

0.1 cent per MB: Ensuring future data profitability in emerging markets

Can mobile data players in emerging markets secure the full profit potential from their significant 3G network investments? Or will the rapid price erosion accompanied by traffic volume explosion necessarily result in lower return on investment?

Revenues in the worldwide mobile data market will likely double between 2010 and 2014 (Exhibit 1), providing plenty of new growth opportunities, several relating to new product categories that have been largely untapped in emerging markets so far. Mobile residential broadband services could, for example, outcompete the laggard fixed broadband infrastructure, or a low-end smartphone market could emerge, making mobile data services accessible to the mass market.

Explosion of (wireless) broadband: Profitability at risk?

This growth, however, has a downside. Network capacity requirements increase rapidly as network traffic doubles every 16 to 18 months for most operators in developed markets. Such traffic escalation will most likely be even more pronounced for emerging market operators for three reasons. First, emerging markets start with far lower data traffic per user at the moment, and they are likely to catch up if not constrained by high prices. Second, fixed Internet access is much less common in emerging markets, so more people depend on mobile broadband as their exclusive way to access the Internet. And finally, lower affluence levels among subscribers in emerging markets increase price sensitivity, compelling customers to exploit flat rates and prepaid pricing, thus pushing the boundaries of their fair use policies.

As a result, fast-growing broadband could ironically cause operators to fall into a profitability trap. Heavy price competition with flat-rate offers coupled with a lower willingness to pay among customers saps revenues, while the customer base and data usage continually expand. Furthermore, after factoring in the typical network cost to serve, more and more mobile broadband customers are already unprofitable, and operators are on a trajectory to face even more red ink customers as usage rises relentlessly.

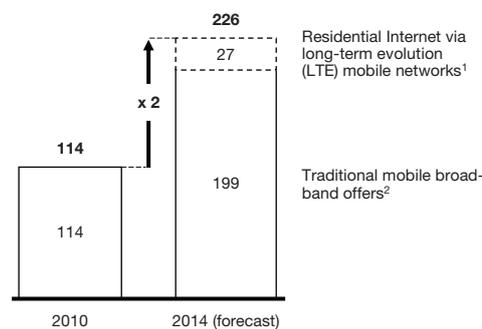
With typical 3G implementations, the average network cost per MB will be roughly 0.8 to 1.2 US cents for an average operator. Network cost is usually cushioned by about 1.5 to 2.5 cents in service revenues less cost of sales, leaving room for the current data service profitability. The revenue stream, however, will come under siege from intensifying competition, i.e., the landgrab for the growing customer base and increased usage by customers in flat-rate pricing structures. As a result, revenues will likely plunge by 50 percent annually to approximately 0.2 to 0.4 cents by 2012/13 in a number of emerging markets (Exhibit 2).

In this market environment, operators will be forced to put their mobile broadband production cost on the same reduction trajectory to retain the current level of service profitability or accelerate it if profitability is already negative today. In 2012/13, this would mandate the aspiration of a network cost per MB of about a tenth of a cent, or 0.1 cent. While undeniably an enormous task, we believe that it will be feasible if operators in emerging markets focus on three things: smart networks, smart costing, and smart pricing.

01

Mobile broadband will double between 2010 and 2014 and become a growth engine for the entire industry

Global mobile broadband market
USD billions, voice and messaging not included



¹ Servicing residential Internet needs by mobile broadband via LTE on attractive frequency bands, e.g., 800 MHz
² Including smartphone, e.g., iPhone, and data card offers

SOURCE: Yankee Group; Merrill Lynch; Morgan Stanley; Credit Suisse; McKinsey

Smart³: Meeting the “0.1 cent per MB” challenge

To achieve this “0.1 cent per MB” transformation, emerging market operators need to pursue a *Smart³* program of continuously reducing cost per MB. As stated before, these three key elements are smart networks, smart costing, and smart pricing.

Smart networks: Boost mobile broadband capacity while lowering network cost. Network capacity can be expanded primarily by launching successive network technology upgrades and by rethinking strategies for mobile broadband spectrum application. For example, technology upgrades to HSPA+ (evolved high-speed packet access) or even LTE (long-term evolution) can open up large amounts of additional capacity to operators, while significantly reducing their cost of capacity (Exhibit 3). McKinsey analysis reveals that such network technology enhancements could drive up capacity fivefold from HSPA (with 7.2 Mbit/s) to a parallel HSPA + and LTE network infrastructure, while simultaneously reducing cost per MB by 70 percent or even more.

Since demand for mobile broadband is currently lower in emerging markets than in developed markets, the

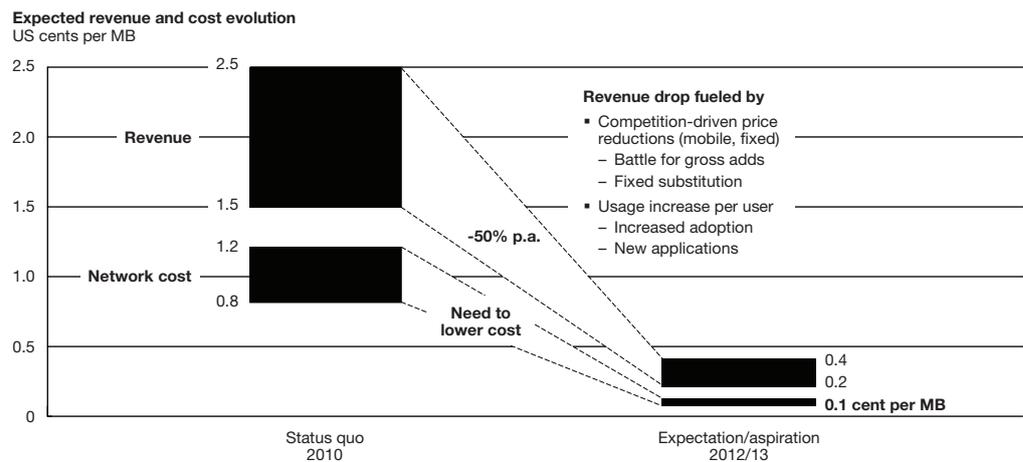
challenge in emerging markets centers on the operators’ ability to convince customers to take advantage of the new capacity without triggering price wars and intensified competition fueled by this excess capacity.

A potentially more cost-effective way to increase network capacity involves adding more spectrum dedicated to mobile broadband through new spectrum auctions or by refarming existing 2G spectrum bands (i.e., reassigning the spectrum to different uses). This could make it possible for operators to migrate to LTE sooner and tap into the residential broadband opportunity with an even more competitive offering.

Furthermore, operators need to redouble their efforts to drive down the costs of their sites, harnessing lean operating principles while keeping technology upgrade costs to a minimum. In addition, they can plan for a network transformation alongside network technology upgrades, e.g., a broad modernization of their site and network infrastructure or managed service contracts. Furthermore, LTE offers new opportunities for active and passive network sharing. These could translate into significant value creation for operators. Among others, the advantages of active network sharing are that it offers greater flexibility in spectrum application and it could address the political rural coverage objectives.

02

Operators need to reduce their network cost to 0.1 US cent per MB by 2012/13 to maintain mobile broadband profitability



SOURCE: McKinsey

Smart costing: Exploit network capacity utilization to the fullest. As operators attempt to use their networks more fully, employing a combination of smart costing measures can help them reduce their cost per MB (without new investments) by boosting network capacity utilization efficiently. To succeed, operators use smart costing to bridge the common gap between network operations and marketing. Historically, network costs have played only a minor role in pricing services for mobile operators. However, with future mobile broadband and its struggle for profitability margins, emerging market operators will be forced to adopt a more granular costing approach.

The first step in this process focuses on gaining complete network cost transparency and understanding its key cost drivers at a high level of granularity, e.g., peak traffic demand in congested site locations caused by data-hungry applications. With this network cost transparency, operators are equipped to understand the causes of their usually poor network capacity utilization in detail and manage them with a set of technical and pricing initiatives. On the technical side, mobile data traffic demand distribution usually requires a targeted sectorization approach different from the one employed for 2G voice in the past. With data networks, sectors carry the same capacity, and sectorizations should be

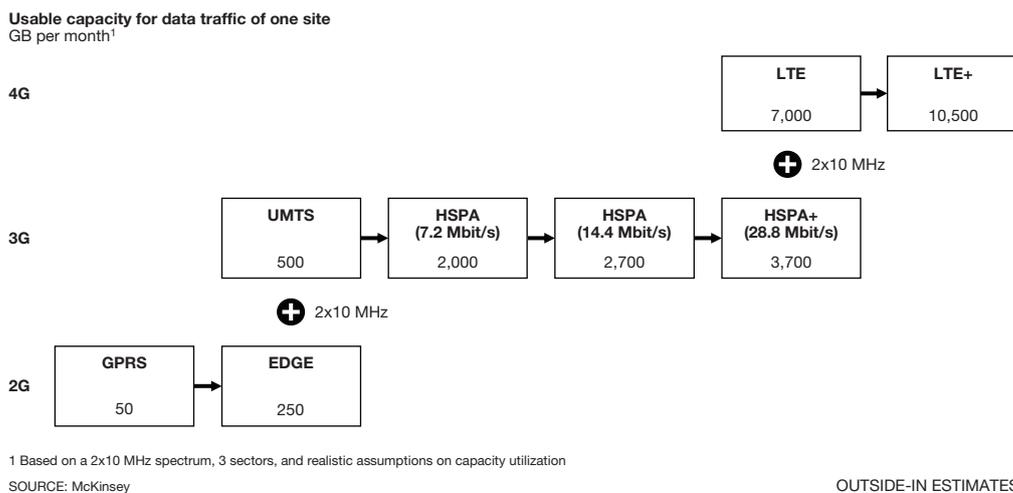
adapted to balance traffic load and to achieve a more effective use of the existing capacity.

Smart pricing: Employ granular network cost structures to define better pricing schemes. Discovering a new approach to mobile data pricing, rate structures, and offer design will be another crucial step toward achieving and sustaining a profitable mobile data offering. Based on granular network cost driver data, emerging market operators are equipped to review their mobile broadband offering to achieve two objectives.

First, driving traffic away from peak hours at congested locations will free up network capacity to be monetized. Embedding incentives for customers to adapt their traffic profile can free up 35 to 50 percent more network capacity and could enhance the network quality experience of the average customer. Examples of these pricing actions include targeted off-peak usage incentives like relaxed traffic caps outside of busy hours (usage after 10 p.m. only counts half on traffic cap) and peak-hour speed reductions for low-end users. For the prepaid space, mobile data promotions can be restricted to times and areas in which capacity is abundant. Creative approaches in this regard are endless, and operators should deploy resources to test these pricing options to drive more efficient use of network capacity.

03

New technologies make additional capacity available to operators, offering a reduction in the cost per MB



Second, smart pricing also entails identifying unprofitable customers and managing them toward profitability. Some operators in extreme situations observe that less than 1 percent of their mobile data customer base accounts for 50 percent of the traffic, while contributing significantly less to their service revenues. Operators need to proactively start managing this unprofitable customer base with measures like upselling fixed broadband access at favorable rates to offload traffic, offering attractive off-peak usage promotions, applying quality of service differentiation, and forcing migrations to rate structures with more rigid fair use policies as a last resort. With these combined pricing actions, getting to the desired network cost level (and the subsequent profitability) of mobile data becomes achievable.

A 90 percent unit cost reduction for mobile data service during the course of just a few years requires consider-

able corporate transformation – spanning the network, IT, marketing and sales, and finance divisions. The complexity involved in such an undertaking should not be underestimated. Only a concerted, targeted effort will bring about the smart network, smart costing, and smart pricing that will preserve the profitability of mobile data services into the future.



Although the emerging market mobile data arena will prove to be a sizeable growth engine for most telecoms operators, preserving its long-run profitability could become a significant challenge and priority for operators in emerging markets. Only a targeted set of initiatives that address network capacity, cost, and pricing will set these players on the course toward the objective of 0.1 cent per MB.



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