

## Chapter 12

# Applications in the 3G Era: Criteria for Success, Myths for Hype

Donna Campbell  
*Ericsson Mobility World*

Keith Shank  
*Ericsson, Inc.*

### 1. INTRODUCTION

Mobility World is Ericsson's mobile Internet applications partnering program, working with hundreds of development partners based here in the US as well as around the world to create mobile application portfolios for our customers.

The Mobility World team probably does at least an interview a week with analysts and media, and the question inevitably comes up, "What are the top 3G applications?"

The problem isn't that we don't have a good answer. The problem is that it's not a very good question. We shouldn't be asking "What are the top 3G applications?" We should be asking, "What kind of applications do people want to use and pay for when they're mobile?"

## 2. THE CRITERIA FOR SUCCESS

Because the answer has nothing to do with bandwidth, and everything to do with three qualities of any new application, tool, or method:

(Exhibit 1: *What do people want from applications?*)

- Simplicity/Ease of Use
- Cost-effectiveness
- Usefulness

Fail one of these criteria and you may survive to a select portion of the enterprise world (e.g. SAP is a great tool for large companies but it never would be called simple). Fail two of these and the application may make it to the techno cult world but go no further (e.g., the Newton vs the Palm).

So what will it take for 3G applications to be successful in all three criteria? To determine what applications will succeed, we have to take a look at some examples of what has caused failure so far.

First on the list is setting expectations wrong. Based on early marketing hype, the consumer is expecting 3G to deliver the capabilities of a Pentium 4 on DSL. This was never the real intent of 3G, nor will it likely be the function of a wide area wireless system anytime soon.

The hype all started innocently enough, with vendors trying to show off the ultimate capability of a technology, demonstrating desktop applications since mobile applications were not yet available. Demonstrating everything from web surfing to live streaming video to music downloading. Sure these technologies are fully possible but when it comes to the four basic criteria, they fail on at least two levels (simplicity and cost).

Then the technological battles began with each side claiming more bandwidth ability that fueled the fires of belief. Buried in the messages was the 'technically correct' message that speed and bandwidth were for an area, not what a single user would have. But that was rarely heard or really understood.

## 3. THE MYTHS AND THE HYPE

The myths and hype of 3G are critical to understand. Some favorite 3G myths are;

(Exhibit 2: *Myths of 3G*)

- You will want to surf the web from your phone.

- You will be able to connect at speeds from 100 kbps up to over 2 Mbps from your phone in many places.
- There is something called the Killer Application
- There will be one device that does it all.

None of these is true.

First we must remove the wording of “Wireless Internet” from our vocabulary. Ban it, never say it again. It conveys to the user that the phone is somehow equivalent to the desktop but in your hand. That is like saying the Palm or the Pocket PC are built to replace the desktop. That all of the tasks possible on the desktop are somehow possible in your phone. Just not the practical case.

The illusion of providing many users with 100 kbps + speed in a highly mobile environment is the next big fallacy to confront. Even with the implementation of the best 3G technologies, the average consumer or enterprise user will rarely get 100 kbps, only so often use 50 kbps and typically be using under 30 kbps connection speeds. At 30 to 50 kbps, the enterprise user is easily connected to almost any document, file or messaging capability they could use. The consumer at 20 to 40 kbps would have full access to location based assistance tools, entertainment, and even multi-media messaging.

There is something called the Killer Application. This is a desire on the part of venture capitalists to find a sure win, a no-risk investment. It just does not exist. Unless you want to count email, there is no killer application today on the desktop, Palm or Pocket PC so why would there be one for mobility? So back to our question – what will make 3G applications, or for that matter any mobile application, successful? Most importantly, They will need to take advantage of the intrinsic value of being mobile. They will have to do something better, more cheaply, more easily in a mobile environment than you can get on the desktop. Instead of a killer application, we will come up with a number of solutions that are best delivered in a mobile environment.

#### **4. MOBILE APPLICATIONS**

At Mobility World, when we’re working with application developers, we’re looking for applications that fall into one or more of these categories.

(Exhibit 3: *Mobile application categories*)

- Location aware applications
- Messaging and multi-media messaging
- M-Commerce/transactional
- Productivity – saves time
- Entertainment – kills time

Location-aware applications go far beyond directions or services for travelers, although those are both obvious uses of the unique characteristic of the mobile Internet. When you add location-information to a lot of applications, you immediately change the user experience and value. Take a sales application that provides information on inventory and pricing. As the salesperson moves from his office to his car to the client's office, information can be updated and delivered to her in different formats depending on where she is and what device she is using. Gaming is another example. One of the most interesting applications in the Mobility World database is a type of mobile monopoly, developed by an Indian company called Ruksun. You can buy different buildings in New York, for example, then when other players pass that building, they have to pay rent to you.

(Exhibit 4: *Messaging*)

Messaging of course will be key for both enterprises and consumers. We can already see the potential in the incredible traffic growth overseas, and we can expect growth in the US to follow those trends. But only if input is easy. That means we will need two things:

- Voice control
- Cross technology integration

Voice control is obvious, and has started to appear on board in many phones for simple call activation.

Cross technology integration is really the most key element to making 3G applications successful, not just messaging. And it's not enough that an application will work seamlessly within different network standards, so that you can be sure your sms message gets to your girlfriend who uses AT&T when you are a Voicestream customer. We also need to move seamlessly within different mobile environments. Then and only then will applications

be truly mobile, and the operators can have a persistent relationship with their customers.

For example, already there are multiple devices that are integrating Bluetooth as part of their connectivity capability – headsets, cameras, pocket PC's printers, and more from many different manufacturers. Chrysler Dhamler has shown concept devices for automobiles that link to the user's Bluetooth enabled phone for hands-free, location and telematics operations. More will follow and that will drive the cost of the Bluetooth chips to a much lower level.

To further enhance this handsfree concept, several vendors are building phones with multiple technologies integrated. For example there are already products on the market that have Bluetooth integrated into the GSM/GPRS handsets. Major chip designers have released products that support cdma and cdma1x with Bluetooth capability. As the next step, there have been demonstrations that allow cdma 1x devices to handoff to WLAN.

The logical evolution of this is something called ABC (Always Best Connection) that changes today's mobile phone into a wireless router. That is to say, the mobile phone will be able to link multiple peripherals to different connectivity systems like 3G and 2G networks or to WLAN systems. ABC is an evolution of the basic capability of the mobile phones that now allow the operator to designate preferred roaming partners via the Intelligent Roaming Database. The capability of the IRDb is expanded from just switching between various 2G and 3G networks to also switching to WLAN or Bluetooth. ABC would allow an operator for example to say use their chosen 2-3G technology outdoors, then when in your house switch over to the wlan dsl/cable modem that is partnered with them, at work go to the WLAN network supported their enterprise unit, when at the mall go to the Bluetooth Point of Sales partnered/preferred vendors. The operator has a customer with a communications module that keeps the revenue stream within grasp.

Successful mobile applications also need to give the user a way to act on the information received – they are transactional, which is why analysts predict such huge growth for mobile ecommerce. It also provides a new discreet revenue channel for the operator that has nothing to do with minutes of usage or bandwidth. And, if you think about the differences between the fixed and mobile Internet, it begins to make sense. With the fixed Internet, you surf, you use a "browser." With the mobile Internet, you search and find. You seek out and act. Think of how different auctions, betting, and comparison shopping become in a mobile environment. One of the companies that we work with at Mobility World is Dealttime. Dealttime provides pricing information so that you can comparison shop when you are

in a store with prices on the web, and negotiate the best price right then and there.

A lot of the applications that we look at are about saving time – enabling people to extend their working time into their mobile time. It's probably the least sexy area in terms application development, but in terms of revenue-generation it's very sexy. One of the issues that application developers face is that they must take a great deal of upfront risk in creating applications for the operators. But this is an area where you can show an ROI to a large enterprise and negotiate deals with the enterprise and the operator.

Finally, entertainment will be the most used and likely the largest revenue-generator for both the operator and applications provider. We may think that we are incredibly busy and we need a mobile phone and a pager just to keep up, but most people are bored the majority of the time, and they are looking for something to fill their days. For this reason, entertainment, and especially games, hold a lot of interest for both operators and developers. And, the most successful games take advantage of the other qualities of mobile applications, as we saw in the monopoly example. We work with games developers from the US, Scandinavia, Asia – those are the companies that are making the biggest inroads and generating the greatest traffic with operators.