e.g. Democratic Republic of Congo, Malawi, Sierra Leone) and yet is profitable in these countries.

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## Role of government: liberalisation and regulation

Governments should create the right environment for private operators to roll out services – an environment that combines market liberalisation policies and effective regulation.

Market liberalisation, in terms of allowing foreign investment and ownership, can mean rapid improvements. In Papua New Guinea, lack of competition and investment capital meant that the State-owned mobile monopoly had barely rolled out services beyond two cities after five years of operations. Once the threat of a new (foreign) entrant into the market became known, the company rolled out its network across the country with the help of foreign investment, before a competitor arrived in 2007.

Competition can increase penetration. Ethiopia, for instance, has maintained a monopoly, and mobile penetration stood at just over 1% in 2007. In neighbouring Somalia, which has liberalised the market and has three operators, penetration is above 6%. Both countries have troubled pasts, yet competition in Somalia means better outcomes in the mobile sector.

The Government has a role to play as a regulator, overseeing such issues as interconnection between the operators, spectrum allocation, and access to the international gateway. The importance of this role is shown when, in the absence of regulated interconnection tariffs, dominant firms charge high prices for connecting calls from other networks. This limits effective competition. Dominant firms earn monopoly profits, keep their prices high, and may have little incentive to expand or innovate.

Without effective regulation, ownership of bottleneck infrastructure by dominant firms can diminish the developmental impact of the mobile sector by pushing up prices and restricting coverage. In Zambia, for example, international calls are very expensive because the government monopoly operator charges high tariffs to private operators to access the international gateway. This distortion permeates into the domestic calls market, as private operators have to subsidise their international calls to compete with the state firm.

## Role of government: underserved areas

Despite the rapid expansion of mobile networks, some areas in developing countries are likely to remain underserved, because services are uneconomic in areas that have low population density,

customers with much lower incomes, and difficult terrain. Even though 56% of those in emerging markets still live in rural areas, cellular coverage in developing countries is predominantly urban (Vital Wave, 2008). In Latin America, area coverage is below 50% in all but four small countries, and ten countries have less than 20% coverage. The largely urban population of the Philippines is covered almost entirely by cellular service, but in terms of geography, only 50% of the country is covered. In India, 40% of the country has area coverage that reaches only 60% of the population.

Government intervention may be needed, through licensing requirements or through innovative funding schemes, for the private sector to expand to underserved areas.

Regulators could require operators to cover specified locations within a set timeframe, with licences detailing the penalties if targets are not met. In practice, however, applying penalties to large multinational operators who renege on their requirements can be a difficult and time-consuming legal process.

A better approach is to set up a Universal Access Fund to subsidise infrastructure roll-out in uneconomic areas. This could be administered by the Regulator, with operators contributing a small percentage of their revenues. Operators can bid for a subsidy to roll out infrastructure in an uneconomic area, and the bidder who can do so for the lowest possible subsidy should be awarded the contract.

In this way, governments can incentivise operators to roll out to underserved areas. However this needs to be done carefully to avoid distortions, with the State inadvertently subsidising service roll out in what could be commercially profitable areas. It can be difficult to identify the threshold where service will be unprofitable without additional incentives or subsidy. Research carried out for the World Bank (id21, 2007), in 24 sub-Saharan African nations, found that 57% of people were within range of a mobile signal and that a further 40% of the world's uncovered population could be served with \$3 billion of market-led investment by 2015. Only the remaining 3% would require government intervention, through a subsidy of \$2.1 billion (World Bank, 2007).

Over-regulation, or the imposition of a levy can itself reduce commercial incentives for rollout. So governments must be careful to avoid undermining the market solution, which has, as we have seen, delivered such big gains so far.

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