



Chapter 1

Foreword

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What do we mean by “open” mobile networks? A deceptively simple question, but with many answers, as the results of the recent Future Trends Forum in Madrid (June 2008) will testify. The lazy answer is the demise of the operator “walled garden”, but that would be too simplistic and above all “old news”.

This publication explores the many potential “barriers” to a truly open mobile network, some are technical, some commercial and others are social. The technical barriers are perhaps the most apparent, after all, if you don’t have radio coverage then worrying about how “open” the network is, may seem somewhat academic. It is important to understand the potential of mobile, as this may be the only form of access to the Internet for the majority of the world’s population and for some time to come. More than 3.5 Billion people have mobile phones today, but less than 400 Million have broadband access.

The exponential growth of mobile broadband (HSPA, EVDO, etc.) is encouraging, indeed mobile has already overtaken fixed broadband in some markets. However, continued growth requires more spectrum and governments have a clear role to play in providing timely access to spectrum and in the right frequency bands. The digital TV switchover is a one-off dividend and should not be squandered. The current trend in increasing regulation of telecommunications providers is also troubling at a time when governments are expecting billions of dollars of investment in broadband service, particularly in rural areas.

Reaching the next 3 Billion users presents new problems, as many live “off the grid” with either no electricity or an unreliable supply. The growing cost of energy dictates that being “Green” makes very good business sense in 2008 and we should see a lot more investment in both reduced energy consumption and alternative energy sources in the coming months.

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Enough about access, for even those who have coverage still need an Internet capable device. Of the billions of devices in circulation worldwide, less than 10% are so-called smartphones. The iPhone, the Blackberry, the Nokia S60 phones may steal all of the headlines, but the majority of the world’s population do not have access to such a device. What kind of devices will open the door for the other 90%?

How open are today’s networks to application developers? Which software “platform” will have the widest reach and present the least challenge when porting applications across devices? Java is common, but fragmented. Symbian, Windows Mobile and the like are possible contenders, but reach less than 10% of the mobile population. Will new operating systems (Android, LIMO, Openmoko) solve this problem, or are we looking too far down the software stack? Will the browser become the “platform” of the future?

Enough of the technical challenges, what of the commercial, what kind of sustainable business models will we see in future? The lazy answer is that mobile advertising will pay for all, but annual revenues from telecommunications services (~US \$2 Trillion) dwarf those from global advertising, which in turn are orders of magnitude larger than those from online/mobile advertising today. Advertising clearly has an important role to play, particularly in local search, but in reality this will be just one component of a more complex commercial mix.

There is a clear "expectation gap" between the mobile operators on one hand and developer communities on the other. Developers expect operators to make their communication services available for free, with the promise of additional "traffic". Operators want a return on their investment and need to see incremental revenue not just incremental traffic.

Whilst "flat free" tariffs remove the tariff uncertainty for end users, they present a headache for network operators. Truly "flat fees" are a modern marketing myth, read the small print and the reality is large bundles with caps and fair usage policies. This is simple economics, in the absence of incremental cost, traffic increases exponentially. This is already becoming a problem with fixed ISPs (e.g. the **BBC** iPlayer in the UK), but the problems for mobile networks will be more severe, as they are inherently supply limited on the radio access.

When it comes to staking a claim on future revenues there are many other large fish in the sea. Companies like **Google** will continue to push more applications away from the desktop operating systems and in to "the cloud". Device manufacturers like **Nokia** also see an open door ("Ovi") and are reinventing themselves as online service providers. However, even the largest of today's players should remember that tomorrow's competitors may be different. In a truly open mobile environment, new players may emerge quickly (**YouTube** was only founded in 2005), but they may also disappear just as quickly.

It would be short-sighted in the extreme to imagine that the open mobile networks of tomorrow will be simple extensions of today's fixed Internet. The mobile experience is fundamentally different to the desktop PC, it is personal and it is immediate, the world in your pocket. The ability of tomorrow's devices to interact with their environment will be far more widespread. Short-range technologies like NFC and RFID are already being trialled for banking, transportation, smart-posters, health monitoring, utility metering etc. The list of potential applications is virtually endless.

It would also be wrong to imagine that open mobile networks will only be used by human beings for person-to-person communications. Machine-to-machine communications is on the increase. Many of today's social networking concepts are now being replicated in the enterprise sector. Governments too see the broader benefits of "ubiquitous" networks and are experimenting with mobile

voting, visa applications, tax returns, access to online medical records, education and other interesting applications.

The word "open" has many connotations, but not all are positive. Open may also mean "open to attack", "open to misuse" and sadly "open to abuse". Concerns around Internet security are not new, the recent flaws in the global DNS system are just a case in point. However, as applications become more personal they open up new kinds of risks to individuals. Identity theft is already a reality, as is "bullying" by text or via social-networking sites.

As more data about the individual is stored and exchanged, the potential misuse increases. The hacking of Governor Palin's **Yahoo** account is one high-profile example, but some of the risks are more subtle. What about data privacy and content ownership? How many of us actually read those End User License Agreements before we click on "accept"? How will permissions to share personal data really be managed in future and by whom?

The social changes that open mobile networks will bring about will also be profound. Already there are applications that take social networking to the next level, interacting with total strangers in your vicinity, breaking down the barriers to entering into a dialogue with fellow travellers for example.

Predicting the future is a perilous business, but it is clear that the barriers to open mobile networks are coming down. Mobile broadband is already reaching where fixed cannot. Device capabilities are increasing and prices are falling. Today's devices offer far more interaction with their environment than ever before. We are living in "interesting times", as the contents of this publication will clearly demonstrate. I hope that you too will find it interesting and thought-provoking, but above all enjoyable.

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