Industry views

Be careful what you wish for….

A look at the future of mobile data

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'Information on the run, anytime, anywhere' was the promise of early versions of mobile data applications and devices. Wireless Application Protocol (WAP) and other proprietary platforms seemed to offer consumers the ability to take content and the Internet with them wherever they went. It didn't quite happen like that. Slow speeds and small screens along with per kilobyte pricing that baffled consumers meant that the user experience fell very short of the industry's ambitious promises.

But smartphones, high-speed connections, 'all-you-can-eat' data tariffs, and the removal of the operators' walled content gardens are driving a dramatic change in attitudes and uptake to mobile content and data.

Is the dream in danger of turning into something of a nightmare for operators? Do content creators and handset makers really have everything to play for? Or are the technical and lowest-cost challenges likely to favour the big over innovative and creative players?

It's only the tip of the iceberg

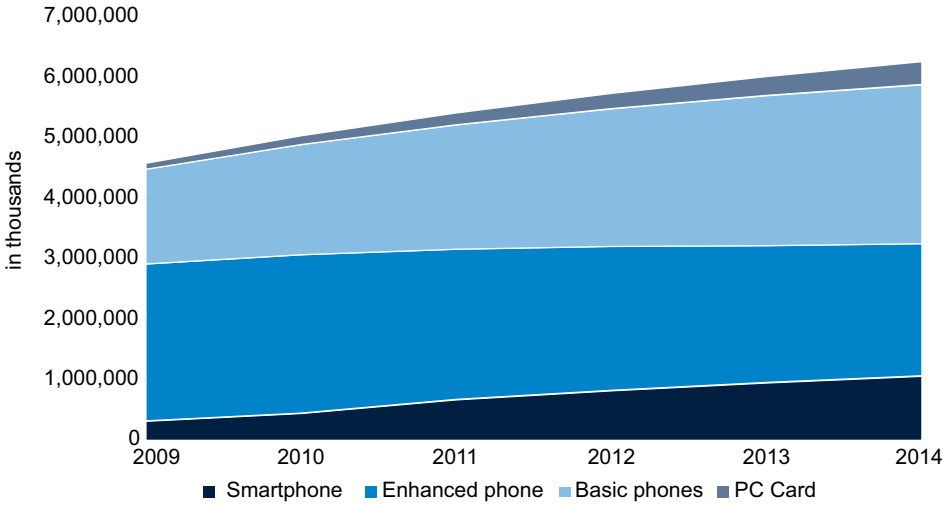
The spectacular success of recent smartphones* with unlimited data plans has demonstrated the underlying consumer demand for applications and services that drives rapid further demand for more data and greater bandwidth.

PricewaterhouseCoopers (PwC) forecasts that smartphone penetration should continue to increase at the expense of enhanced handsets and we expect it to reach 17% of the global mobile subscribers base by 2014 (55% in developed countries and 10% in emerging countries) (see Figure 1).

"The commercial success of the iPhone has blinded most market observers and market segmentation will become increasingly important again in the future as not everyone wants [or] needs an iPhone or smartphone and many users only need a voice-only handset."

Bertrand Dupuis, Head of Service, Nokia.

Figure 1: Evolution of mobile subscribers by device



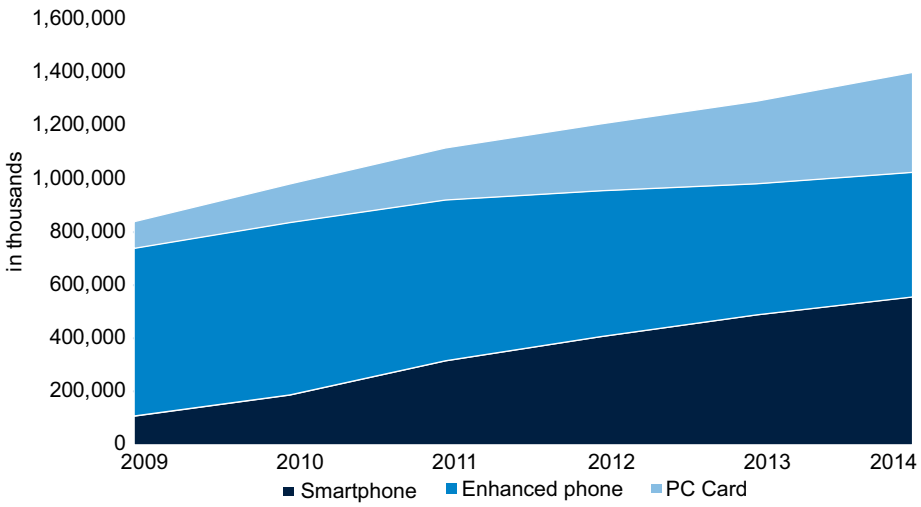
Source: PricewaterhouseCoopers' analysis

*In this report we define a smartphone as a device that runs complete operating system software capable of allowing the user to install and run third party applications typically associated with more advanced computers, than with phones. By contrast, feature/enhanced phones are defined as having proprietary operating system (OS) firmware with likely only limited interfaces such as Java or BREW to third party software.

"Apps are not the answer per se, phones need to get easier for people to use. As an example: the iPhone doesn't ship with a manual, it comes with the device, power adapter and a computer cable."

Mark Kortekaas, General Manager – Online Technology, BBC

Figure 2: Evolution of mobile Internet users by device



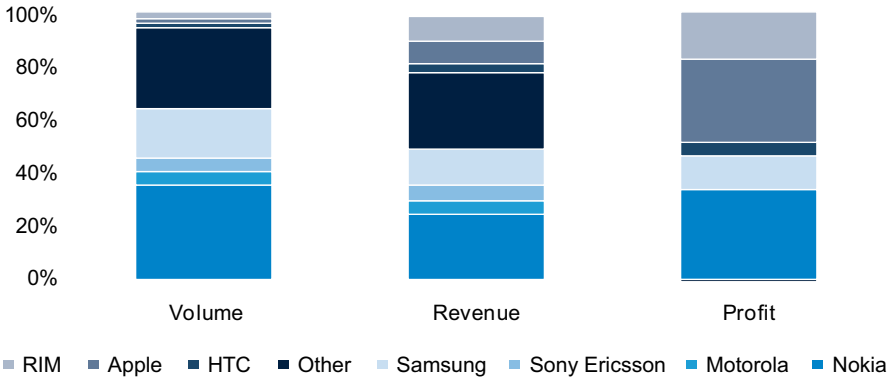
Source: PricewaterhouseCoopers' analysis

More important than simply the penetration of devices, smartphones will become the dominant means to access the Internet on a portable handset. We forecast 39% of mobile Internet subscribers will connect through smartphones by 2014 compared to only 13% today (see Figure 2).

Of course, smartphones are by no means the whole story. While attention has been focused on this more exciting end of the market, the needs of other users – still very much in the majority – should not be overlooked.

Nevertheless, the attractiveness of the smartphone market lies in its potential to unlock profit for original equipment manufactures (OEMs). Apple and RIM may between them have a relatively small share of the global mobile device market, but their influence on the way that consumers use mobile data has been profound and out of all proportion to their sales. As shown in the graph below, they represent 54% of the profitability of the mobile handset manufacturing market, and yet only 21% of revenues and just 6% of sales (see Figure 3).

Figure 3: Volume, revenue and profit breakdown (2009)



Source: Gartner, Credit Suisse (Aug 2009), PricewaterhouseCoopers' analysis

As manufacturers target low cost smartphones and blur the boundaries with the "enhanced handset", then the stage is set for an explosion in mobile data through creating a truly viable mass-market Internet access option.

The runaway data train

The recent success of smartphone growth has been spectacular, but in many cases it has far outstripped operators' own data projections, some of which have been wrong by 200% - 300% + in recent years. As a consequence the network demands (and funding needs) have caught many of the most successful operators by surprise.

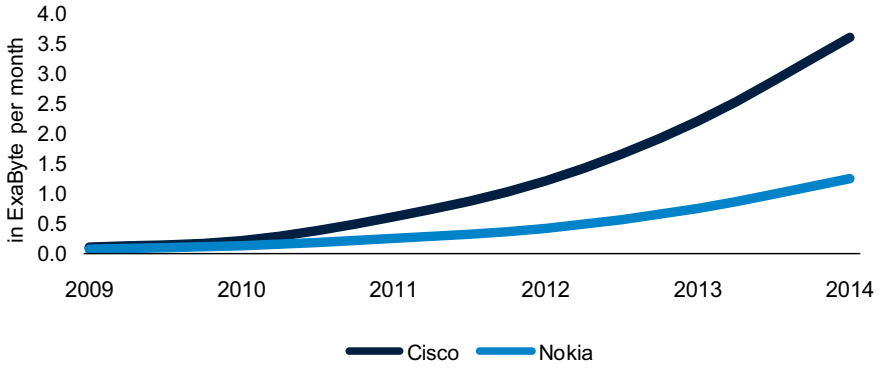
There is a major degree of uncertainty among mobile operators about the evolution of average mobile data traffic per user. Some anticipate a relatively stable evolution with early adopters' above average consumption mitigated by the more modest requirements of normal users. Others expect that average traffic per user will double every two years as has been the case with the fixed Internet. This uncertainty is reflected in the difference between the forecasts from Nokia and Cisco shown in the graph below (see Figure 4).

Easy access to content has fuelled the consumer to demand more from its handset and its operator. Apple demonstrated the power of "ease of access" through the iPod that revolutionised the digital music download market. That model has set the tone for the dramatic growth in mobile content and data consumption. Easy access drives demand. Unlimited data packages add fuel to the fire.

Mobile operators need to take these lessons on board – and fast. The Wireless Industry Partnership predicts that the number of smartphone users accessing application stores will quadruple by 2013. PwC forecasts that the mobile content market (excluding access) will reach EUR 25 Bns by 2014 with a significant contribution from wireless games – a large prize by any standard.

Who will be able to claim the prize is the major question. New business models – such as revenue sharing open application stores - are tearing down the last remnants of walled gardens and pose a significant risk that operators may miss out on the bulk of possible revenues.

Figure 4: Evolution of mobile data traffic



Source: PricewaterhouseCoopers' analysis

"Mobile operators are playing a vital role in defining and implementing a new generation of "smart" enabling services. The operators need to work closer with the content industry to create viable business models behind these services."

Gary Schwartz, Chair, North American Mobile Entertainment Forum (MEF)

Reaching the inflection point

The genie is well and truly out of the bottle and application stores have started to whet consumers' appetite for ever increasing amounts of content and data. The question for operators is no longer whether to pursue a data-driven strategy for increasing market share and share of wallet. Instead, it is how far to push this must-have capability – and how fast?

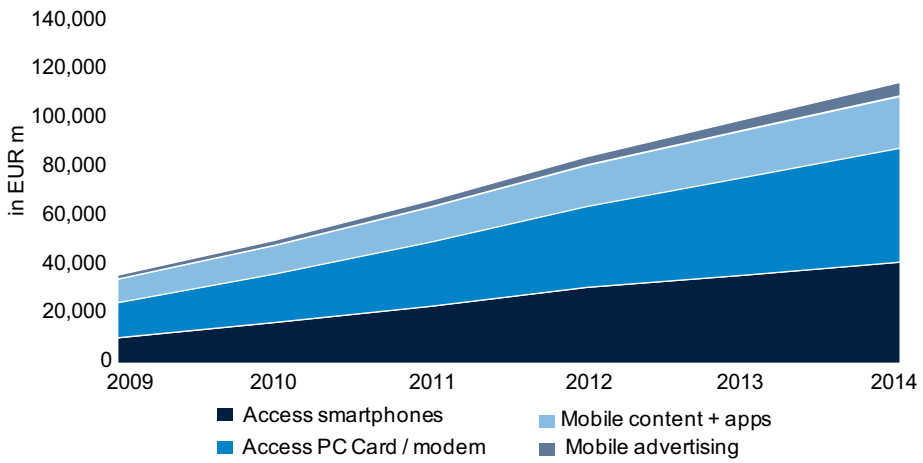
Yet for operators, the explosion of mobile data is far from being a straightforward good news story. If they cannot find a way to monetise content and applications across their networks, will they follow the fate of many landline operators, simply becoming commoditised infrastructure providers that struggle to find ways of extracting additional value from their customers?

The delivery of services to data-hungry devices like smartphones is driving up the costs associated with providing greater bandwidth. As users proliferate, so too will the costs of serving them, to the extent that the cost of mobile data outstrips the ability to charge at a rate that consumers are willing to pay. Arguably, we have already reached this inflexion point in some customer segments where the cost of supplying their mobile bandwidth exceeds the associated revenues for the operators.

The experience of operators, such as AT&T in the United States and O2 in the United Kingdom, as exclusive providers of the iPhone when it was launched, illustrate the potential network capacity strain that a sudden demand for bandwidth unleashes when consumers start to use their devices for much more than simply voice and text. Both operators have publicly announced network strain brought about by concentrated data use.

So we have prolific, even exponential, data growth that drives significant costs for operators, declining access revenues, and a large non-access revenue opportunity that could bypass the operators altogether. It is no wonder that some operators are wondering how to put the genie back in the bottle.

Figure 5: Evolution of mobile Internet revenues



Source: PricewaterhouseCoopers' analysis

Learning the lessons from fixed

Establishing unlimited data tariffs for the new generation of smartphones was one of the keys to igniting the mobile data explosion. Now however, it is crucial for mobile operators to learn the lessons from fixed line and "rebalance" their tariffs in order to re-establish the links between supply and demand for mobile bandwidth. We are already seeing the signs that this is happening, with some operators announcing the end of unlimited data tariffs as they launch the next wave of smartphones.

However, there is no one-size-fits all approach to this rebalancing. The greater the number of revenue generating units or "multiplay" services the operator provides to the customer then the greater the degree of flexibility they have to change terms and conditions or pricing levers within the bundle.

The objective is to create differential value in bandwidth-hungry services (e.g. video, mail downloads, streaming services), while maintaining compatibility with any net neutrality regulation in the operator's market.

Optimising the supply-side investment

Fixed line operators have taken to throttling speeds and capacity to manage peak loading. Mobile operators can also take advantage of this approach. However, while this kind of throttling will help manage the issues that have caused periodic network failures, it does not mitigate the underlying issues of rising smartphone penetration and the mobile data bandwidth tsunami that threatens to engulf the operators in ever increasing network investment.

So what are the alternatives? The answer lies in a mix of alternatives from "offloading"† to new spectrum purchases and/or network technologies such as LTE. This mix will vary according to the operators' competitive position, their legacy network and investments, and ability to differentiate propositions to different customer segments.

Tear down the walls and invite in the neighbourhood

The ability to survive and thrive in an open environment will call for a range of new business capabilities. Business models are going to have to become more collaborative and will rely on cooperation between businesses that have to date seen others solely as fierce competitors.

Ensuring that applications are available across all platforms means developing industrialised processes for creating services that will operate natively on any one of the many different platforms that devices may use and consumers can choose from. In the absence of any single dominant standard emerging, open source environments are likely to succeed in the future.

We are likely to see the emergence of a creative coalition between operators and OEMs that will enable developers and content providers, such as games companies, easily produce applications and content for all phones and markets.

"We need to make apps more relevant to the user. [Apps] are an extension of the user's personal device that has a range of senses: a camera to see, a microphone to hear, GPS to be location aware. It is a very different experience than on the desktop. As a result one third of mobile search queries will have some form of local intent."

Mike Schipper, Product Manager, Google UK

†Offloading refers to the opportunity to move data traffic from the mobile wireless network to a more local radio access network and broadband backhaul such as WiFi hotspots, femtocells, etc.

> “Collaboration with operators has been a cornerstone of RIM’s successful global expansion. Operators derive great value from their direct relationships with consumers and they are typically very good at identifying things that work well in their markets.”
>
> Alistair Mitchell, VP Multi Media, Research in Motion

Operators may well therefore need to consider incorporating the costs of conversion into their revenue-sharing arrangements with developers. The default 70/30 revenue share established by the Apple application store is accessible for any developer, but as operators rush (perhaps hastily) into creating their own stores the developer is left with a prolific number of operator and/or device types for which to manage and/or certify their applications. Alternatively, the operator will have to bear the cost of that certification just to gain access to the revenue potential of the mobile application and content market.

The future of the operator-owned application store looks uncertain. The temptation for operators to push their own portal is strong, yet even with initiatives such as the World Mobile Congress Alliance it requires the operators to demonstrate sufficient control or customer-intimacy in content delivery to prevent the consumer going completely “off-portal”. What is more likely is that operators will seek to balance their own offerings against those available from other providers – much like a supermarket provides consumers with a choice between own-brand and branded goods.

Staying one step ahead of consumers

Consumers increasingly make mobile choices according to the services and content they want, rather than the intrinsic merits of a particular device. Those choices will increasingly be made across all three screens – that is to say, across mobile, PC and TV. For example, Facebook users routinely use both mobile and desktop applications to manage their social networking. YouTube is now more often accessed from mobile devices than from desktop machines and Hulu, the video content provider, is among many in planning to expand its services to mobile. Music services such as Spotify, Rhapsody or Last.fm already seamlessly integrate content across desktops and personal devices.

To avoid the “off-portal” scenario described above, operators will have to leverage their existing strengths with consumers, including their longstanding relationships, reputation for reliable service and their direct billing relationships.

These existing characteristics may not hold the kind of differentiating creative and brand recognition that their marketing divisions crave, but they do provide a potentially valuable advantage in developing deeper relationships that do more than simply connect them to services and content.

Personalisation, location-based services, and timeliness are all long-touted differentiators in the mobile content world, but these are intrinsically factors on which the operators can capitalise better than most. By using the wealth of information that they already have about their customers, they can begin to offer more personalised and customised experiences, such as creating personal application bundles and monetizing user data through merchandising.

This opens up a world of revenue opportunities, from B2B services such as

mobile vouchers/advertising that make the best offer to an individual walking past a store, through to application bundles targeted at a specific consumer that no third party developer could match through the inevitably scatter gun delivery route of an application store that might be home to over half a million other applications.

Leverage the power of many and of one

The rise of social networking represents another major opportunity for operators – if they follow the right approach. The personal nature of mobile devices arguably makes them a more natural fit for social networking services than their desktop equivalents. Recommendation and word-of-mouth are powerful drivers of consumer behaviour, as demonstrated by online retailers such as Amazon that use buyers' comments to drive recommendations and sales.

Operators already have considerable data with which to build social networks, and can use their subscriber bases to develop communications within communities, focusing on local services and content in which they understand the market and what is likely to appeal to their subscribers.

They need to understand the core of where they can add value, and in particular how to leverage their local consumer knowledge and deep relationship skills. The established and large-scale IT infrastructure of the operators lends itself to micro-billing and aggregated payments alike, together with a wealth of data and security that consumers prize.

Enabling the social networking element is key for the operators to then be able to monetise the open application/content environment, whether by leveraging their multi-platform approaches or through their direct customer insight. More importantly, failure to create the link between communication, content and transactions means the operators are effectively relinquishing all control to the content providers and OEMs and resigning themselves to a bit-pipe status.

It's a question of control, but also of fast actions for the operators

Operators, OEMs, developers and content creators are seeing a shift in the balance of control on multiple fronts. Content creators, service providers and handset manufacturers are all rolling out game-changing innovation to develop compelling consumer offerings. To date, operators have been somewhat left behind. How they respond in the immediate future will determine their prospects for the longer term as we enter a whole new mobile world. The consumer is on centre stage. And operators need to create the right user experiences and customer-centric approaches to maintain their relevance and their healthy share of the market.

> "A new retail model now exists because of social networking. A key objective of content should be to drive social action and make it easy to get or do things. Recommendations count."
>
> Lee Epting, Director of Content, Vodafone

Test your mobile strength – Mobile data self assessment

By rating themselves against the statements below, operators and content creators can gauge their strategic strengths and weaknesses and start to form a plan for the steps they need to take to address the demands of mobile data.

For each statement below rate as:

Strongly agree	4
Slightly agree	3
Neither agree nor disagree	2
Slightly disagree	1
Strongly disagree	0

	Operators			Content Creators
1	We have changed our mobile Internet offer parameters (e.g. price, speed, download limits) to "rebalance" demand and revenue.	☐	☐	We have aligned our mobile content to balance the needs of our consumers with the demands of our partners (i.e. the operators).
2	We have a network and spectrum strategy in place to cost-effectively deliver the supply needs of mobile data demand and to address specific challenges such as broadcast mobile TV.	☐	☐	We are working with our operator partners to maximise the efficiency of getting our content to our customers on new platforms such as broadcast mobile TV.
3	We have developed a content and application store strategy that aligns with/complements third party offerings.	☐	☐	We are developing our content and applications to offer unique differentiators and income opportunities to our operator partners (to include differing operating system and handset considerations).
4	We understand and can value our own differentiation/contribution to mobile data relative to our partners and competitors.	☐	☐	We understand our own value proposition and how we can leverage our strengths irrespective of the partners we choose to go to market through.
5	We have re-segmented our mobile base and our handsets to regain bargaining power and align acquisition costs with the new mobile data business model.	☐	☐	We have re-defined our segmentation based on the demographics of smartphone/handset owners, and are tailoring our content around the ability to reach these customers through the operators knowledge of their customers.
6	We understand how to monetise the power of communication and customer intimacy arising from mobile data demand.	☐	☐	We understand how to monetise the power of communication and customer intimacy arising from mobile data demand.
7	We have a fixed-mobile convergence strategy in place to optimize consumers' use of mobile devices in the home and outside.	☐	☐	We have a defined strategy that aligns our content with the physical location of where customers will be consuming our content.

How do you rate?

<14 points	You need to take urgent action to address all main mobile data issues	☐
>14 & <21	You need to align all aspects of mobile data strategy rather than just a few	☐
>21	You have a strong vision of mobile data prospects but it is worth examining whether you are achieving maximum value	☐

Relevant Publications

Communications Review: New Frontiers

Communications Review: Breaking the Mold

Strategic Partnerships: The Real Deal?

Timing is Everything: Releasing the Value of Spectrum

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