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Chapter 3

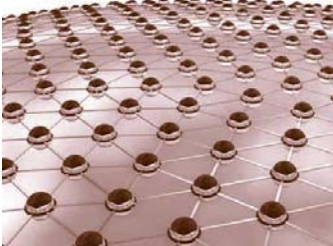
# Understanding the mobile technology market

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## 3

# Understanding the mobile technology market

## 3.1. Introduction



The rapid development of both wireless technology and the range of mobile devices is transforming some fundamental aspects of modern society. These breakthroughs represent another victory in the quest to improve people's quality of life as their mobility increases. This is translating into changes in their lifestyle, the way they relate to and communicate with each other, and the way they work. This phenomenon has been driven by the unstoppable rise of the mobile phone, and has led some to describe it as "the mobile revolution."

New "urban nomads" and "nomadic workers" flood the streets with the latest models of mobile devices: smartphones, PDAs, laptop computers, etc. They use them to work and to stay in touch with their loved ones, and shopping, checking out what's playing, or to book a flight while waiting in line at the supermarket. Since these devices make their lives easier, they are always on hand. It is an unstoppable phenomenon, because users value mobility; in fact, it has become a basic need in their everyday lives.

The mobile phone is the obvious flagship of this new era. No known technology—not even the Internet—has become so widespread so quickly or evolved so much in such a short time. It has become the most personal and, at the same time, the most social, technological device: the worldwide penetration is 61%, that is four billion subscribers, compared to the billion who have a PC-based Internet connection. Over the next five years, another 2.5 billion subscribers in the world will own one. In other words, this amounts to 1.3 million new subscribers every day and 16 new subscribers every second<sup>1</sup>. By the time you have finished reading this page, another 1,200 subscribers will be added to the list of mobile-services users. Even more importantly, for many of them it will not only be their first mobile phone: it will be their first telephone. And, for at least half of them, it will be their first camera, their first music player and, of course, their first means of access to the Internet.

In the mature markets of developed countries, having a mobile phone is a given. The next step is to cover the higher levels in **Maslow's** hierarchy of needs. A qualitative leap has taken place in recent years: the mobile handset is no longer being used merely as a means of contact (voice and SMS)—it is becoming a "remote control for our lives." This gives access to an **enhanced reality** where it is possible to find out who and what is around us. With a mobile device, we can connect to social networks, go shopping, get on the Internet, watch television, find out about nearby services wherever we happen to be, check blood sugar levels, just to name a few. Nonetheless, however attractive these data services may initially appear, the statistics show that they are not growing at the rate that one might expect.

On the other hand, mobile devices are covering people's more basic needs in emerging countries, as in many cases it is their only means of long-distance communication. Mobile technology will undoubtedly revolutionize their lives. Al-

<sup>1</sup> International Telecommunication Union: "Worldwide mobile cellular subscribers to reach 4 billion mark late 2008", <http://www.itu.int/osg/blog/2008/09/25/WorldwideMobileCellularSubscribersToReach4BillionMarkLate2008.aspx>. IntoMobile: "Ericsson chief expects 6.5 bn mobile subscriptions by 2013", <http://www.intomobile.com/2008/05/15/ericsson-chief-expects-65-bn-mobile-subscriptions-by-2013.html>, 15 de mayo de 2008.

most a decade later, it will enable them to participate in the Internet phenomenon, with everything that entails. Estimates suggest that 85% of the next billion subscribers will come from emerging countries<sup>2</sup>.

This dichotomy between developed and emerging markets is a challenge for businesses, and their success in the near future will be based on achieving the right balance in terms of focusing on both. The demand for new subscriptions is lower in the mature markets, but there is a demand for higher quality and more sophisticated services, for which consumers are willing to pay a higher price. Meanwhile, in the emerging markets, although there is a greater number of potential users (those who do not have a specific device), the price barrier means that the profit per user will be lower.

In order to adapt to this new context, operators are starting to open up their closed models (**walled gardens**) in hopes of encouraging innovation in the sector and providing a response to the new demands of consumers, and thereby compensate for the declining income from their more traditional voice and SMS services. This is leading to an irretrievable loss in terms of their **control** over basic aspects of customer service, and therefore creates opportunities for new business models and methods of cooperation that are attracting companies from other sectors.

**Walled garden** is a term referring to the wireless environment in which operators control the user's access to Internet content or services, so that the user's browsing is limited to specific areas or material. Although access to other areas is not limited, access to that environment is made more difficult. The operators offer content from their portal and apply premium rates for browsing outside it.

All this supposes that the mobile market is undergoing profound changes that are sure to transform the way consumers use their mobile devices, to make them the "remote control for their lives." When this happens, major business opportunities will emerge for companies that can provide services with three dimensions—mobility, the Internet and communication—and make consumers feel the need to use them and become willing to pay for them.

### 3.2. Some revealing figures on the demand for wireless services

In order to understand the importance that mobile solutions have acquired in modern society, it is useful to analyze the high penetration figures. This year, the number of mobile subscribers worldwide reached four billion, which represents a 61% penetration rate, according to the International Telecommunications Union<sup>3</sup>.

<sup>2</sup> *The Next Billion: How Emerging Markets Are Shaping the Mobile Industry*. Pyramid Research. October 2007.

<sup>3</sup> International Telecommunications Union. <http://www.itu.int/net/home/index-es.aspx>.

For operators, mobile services are also very important, as they are a way of compensating for the loss of profits in other business areas. Given the declining revenue generated by fixed-line services and the slow growth of Internet-derived profits, it seems clear that the future of the telecommunications sector lies in wireless services. However, despite the increase in subscriptions internationally, the ARPU (average revenue per user) continues to drop, albeit at a slower rate than in previous years (falling 8% in 2007 compared to 10% in 2006)<sup>4</sup>.

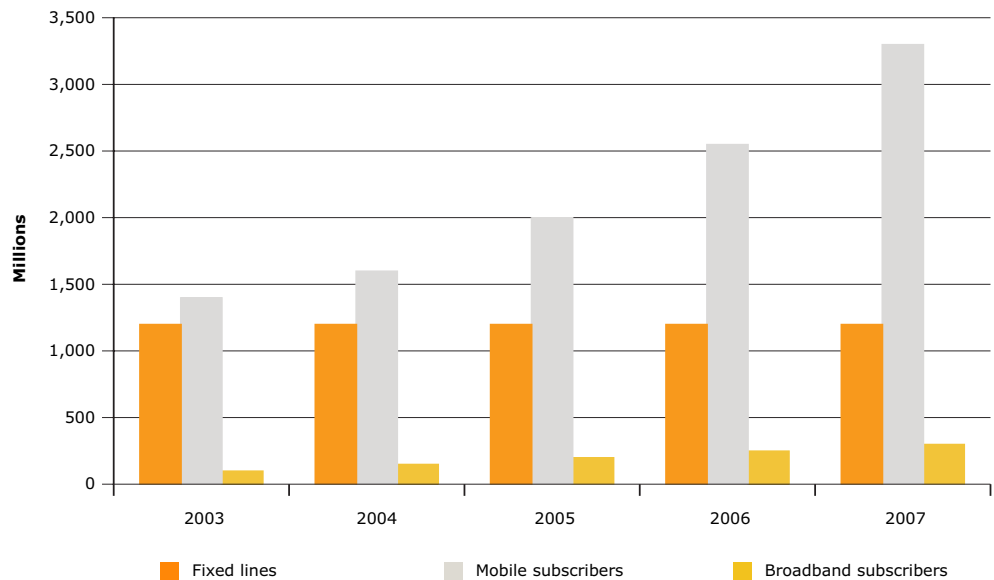


Figure 1. Subscriber bases around the globe (2003-2007).  
Source: Enter, Idate, IT Deusto.

A closer look at the contribution made by the various geographical areas to this figure shows us that the total number of subscriptions is undoubtedly higher in developed countries than in developing countries: in regions such as Western Europe, penetration is above 100%, while in Africa and Southeast Asia just 20% of the population has a mobile phone. These figures clearly show that the future of the mobile technology market mostly lies in emerging economies<sup>5</sup>. In fact, Pyramid Research<sup>6</sup> predicts that the next billion subscribers will sign up by late 2009, and 85% of them will come from emerging markets. Of the thirty markets that will add to the list of subscribers, ten are in Africa and the Middle East and eight are in Asia. The United States is the only non-emerging market on that list. Bearing these figures in mind, it is understandable that the operators are focusing on these markets<sup>7</sup>.

<sup>4</sup> Mobile 2008. Market & Trends. Facts & Figures. Enter, Idate, IT Deusto. 2008.

<sup>5</sup> Pyramid Research: *op. cit.*

<sup>6</sup> Pyramid Research: *op. cit.*

<sup>7</sup> Pyramid Research: *op. cit.*

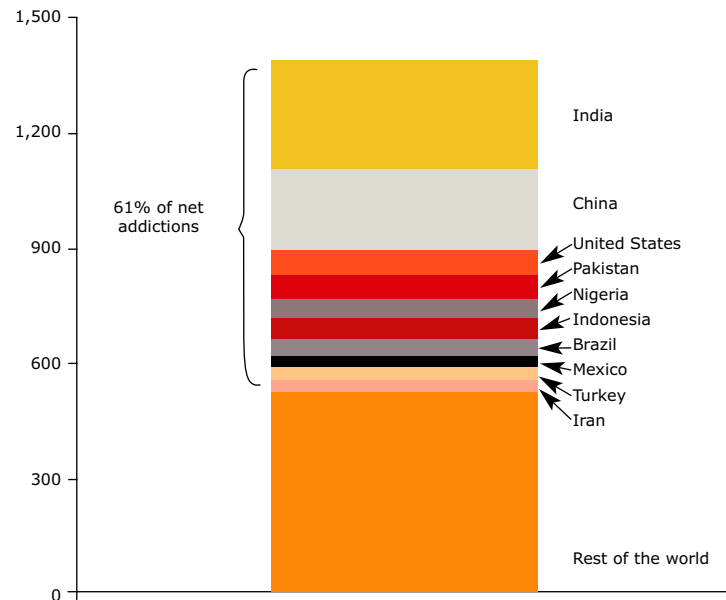


Figure 2. Net mobile additions (2007-2010): 1.4 billions.  
Source: Pyramid Research.

Pyramid Research<sup>8</sup> also shows the relationship between a country's level of urbanization and its penetration rate for mobile technology. Of the next subscribers, 71% will come from emerging countries in Africa and Asia, where the level of urbanization is below the global average. In this type of region, manufacturers and operators are working together to develop low-cost networks that work effectively for subscribers.

One of the major differences of subscribers in the near future, at least initially, is that they will use their mobile phone as a means to generate income rather than as a means of communication. For them, the device is a way to support their economic activities and help generate more income. This will be their main reason for buying one; personal use will gradually increase over time.

According to the FTF experts, Asia will lead the mobile market in the next five years, in terms of both the number of users and impact on society. If this is true, the decline in the central role of countries like the United States within the framework of a multipolar world would be evident.

<sup>8</sup> Pyramid Research: *op. cit.*

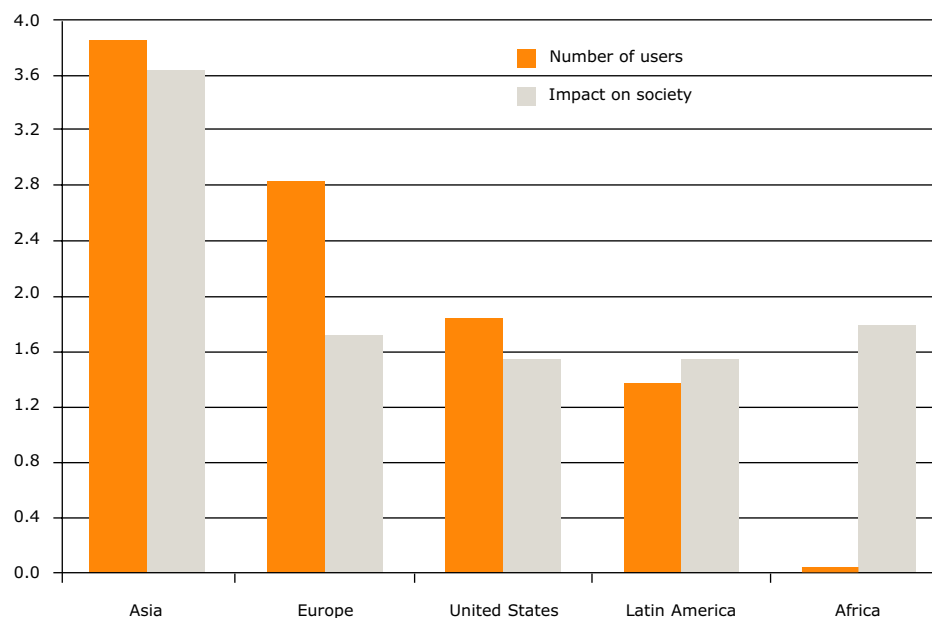


Figure 3. Ranking of geographical areas according to the number of users and to the impact on society (five-year forecast).

Source: drawn from the conclusions within the Future Trends Forum.

### 3.2.1. Spanish market

The usage figures for the Spanish market are typical of developed countries, which show high penetration rates. According to figures from Spain's National Institute of Communication Technologies<sup>9</sup> (INTECO), the penetration of wireless technologies in the country's residential market reached high levels in wireless services during the first six months of 2007, and the trend remains clearly upward.

According to INE data, distribution of this technology in households<sup>10</sup> shows that 17.7% have only a mobile phone, and 73.1% have both a fixed line and a mobile phone. 80% of Spanish small or medium-sized companies with more than ten employees use wireless services as part of their work. Furthermore, four of every ten organizations use advanced mobile devices, such as PDAs and Black-Berrys.

Saturation levels of voice services in the Spanish market are forcing operators to seek alternative means of generating profits, while reducing the control that they currently have over the market, in order to encourage innovation in products and services.

<sup>9</sup> *Estudio sobre la situación de seguridad y buenas prácticas en dispositivos móviles y redes inalámbricas*. Information Security Observatory. INTECO. June 2008.

<sup>10</sup> INE: [http://www.ine.es/inebmenu/mnu\\_tic.htm](http://www.ine.es/inebmenu/mnu_tic.htm).

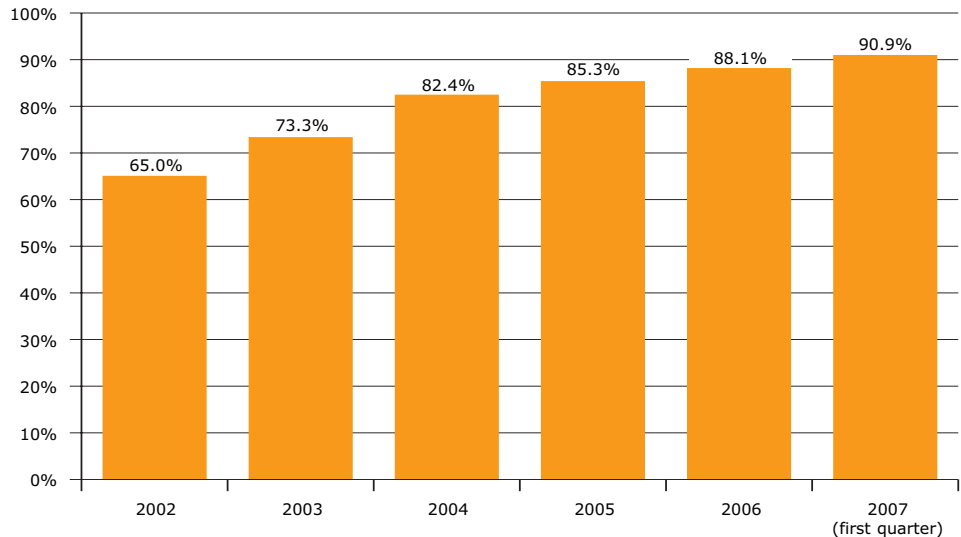


Figure 4. Mobile telephone penetration rate in Spanish households.  
 Source: Survey on information and communication technology equipment and use in homes published by the INE, Spain's National Statistics Institute.

### 3.3. The opening of the mobile market

The opening of the mobile market is undoubtedly the hottest topic in the wireless technology sector. Several projects in this field have been featured on the covers of industry magazines in recent months. **Google**<sup>11</sup> is heading up a partnership called the **Open Handset Alliance**<sup>12</sup>, which is creating an open platform for the development of applications and services for mobile handsets, and includes more than 30 technology companies. In order to quicken the pace of innovation in these devices, the company has also developed the first complete, open and free mobile platform, the operating system Android used on its Google Phone. **AT&T**<sup>13</sup>, the largest mobile operator in the United States, has opened up its networks to any device designed under GSM standards. A few weeks before that, **Verizon Wireless**, a joint venture of **Verizon Communications**<sup>14</sup> and **Vodafone**<sup>15</sup>, announced its intention to open up its network to any device complying with its technical standards.

Other projects, such as the OMA (Open Mobile Alliance)<sup>16</sup>, are clear evidence of the growing interest in opening up the market and in cooperation among all the agents involved. The OMA is a standards organization that was formed in June 2002 for the purpose of standardizing mobile services and applications, independently of transport technology and access. Its members include the main mobile operators, manufacturers of network computers and devices, service and content providers, and information technology companies from all over the world. It also consolidates and integrates various groups: the WAP Forum, the Location Interoperability Forum (LIF), the SyncML Initiative, the MMS-IOP (Multimedia Messaging Interoperability Process), Wireless Village, the Mobile Gaming Interoperability Forum (MGIF) and the Mobile Wireless Internet Forum (MWIF).

<sup>11</sup> Google: <http://www.google.com/>.

<sup>12</sup> Open Handset Alliance: <http://www.openhandsetalliance.com/>.

<sup>13</sup> AT&T: <http://www.att.com>.

<sup>14</sup> Verizon: <http://www.verizon.com>.

<sup>15</sup> Vodafone: <http://www.vodafone.com>.

<sup>16</sup> OMA: <http://www.openmobilealliance.org/>.

### 3.3.1. What is an open mobile market?

The FTF experts define an open mobile market as one in which users have easy access to any service, from any provider, using any device. Moreover, they say that it is a market in which any content developer, service provider, etc., can freely offer their products or services to all consumers. To achieve this, they consider it essential to move from the current fragmentation that typifies the mobile market to across-the-board standardization (devices, operating system, etc.).

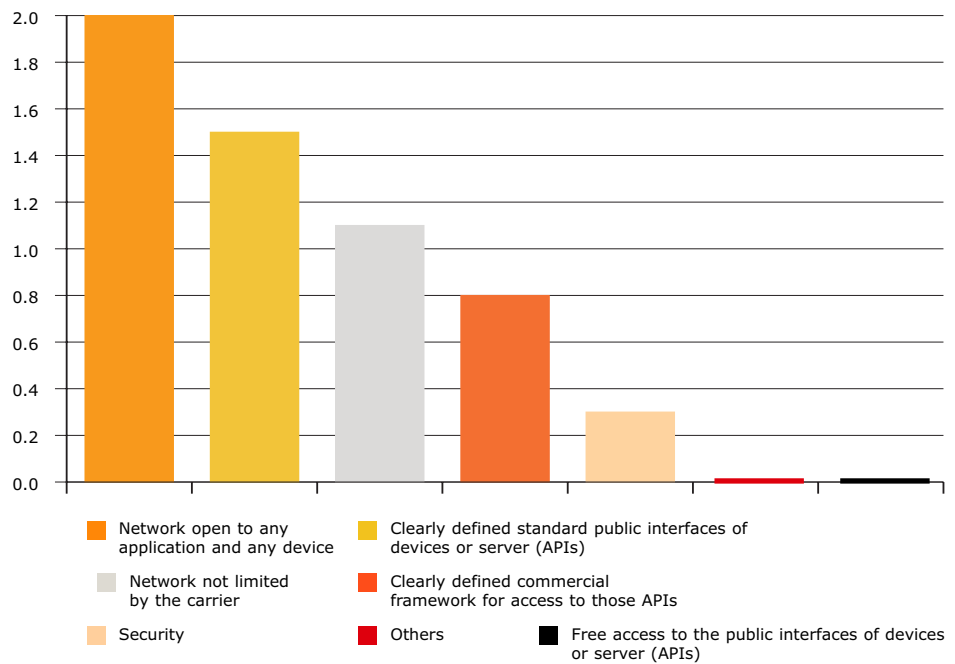


Figure 5. Determining factors in the opening of the mobile market.  
Source: drawn from the conclusions within the Future Trends Forum.

The FTF experts consider that from a human point of view, an open mobile network should encourage cooperation between its users, meaning that it must be an **open-source community**. This cooperation implies significant benefits for the market, as we have seen in other environments, such as the Internet. Under the right conditions, open-source projects will lead to new services and high-quality applications.

The FTF experts believe that the opening up of the market will lead to an increase in innovation in products and services, and that consumers will therefore no longer use their mobile handsets simply to talk or send SMS. Now, they will use them to connect to the Internet, link up with anyone, anywhere, locate peo-

ple and products based on where they are, and countless other uses that are currently almost nonexistent.

What is obvious is that this opening is gradually becoming achievable in the mobile market, and is leading to various models of cooperation between operators, manufacturers, content developers, etc. These changes give consumers greater freedom of choice between the wide variety of devices, products and services. Some companies, such as **Google**<sup>17</sup>, even advocate freedom of choice of operator, according to the quality of service or price, which depend on the time frame and location. To that end, they have applied for a patent for software that would enable the user to change operator several times a day<sup>18</sup>.

According to a recent study published by the consulting firm CSMG *Devices at the Center of Change in Wireless*<sup>19</sup>, the trend towards opening is showing itself in all the phases of the mobile services supply chain (see Figure 6).

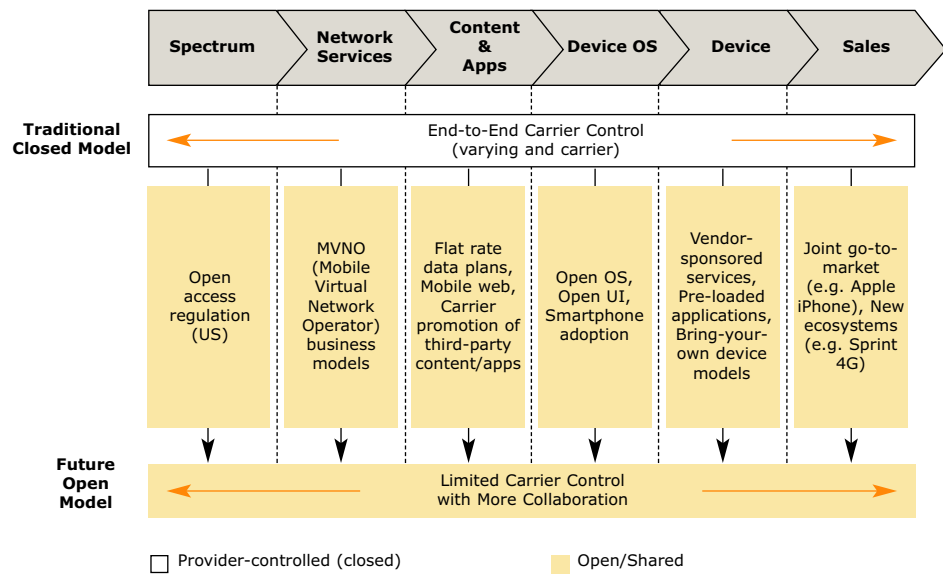


Figure 6. Trend Towards Openness in Mobile Service Delivery. Source: *On the Edge: Devices at the Center of Change in Wireless*. CSMG.

<sup>17</sup> Google: <http://www.google.com/>.

<sup>18</sup> IDG News. 26/09/2008. Article: "Google seeks patent to break mobile subscriber shackles." <http://news.idg.no/cw/art.cfm?id=A0694D76-17A4-0F78-31375219C5AEB934>.

<sup>19</sup> *On the Edge: Devices at the Center of Change in Wireless*. CSMG. Spring 2008.

There are several factors making this opening possible, and giving users an increasing freedom of choice: the boom of smartphones, breakthroughs in the development of open-source operating systems, the proliferation of applications based on market standards, the possibility of personalizing devices, Internet access and flat-rate subscription offers are a few good examples.

However, for the opening to be effective, the FTF experts feel it is vital for all those involved in the value chain to participate and cooperate, especially the operators, who must evolve towards more open models, and reduce the control they currently have. For them, the **opening** should take the form of:

- **Making the regulatory framework more flexible**, something the experts feel is a key factor for opening the market. They consider the current regulation too strict, adding that it will tend to increase in certain areas such as the European Union. On the flip side, in the United States, as well as in other countries, the government is committed to the opening of the market, and as a result has freed part of the available **spectrum**. The available spectrum is one of the factors closing the market and therefore any initiative in this respect constitutes progress.
- **Promoting optimum use of the digital dividend by governments**: a good government policy consists of distributing the spectrum made available by the shift from analog to digital TV among mobile operators. This movement is not only being seen in the United States, but also in Europe, where its adoption is not yet standard. For example, the United Kingdom is already in a consolidation phase, while France, Belgium and the Netherlands are in the launch phase, and Spain<sup>20</sup>, Ireland and Italy are in the preparation phase<sup>21</sup>.
- **Facilitating the entry of new operators** that compete with the existing ones and thereby offer consumers more options (MVNOs).
- **Encouraging the development of new applications and services**. For most experts, offering users a flat-rate subscription is a key factor in getting the potential returns on open networks. With this type of pricing, subscriber usage will increase and in turn boost investment and innovation in the market.
- **Standardization and opening up of mobile operating systems and mobile-handset user interfaces**.
- **Reinventing the commercial framework of access to mobile networks**. The FTF experts believe that the commercial framework is one essential aspect that is often forgotten.

So far, operators have controlled the market, dominating almost all the aspects associated with commercialization of services and mobile content, but this situation is changing. The FTF experts predicted the degree of opening that will be achieved in the next five years at various points in the value chain of the mobile market. They reached the conclusion that there will be a gradual loss of control by operators over some aspects that they have dominated until now, especially those related to the services provided by the telephone: access to devices and operating systems, and the creation of content and different applications.

<sup>20</sup> <http://www.expansion.com/edicion/exp/empresas/telecomunicaciones/es/desarrollo/1129335.html>.

<sup>21</sup> *Los Operadores Móviles Virtuales: impacto en el sector de la telefonía móvil*. Enter. February 2006.

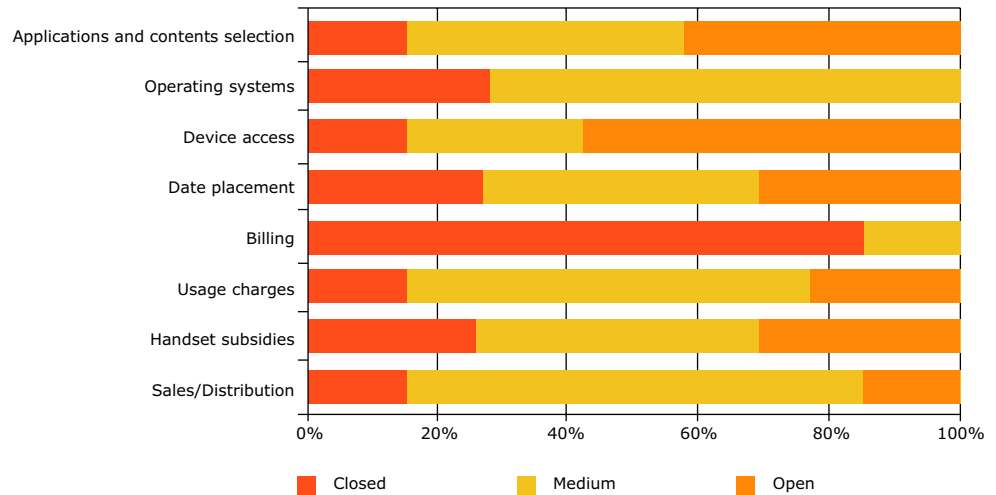


Figure 7. Level of openness in the next five years.  
Source: drawn from the conclusions within the Future Trends Forum.

As a consequence of this imminent loss of control by the operators, more opportunities will arise for new actors in the mobile market, many of whom will come from other sectors.

However, as in other aspects of the market, the level of opening will not be the same everywhere. The experts believe that Asia, followed by Europe, is the geographical area that will lead the way in opening up the mobile market. It is also by far the area that will lead the way in innovation in this market, followed by the United States (see Figure 8).

### 3.3.2. Cooperation becomes a necessity

The FTF experts believe that opening and cooperation will become established in the near future, with new alliances between companies in the sector, more open technologies and agreements. They believe that alliances between companies will be more frequent than mergers or takeovers (see Figure 9).

In this area, they came to the conclusion that the most frequent alliances will be between operators and manufacturers, such as the agreements made by **Apple**<sup>22</sup> with various operators worldwide (see Figure 10). The experts believe that to be successful, these alliances must avoid taking up defensive strategies, or making desperate attempts to expand. The number-one key is for the participating companies to have aligned business objectives.

<sup>22</sup> Apple: <http://www.apple.com/>.

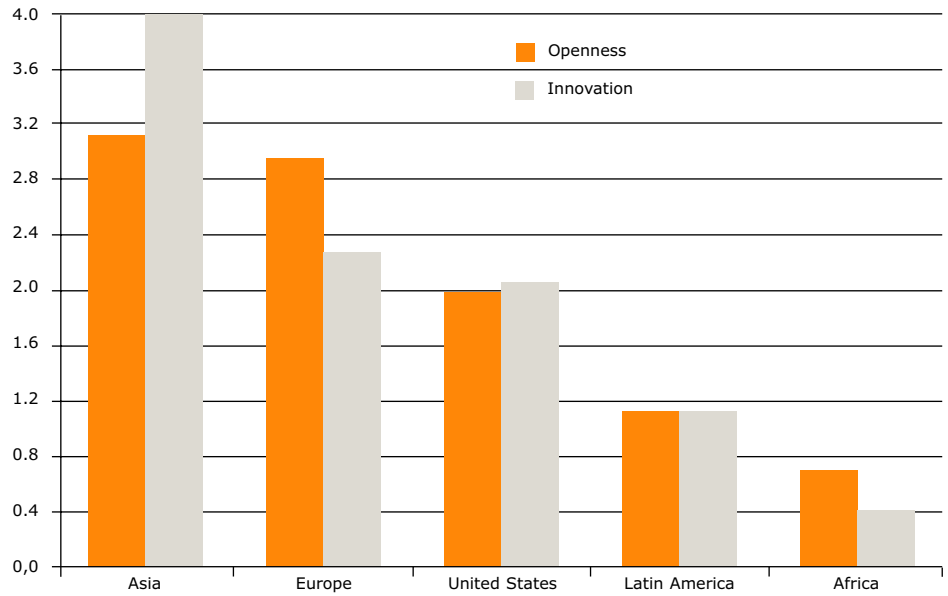


Figure 8. Ranking of geographical areas according to the level of openness and mobile innovation.

Source: drawn from the conclusions within the Future Trends Forum.

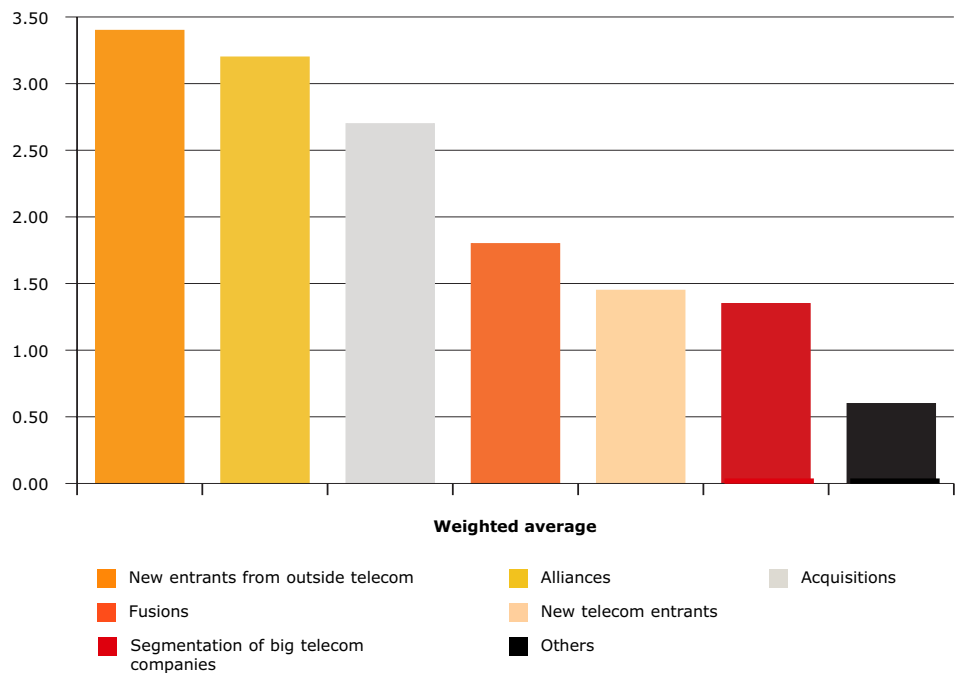


Figure 9. Most frequent operations in the mobile market in the near future.

Source: drawn from the conclusions within the Future Trends Forum.

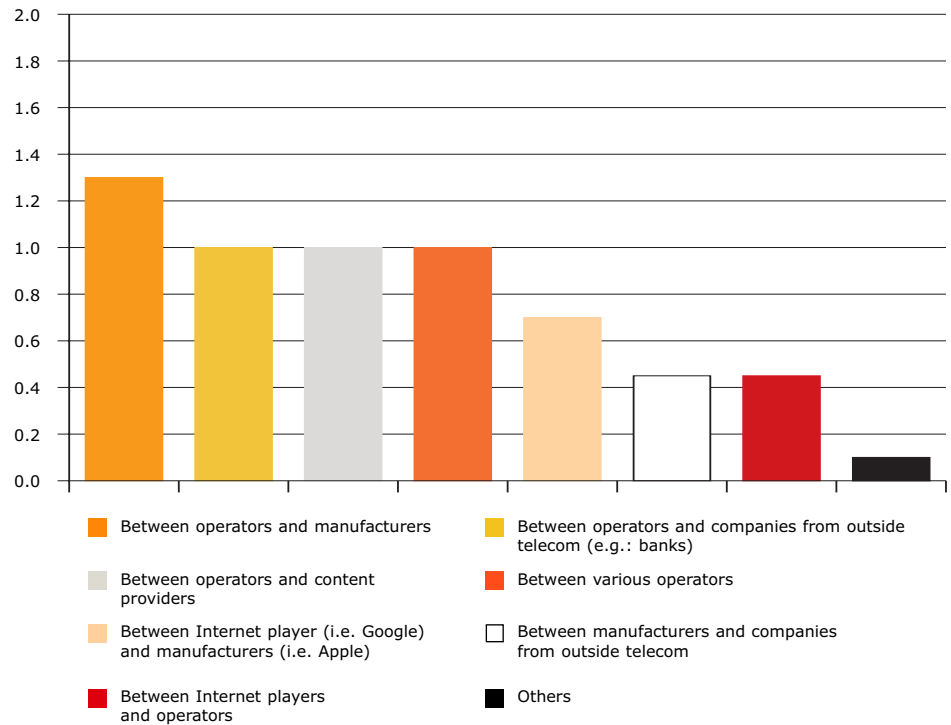


Figure 10. Most frequent alliances in the near future in the mobile market.  
Source: drawn from the conclusions within the Future Trends Forum.

### 3.3.3. Benefits of the market opening

For the FTF experts, although the opening of the market will involve a loss of control for the **operators**, it will also provide clear advantages:

- Traffic on their networks will increase and therefore so will their profits, thanks to the development of new applications by different agents in the market.
- The use of data services will increase, which will compensate for the decline in profits from voice and SMS services.
- They will participate in a larger and more innovative ecosystem.
- They will be able to modify their business models and become service providers.
- More efficient use will be made of their networks.

The **manufacturers** will also benefit from the opening:

- Their portfolio of potential customers will increase, as the number of users increases.
- They will be able to include new innovative services on their devices.

- They will gain power over the operators when attracting new consumers (e.g., the iPhone).

The **content providers** and **developers** will have:

- The capacity to distribute their products to more users, in some cases directly, without being controlled by the operators beforehand.
- The opportunity to develop applications that work on more devices.
- The advantages of participating in an ecosystem in which Internet-style innovation predominates.
- Increased acceptance of new applications as they become accessible on more usable mobile devices (e.g., the iPhone).

Finally, the FTF experts believe that **consumers** will be the main beneficiaries of the opening/cooperation:

- They will have more options when selecting devices, applications, services and supplier companies.
- They will enjoy personalized services and devices, adapted to their lifestyle.
- They will have lower prices, different payment methods and purchasing channels.
- They will experience greater ease of mobile device use, thanks to improvements in usability.
- They will have more relevant information anywhere and at any time, which will have important economic and social benefits, especially in emerging economies.

However, the opening of the market will also create new challenges for all agents in the market, as well as the operators, who will have to adapt their business models to the new situation.

### **3.3.4. The Internet: a model to follow?**

When discussing the opening of the mobile market, many people use the model of the Internet as a benchmark. The Internet was a revolution on many levels, and the question that is yet to be resolved is whether mobile networks will have the same impact. The majority of the FTF experts are convinced that its impact will be very similar, if not greater. However, for that to happen, they believe that several basic conditions must be in place:

- The opening of the market, to encourage innovation and access for all those involved.
- The development of services that take the user's location and time into account.
- The existence of rate plans that give meaning to the business models of innovative companies.

The FTF experts feel that **the impact may be greater than that of the Internet**, given that mobile networks:

- Are better adapted to the “nomadic” lifestyle of modern society.
- Enable people and things to be located, and therefore add a new dimension to social interactions. Mobile social networks are one of the services with the most potential.
- Allow users to personalize the Internet.
- Can provide Internet access for a large proportion of the world’s population that is still without it.

As for the **main factors preventing this from happening**, the experts point to:

- The fragmentation of the market: devices, operating systems, operators, etc.
- Problems with devices: usability, batteries, processing capacity and the fact that they are not open to all applications.
- The lack of services and applications that attract users.
- The high cost of services and devices.
- The tight control exercised by the operators.
- The limited capacity of the networks.
- The lack of business models for companies from other sectors looking to enter the market.
- Users’ concerns about privacy and security.
- The lack of demand from subscribers who do not appreciate the usefulness of the services being offered.
- The heavy regulation of the sector, which is on the rise, especially in Europe.

The FTF experts believe that special attention should be paid to the risks involved in open networks. They feel that security is extremely important and that the “weaknesses” of the Internet model should not be replicated. It should be able to identify individual users and businesses securely, to thereby prevent undesired messages (spam), undesirable content (e.g., child pornography), fraud (**phishing**, false identities, etc.), virus attacks, etc.

To the FTF experts, the mobile phone is a very personal device and thus it is important that the consumer’s experience be secure, as well as open and varied.

Operators must also learn from the experience of the Internet in order to avoid making the same mistakes. Initially, telecommunications companies providing Internet services (**ISPs**) tried to lead users to their portals or those of their partners. Obviously, this strategy failed because users very quickly realized that the Internet offered much more than the ISPs were attempting to promote. Companies and consumers quickly exploited the open architecture of the Internet in order to develop alternative applications and services. This market dynamic led to the current environment, in which consumers relate to the brands they choose instead of the ISPs. The profits of fixed-line Internet providers were

not curtailed by this situation and there is no reason why those of mobile operators should be. In the same way, the mobile operators could experience exponential increases in data traffic and profits, which would compensate for the loss of earnings from voice services. A clear example of this phenomenon is the operator **NTT DoCoMo**<sup>23</sup>, whose innovative idea of opening its networks to approximately 17,000 service providers has led to increased profits from its data services.

### 3.4. The impact of the market opening on competition

The fact that the opening of the mobile market is attracting new businesses and increasing competition is a problem that is undoubtedly being faced by the operators. The FTF experts believe that the opening of the mobile market will change the competitive landscape in the medium term, with the entry of companies from other sectors becoming more common. The mobile network operators (**MNOs**), mobile virtual network operators (**MVNOs**), service providers and manufacturers that usually operate in this market will suffer from the pressure of these newcomers.

One example of this is Sweden, where prices fell by 40% in 2004 as a consequence of an offer launched by the virtual mobile operator **Djuice**<sup>24</sup>, which was followed by another from the country's second-largest operator<sup>25</sup>. As the mobile market opens up, competition will increase and operators will have to learn from other markets where that battle is even more intense. With it, they will be able to design strategies that represent an alternative to lowering prices.

#### 3.4.1. The new competitors from other sectors

The opening will change the nature of competition in the mobile market. Companies from other sectors will start to offer their products and services, and as a result, the quantity, variety and quality of what is offered will be increased. In the final analysis, it will be the consumers who benefit from this phenomenon.

The FTF experts analyzed the areas in which companies from other sectors will compete in the mobile market, and concluded that content will be the area to attract the most newcomers (see Figure 11).

<sup>23</sup> NTT DoCoMo:  
<http://www.nttdocomo.com/>.

<sup>24</sup> Djuice: <http://www.djuice.com/>.

<sup>25</sup> *Growing the mobile voice market*. InCode. November 2004.

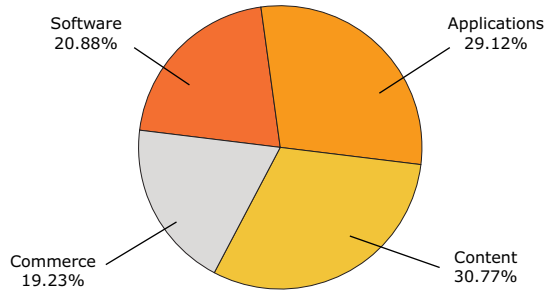


Figure 11. Areas in which the new entrants will compete.  
Source: drawn from the conclusions within the Future Trends Forum.

According to the FTF experts, these new entrants in the mobile market will mainly come from the media and entertainment sector, and from the software and Internet industries (see Figure 12).

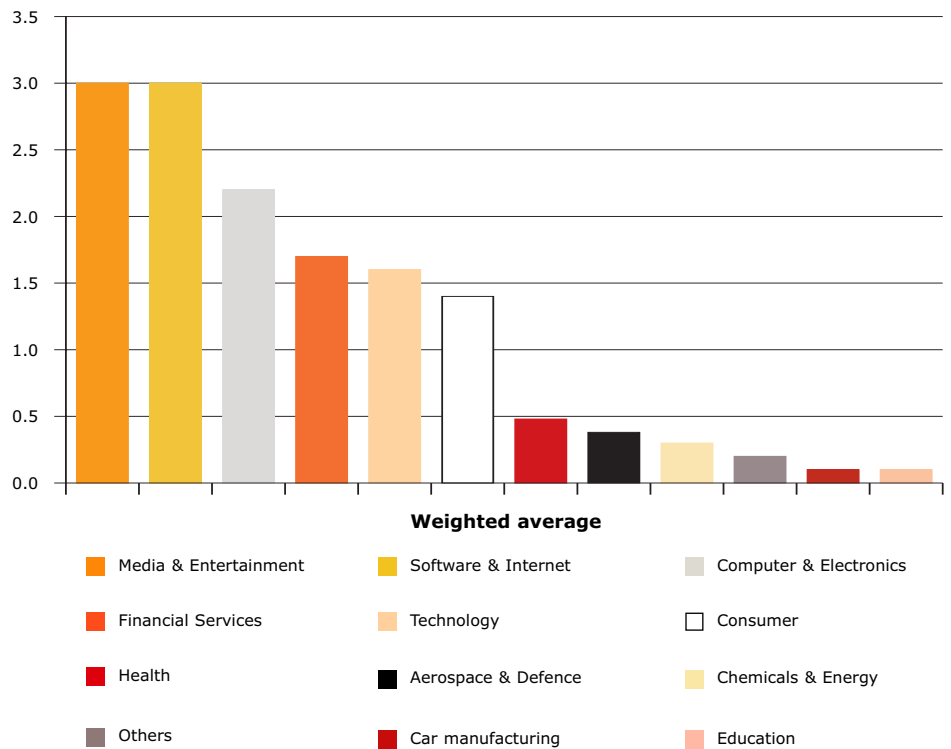


Figure 12. Industries providing the new entrants to the mobile market.  
Source: drawn from the conclusions within the Future Trends Forum.

The FTF experts looked at what would potentially be the **main opportunities** offered by the mobile market to these new entrants, and identified the following:

- Location-based services.
- New applications with medical purposes.
- Personalization of the range of products according to the customer's location and preferences.
- An increase in the portfolio of customers for online sales of products and services.
- Improved knowledge of the tastes and preferences of consumers.
- The opportunity to offer financial services on mobile devices.
- Marketing on mobile devices, primarily that adapted to the customer's location.
- Creation of social networks that take into account the customers' location.

### 3.4.2. The opening and competition between the MNOs

If the increased competition resulting from the opening of the market is to bring about increased efficiency, this must start with the operators. The MVNOs, service providers and manufacturers can subsequently contribute to its intensification and benefit consumers, thanks to both the drop in prices and the increase in the range and quality of services.

The competition in Europe between existing MNOs has increased due to the high penetration rate of mobile devices. However, the mobile market has still not opened to other companies. The spectrum available is clearly controlled by the governments, which limit the entry of new competitors. As owners of the networks, and therefore the main pioneers in the opening of the mobile market, MNOs are increasingly feeling pressure from all sides to open their networks.

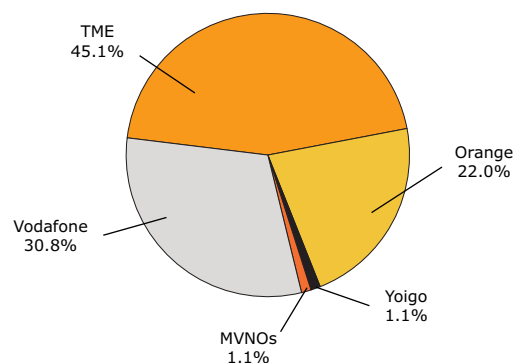


Figure 13. Distribution of the Spanish market by number of personal lines (data from February 2008).  
Source: CMT.

In Spain, three companies were operating until late 2006: **Movistar**<sup>26</sup>, **Vodafone**<sup>27</sup> and **Orange**<sup>28</sup> (formerly Amena). Their competitive strategy was based particularly on subsidizing devices and an extremely complex range of offers. The opening of the market has allowed for new entries. These included a fourth operator, with a network that is one part proprietary and one part hired, **Yoigo**<sup>29</sup> and virtual operators, who hire the network or purchase minutes from the MNOs and design a range of offers for the end consumer. The virtual operators employ a simpler strategy, which makes no distinction between time frames and has even forced **Movistar** to eliminate two thirds of its rate plans, and obliged all the operators to give away free minutes or cut prices in order to match their average per-minute rate. They also started offering free calls between subscribers of the same operator, something previously unseen in wireless voice services, although the unlimited offer quickly had to be restricted to a certain number of hours as otherwise it was not financially sustainable.

With this strategy, they have succeeded in wooing 2% of the customer base away from the three long-standing operators in one year. However, their profitability level remains to be seen. For example, **Yoigo** has 0.9% of the lines, but its market share in terms of income is 0.2%<sup>30</sup>.

### 3.4.3. Virtual mobile network operators (MVNOs)

The types of companies that are trying their luck in virtual waters are highly varied, and range from retail companies to communications operators or companies specializing in marketing fuel. However, they all have one common feature: solid brand recognition.

Why are these new companies emerging? First, the consolidation of the wireless services market is encouraging the proliferation of these new operators. Second, consumers are anticipating more options as free markets become consolidated. Furthermore, brand awareness is also leading to an upturn, especially among younger consumers. The traditional brands in the communications industry apparently do not appeal to young people in their twenties (and those even younger) to the same extent as companies in the market with a more fashionable image. These companies are not aiming to make vast profits like the MVNOs, but instead to create loyalty among their customers and increase cross-selling of their other products and services.

However, there are two main barriers restricting the opening of the market to MVNOs: regulation, and control by the operators.

Regulation plays a very important role in defining the MVNO landscape, as depending on the level of regulation, it is possible to make a distinction between the different types of MVNOs<sup>31</sup>:

- **Promoted:** the regulations force fixed-line operators to share their spectrum with MVNOs. Agreements with them must be made public (e.g., in Denmark, Sweden and Austria).

<sup>26</sup> Movistar: <http://www.movistar.es/particulares/index.html>.

<sup>27</sup> Vodafone: [http://www.vodafone.com/hub\\_page.html](http://www.vodafone.com/hub_page.html).

<sup>28</sup> Orange: <http://www.orange-es.com/>.

<sup>29</sup> Yoigo: <http://www.yoigo.com/>.

<sup>30</sup> *Informe Anual 2007*. Spain's Telecommunications Market Commission (CMT). June 2008. [http://www.cmt.es/cmt\\_ptl\\_ext/SelectOption.do](http://www.cmt.es/cmt_ptl_ext/SelectOption.do).

<sup>31</sup> *Los Operadores Móviles Virtuales: impacto en el sector de la telefonía móvil*. Enter. February 2006.



- **Supported:** the regulation supports the MVNOs that want to operate (e.g., in Spain, Germany, France, Ireland and Finland).
- **Not supported:** MVNOs are allowed to enter but the regulations do not support them (e.g., in Portugal, Belgium, the Netherlands and Greece).
- **Not permitted:** the entry of MVNOs is specifically prohibited (e.g., in Italy).

As regards control by the operators, the MVNOs face the challenge of finding one that is willing to share their network with them. When they find one, they have to pay a great deal of money to use the network, as well as providing strong guarantees in order to reach agreements that create a very high level of dependence on the MNOs once they have been reached. The MNOs see the virtual operators as competitors, as well as partners, as on one hand they can contribute to the MNOs' business, but on the other, they also increase competition in the market.

In recent years, more and more MNOs have been opening their networks to a greater or lesser extent and reaching agreements with MVNOs all over the world. This has led to an increase in competition and a reduction in prices and operator profits in markets such as Denmark and Sweden. For this reason, it is vital for both agents to define strategies that seek mutual benefit.

For Accenture, the factors in the success of the MVNOs are as follows<sup>32</sup>:

- **Understanding the value proposal.** The experiences of the consulting firm show how difficult it is for companies to clearly define their business plan, focus and value proposal. In this respect, **TuYo**<sup>33</sup> is a good practice. It is a pre-paid mobile service for the Spanish-speaking market, which provides downloads of ringtones and specific graphics for this segment. The operator has bilingual agents that are able to provide services to customers whose primary language is Spanish.
- **Have a recognized brand and specific knowledge in telecommunications.**
- **Reach reliable agreements with communications operators.** MVNOs must be aware that a top-flight network that provides quality and speedy service is the basis for consolidation, as well as a distinguishing factor of added value for the product.
- **Define the operational processes and technological platform correctly.** Clear definition of the operational processes and implementation of back-office systems, invoicing, customer service, network interfaces and the service-delivery platform are vital for the success of the MVNO.
- **Successful management of the launch.**

<sup>32</sup> El auge de los MVNO". Accenture Digital Forum. February 2007. <http://www.digitalforum.accenture.com/DigitalForum/Argentina/CurrentEdition/Faces/El+auge+de+los+MVNO.htm>.

<sup>33</sup> TuYo: <http://www.tuyo.com/chooser.aspx>.

### The evolution of MVNOs in various geographical areas

Europe has led the way for MVNOs over the past five years. This type of operator has flourished to a lesser extent in North America, where almost fifty companies occupy this space. Their services already have over 30 million subscribers in Western Europe, and have recorded a market growth of 60% over the past two years, according to a recent study by IDATE<sup>34</sup>, one of the most renowned European research centers for the telecommunications sector.

Spain has more than 20 operative virtual mobile operators although they only account for 2% of the market, unlike markets such as Denmark, where they have shares of 15%. However, these new entrants have succeeded in convincing a good proportion of customers to take their telephone number with them by means of portability. Even so, virtual operators' customer churn is up to 40.5% (Annual Report of the CMT, Spain's Telecommunications Market Commission)<sup>35</sup>.

In Spain, forecasts suggest that the number of MVNOs will rise to 40 within two years. However, due to processes of concentration and natural selection, this figure will decline to around 15 or 20 in a period of five years, with a joint market share of over 10%<sup>36</sup>.

### Value proposition

Mobile virtual network operators have so far developed an array of highly varied business models. However, a common feature can be seen across the board: they are customer-focused businesses, in which the brand, personalization and, above all, the capacity to adapt to the consumer's needs are becoming increasingly important. For that reason, their customer relationship capacities are the cornerstone used by virtual mobile operators when providing their services.

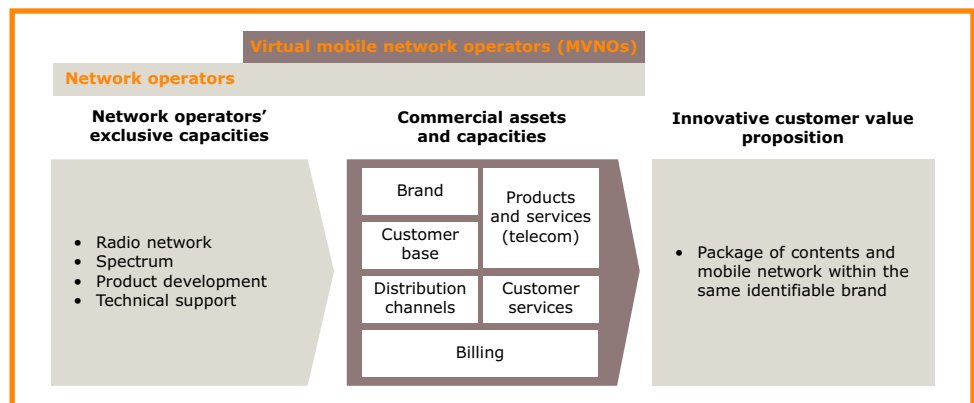


Figure 14. Capacities of virtual operators and network operators. Source: Enter.

<sup>34</sup> "MVNO - La nouvelle donne". IDATE. 2008. <http://www.idate.fr/pages/index.php?idrbis=24&title=MVNO%20-%20The%20new%20deal&idl=7&rubrique=etude&idr=16&idp=145#2>.

<sup>35</sup> Informe Anual 2007. Spain's Telecommunications Market Commission (CMT). June 2008. [http://www.cmt.es/cmt\\_ptl\\_ext/SelectOption.do](http://www.cmt.es/cmt_ptl_ext/SelectOption.do).

<sup>36</sup> RedesTelecom.es. 01/09/2008. Article: "Operadores Móviles Virtuales: Oportunidad o Amenaza". <http://www.redestelecom.es/Reportajes/200809180009/Operadores-Moviles-Virtuales--oportunidad-o-amenaza.aspx>.

Political parties, NGOs and radio stations are studying projects of this type, which can be grouped under a single heading—"emotional MVNOs"—which aim to attract customers based on brand-associated values. For example, **XL Móvil**<sup>37</sup>, whose slogan says that "family is most important," offers discounted prices and conditions for members of the same family. The case of **Lebara**<sup>38</sup> is also symptomatic, with its target market almost exclusively focused on the 5.5 million immigrants in Spain.

The MVNOs have the opportunity to offer a specific product for each market niche, which does not necessarily have to be based solely on the price, but instead on an interesting value proposition for consumers. Restricting the operator's strategy to price slashing may have its risks and lead consumers to consider these services among those with the most negative connotations of the term "low-cost".

### Profiles of the MVNOs

According to a study conducted by Enter (Information Society and Telecommunications Analysis Center), the profiles of the companies potentially interested in operating as MVNOs are highly varied; in fact, the initiatives that have been undertaken in Spain to date have been carried out by companies from various sectors and with widely different assets, capabilities and interests, including<sup>39</sup>:

- **Telecommunications operators**, who are either fixed-line operators looking to include mobility in their range, or mobile operators wanting to begin operations in other markets where they do not have a license. These operators can use their technical capabilities for infrastructures and products and services for leverage, as well as their knowledge and even their relationship with the customer, and thereby generate additional revenues. Fixed-line operators can use it as a port of entry for fixed-mobile convergence, without this involving an excessive cost. Examples of this include **Euskaltel**<sup>40</sup>, **Telecable**<sup>41</sup> and British **Telecom**<sup>42</sup>.
- **Other companies in the telecommunications sector**, such as distributors. These can take the opportunity and operate based on their knowledge of the sector, a range of complementary products and services, a brand that may be familiar to the user and a distribution network that is already operational for this service. Examples include **ONO**<sup>43</sup> and **Jazztel**<sup>44</sup>.
- **Companies in the multimedia sector** seeking ways to market their content. This sector will be especially important with UMTS / 3G voice services and the development of wireless broadband. For example, **Virgin Mobile**<sup>45</sup>.
- **Companies in the financial sector**, such as **Bankinter**<sup>46</sup>, which offer their mobile services exclusively to their customers. Other MVNOs in the financial sector are expected to see the light in 2009, including **BBVA**<sup>47</sup> and **La Caixa**<sup>48</sup>.

<sup>37</sup> XL Móvil:  
<http://www.xlmovil.es/>.

<sup>38</sup> Lebara: <http://www.lebara-mobile.es/en>.

<sup>39</sup> *Los Operadores Móviles Virtuales: impacto en el sector de la telefonía móvil*. Enter. February 2006.

<sup>40</sup> Euskaltel:  
[http://www.euskaltel.es/web/home\\_int\\_particulares.jsp?linea=telefoniamovil](http://www.euskaltel.es/web/home_int_particulares.jsp?linea=telefoniamovil).

<sup>41</sup> Telecable:  
<http://web.telecable.es/portal.do?IDM=4&NM=2>.

<sup>42</sup> British Telecom:  
<http://www.btglobalservices.com/business/es/es/index.html>.

<sup>43</sup> ONO: <http://www.ono.es/>.

<sup>44</sup> Jazztel: <http://www.jazztel.com/>.

<sup>45</sup> Virgin Mobile:  
<http://www.virgin.com/gateways/mobile/>.

<sup>46</sup> Bankinter:  
<https://www.bankinter.com/>.

<sup>47</sup> BBVA: <https://www.bbva.es/>.

<sup>48</sup> La Caixa:  
<http://www.lacaixa.es/>.

- **Electricity and utility companies**, with their opportunity to exploit their positioning and brand recognition, as well as their invoicing and customer-management capacities.
- **General-interest distributors**, which can use their brand and a significant customer base for leverage, as well as distribution channels that are already in place. **Eroski**<sup>49</sup> has entered the mobile market by creating its own operator company.
- **Niche operators** that take advantage of all types of segmentation opportunities. An example of this type of operator is **Lebara**<sup>50</sup>, which targets the immigrant population.

#### 3.4.4. The entry of service providers

The challenge for service providers entering the mobile market arises from the lack of tools and resources for developing applications and quickly translating them into profits. Many of these companies come from the world of personal computers, in which platforms are standardized (e.g., Windows, Mac, Linux), or the Internet world, in which applications and content are accessible from any browser. With some effort, traditional game companies and large media firms have found efficient ways to define successful strategies amidst this chaos. On the flip side, the new entrants are starting to become aware of the challenges involved in attempting to reach billions of mobile users who normally purchase content from their mobile phone.

The consulting firm **CSMG**<sup>51</sup> believes that the opening of the market will force service providers to:

- Seek options in terms of content and value-added services for all mobile segments.
- Promote new models of cooperation that benefit everyone involved in the market.
- Develop a go-to-market strategy for each type of content, service or application (in some cases, alliances with operators; in others, massive standardization; in others, solo launches).
- Identify new “emerging” devices and opportunities, in terms of the content and services they offer.

#### 3.4.5. Rising competition in mobile device manufacturing

The opening of the mobile market will involve new challenges for device makers, who will be forced to:

- Develop new models to boost sales and value-added services.
- Define their role in the value chain with greater precision: what applications and services are they going to focus on?

<sup>49</sup> Eroski:  
<http://www.eroski.es/es>.

<sup>50</sup> Lebara:  
<http://www.lebara-mobile.es/en>.

<sup>51</sup> *On the Edge: Devices at the Center of Change in Wireless*. CSMG. Spring 2008.

- Optimize the relationship between personalization of devices and cost effectiveness.
- Demonstrate a capacity to reach revenue-sharing agreements, similar to those promoted by **Apple** for the iPhone.
- Identify new business models that involve cooperating with operators and service providers.

### 3.5. Conclusions on the current situation of the mobile market

There are two facets to the mobile market: First, in developed societies, which are characterized by a high level of mobility, mobile devices will be increasingly important for citizens, who will demand more sophisticated services. Second, in emerging countries, where the number of subscriptions is increasing exponentially, the mobile phone represents an opportunity to improve their level of development.

In order to meet the demands of consumers and increase revenues, operators are making their models more flexible and therefore giving greater control to other agents, while opening up the market to new competitors. This opening will benefit everyone in the market and, in the final analysis, the consumers as well, as they will have greater freedom of choice of devices, services, service providers, etc. For that to happen, companies must adapt to the new landscape, which will be characterized by intensified competition with the entry of new competitors, and by the proliferation of cooperation agreements.