Upfront analysis

Mobile Internet: moving beyond e-business

First there was e-business, now comes mobile business. Industry insider Edoardo Narduzzi looks at the different opportunities and challenges posed by data on the move.

The take-off of the mobile Internet has been unique. Just as market exuberance for Internet companies peaked in early 2000, tender offers and beauty contests for 3G licences and the so-called UMTS (Universal Mobile Telecommunications System) third-generation network of mobile carriers were beginning across Europe. Inevitably, business activity based on the convergence of wireless technology with the web has suffered from the fact that making profits through the Internet has proven to be difficult for any experimental business model and tough for mobile operators; in addition, 3G licences have been, on average, too expensive.

What had earlier appeared to be a new Eldorado suddenly became a mirage. Delays in the launch of new devices and the implementation of GPRS (General Packet Radio Service) services by mobile operators provided additional proof of the risks involved in the mobile Internet game.

Nevertheless it is important to understand that the mobile Internet will be quite different from the first wave of fixed broadband Internet. A more promising future is gaining momentum. Wireless networks already offer new ways to surf the net and consumers can now access the web through mobile devices. This will grow in the coming years, especially in the European Union and Asia.

This new wave of technological evolution will affect private life and social interaction as well as business even more than the Internet has so far. In the near future, useful information, company data, health tests and much more will be "wearable". Such information will stay with us wherever we may be on the planet.

The mobile Internet will soon provide:

- Always-on direct access to the Internet
- Faster delivery capacity to transmit not only simple data, such as text messages, but also video, files, complex interfaces and more
- Access to office data
- The use of mobile devices to perform any typical Internet operation such as e-commerce, e-learning, e-government and so on
- Mobile phones and mobile devices that are open and capable of handling additional operational roles as required.

Technological convergence will create new business space to sell connectivity and value-added services, bundled or not, to final consumers. In practice, the huge customer bases of MNOs (mobile network operators) are becoming the target of new offers of data services. This is a major difference from the fixed-line Internet. So-called "virus strategy" is not required, at least in the same way it has been for many e-companies, which had initially to offer free services to reach the customer base essential to sell ads on line. MNOs have already accumulated many millions of clients. For them, the mobile Internet has become a strategic game in two directions: first, how to extract more value from the customer base by selling value-added services; and, second, how to better lock in customers using the mobile Internet and provide a barrier to switching.

The second big difference involves the cost of the network. The Internet, probably wrongly, is considered as a kind of public service that everybody may use freely. Mobile networks, however, are seen as proprietary and expensive. McKinsey estimated that for the Europe UMTS network total investment costs, including licences and construction but excluding handset subsidies, could approach $200bn. Marketing and customer acquisition costs would be extra.

This is probably the largest infrastructure investment ever made in the history of capitalism in such a short period. Using as a framework the study of railway investments by Jacob Schmookler in 1962, the mobile Internet should trigger a wave of technological innovation ("demand pull innovation" in the
words of Harvard economist Frederich Scherer). The likely result will be easier use and access to the Internet through mobile devices and more services.

Forecasts are already impressive. Projections from Thompson Financial Data for consumers interconnected and money spent per month in the EU up to 2005, for example, are shown in Figure 1.

It is also important to emphasise that mobile data services already play a significant role in MNOs’ budgets. To date, text messaging has been the main service, or killer application. But new services, including location-based ones, are attracting consumers. Figure 2 (overleaf) shows the percentages of annual sales related to data or value-added services for the three main Italian MNOs.

Figure 2 reveals at least two important strategic facts:

- New entrants, such as Wind, invest heavily in value-added services in order to gain new customers from incumbents
- The growth rate of value-added services is positive while voice sales are flat or actually decreasing.

To understand how much mobile business – m-business – differs from e-business we need to look at two areas:

- The applicability of traditional e-business “laws” to m-business practice
- How traditional thinking about leveraging information in the e-business realm should be adapted or changed to deal with the different reality of the mobile Internet.

M laws

E-business “laws” include Moore’s Law, which states that the computational capacity of computers will double every 18 months, and Metcalfe’s Law that the value of a network will increase in a quadratic way every time an additional node is added.

Moore’s Law explains why a network of networks can become the hub of an increasing number of operations; Metcalfe’s Law explains why it is so important to create a huge customer base in the e-business world where the value of a business is related in a non-linear way to the number of customers.

In the case of the mobile Internet, both e-business laws are at work. Moore’s Law anticipates what will happen to mobile devices: they will follow a process quite similar to that seen for PCs. It is even likely that computational capacity will double more quickly than every 18 months due to the fact that huge knowledge and learning by doing competences have been accumulated by producers on how to improve the processing capacity of cellular phones.

Metcalfe’s Law is working, too, but with different characteristics. MNOs already serve a huge customer base and the extra value they can derive from customers is directly related to the capacity of providing value-added and innovative services to the customer base. Such services are capable of generating traffic and payments with higher margins than voice and must also serve to retain clients.

Under these circumstances it is possible to say that the value of a network increase is directly related to the number of value-added services successfully marketed by the operator. Consumption, mainly networked consumption, of mobile value-added services by nodes of the network is the key factor for value creation; it means that the competitiveness of the value-added services portfolio will also constantly raise the value of the customer base.

Quoting Metcalfe’s Law, we can say that the value of the mobile Internet customer base will increase more than linearly each time a new successful mobile value-added service is sold by a carrier. Not all mobile value-added services will generate the same exponential increase in value-triggering data consumption. As we shall see, services able to produce collective consumption of information and/or sequential related uses of mobile data by users will contribute more.

The result of this update of two fundamental laws of e-business to the mobile Internet is quite straightforward: a new law, we can...
call it the Mobile Law, is emerging. More powerful mobile devices coupled with an exponential valorisation of “nodes of the network” through the commercialisation of mobile value-added services generate a peculiar dynamic: mobile data consumption will increase in a way that is bigger than the simple sum of the effects of the first two laws. More and more mobile data will be consumed or shared when devices compute faster and store more information and more value-added services are offered.

This happens because mobile value-added services will generate a double-loop dynamic inside the wireless customer base: consumers will be effectively interconnected 24x7; and consumption of information will be inexpensive.

The economic result of this Mobile Law is a unique trend of potential wireless data consumption across customer bases. This is related to the number and quality of mobile value-added services produced and offered to clients and to how the willingness to use them spreads inside communities of users.

The Mobile Law goes beyond adding together the other two laws effects for three main reasons:

- Incremental mobile value-added services can leverage already commercialised tools and services
- Self-produced or generated services can exploit available technology
- Spill-over value-added services effects related to extra-data originated by the simultaneous commercialisation of services.

The Mobile Law can also profit from two unique factors. First, the already high penetration rate of cellular phones means that services could become the preferred way to share or transfer information. People will appreciate the fact that the mobile channel is the most reliable way to contact a friend or colleague wherever he or she may be. Second, mobile information demands more interaction than desk-based information.

For example, if someone is using a location-based service to find a restaurant it is highly likely that they will send the same information to their lunch companion and, at the same time, select from the menu. The mobile Internet will thus allow a peculiar increase in the value of mobile operators’ “nodes of network”. In the future this value will be related not only with the number of nodes (customers) managed but also, and mainly, with the number of successful value-added services offered to clients. Of course, only a part of the value created by the mobile Internet will be enjoyed by carriers because content providers, software vendors, creative companies and all other members of the wireless network will also profit from it.

Initial data available from Japan, where NTT’s DoCoMo is the most technologically advanced mobile Internet service, confirms that the Mobile Law is already in action. In the case of electronic mail consumed through mobile devices, the result of adding a marginal consumer generates a more than proportional increase in electronic mail consumption. With more than 14 million users, each client is sending four mails per day; when users numbered only 11 million just three messages per day where transmitted. This appears to be a classic case of inclusion in a huge network creating positive results beyond the individual thanks to the sharing of a common standard. It also seems a trend that will consolidate once additional and more sophisticated mobile data services become available to users.

Mobile Internet competition has only just begun. It will be quite different from what we have seen in the fixed broadband Internet space in the recent past. Understanding those differences quickly will be essential for players who aim to achieve competitive advantage.

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