Wireless Services Evolution

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Abstract. This paper examines how mobile telephony services are changing the way people communicate, work, interact and make relationships with people all over the world. These changes aren't always to a better situation. In this paper, we will analyze the evolution that is taking place in the two more influenced and influential societies in this matter, the European and the Japanese, confronting their models and discovering that things are not like they seem or like they should be.

1 Introduction

The services of mobile telephony have been introducing in our societies for one decade and still they are, and we say "still" because they are in continuous evolution and it doesn't finish the installation of a version or type of service when the next one has just begun. For our societies, we refer to the societies of most of the countries (both developed and those called third world), since in countries with scarce resources, telephony networks of this type are implanting, contributing to a qualitative jump to their telecommunications and climbing of a blow many steps in the evolution of the communication networks.

However, among all the societies that are being influenced by the mobile telephony, we will only pay attention in those with more penetration index (population's percentage that uses the technology). These are the European and the Japanese, where the penetration indexes have reached the maximum levels and they are in the saturation level in which there is not near more subscribers to incorporate, only changes between companies.

In these two societies, we are watching for some years, since it was reached a penetration index of 50% more or less, a change of attitude, from a rejection of this new way of communication (we remember the times where you could not have mobile telephone on or at least, to receive a call was very impolite), to the acceptance and absolute incorporation in all the aspects of the life.

This acceptance is making people to modify their customs to adapt to the requirements of the mobile telephony since an important part of the users it is not willing to separate from its terminal in any moment neither carrying out any activity.

This situation of adaptation of the society to the telephony instead of the adaptation of the telephony to the society is in the root of some of the problems and existent lacks, as we will see next.

But before analyzing these problems, we will describe the two models of organization that take place in these two societies, reference mark for the rest, in a smaller development stage.

2 The European model

In this model, the fundamental characteristic is that the terminal makers set down the possibilities that will have the services offered by the operators through the models that they deliver to the market.

There is a clear example of this in 3G telephony technologies [1], which until some time ago terminals were hardly found, they were of very high range and, in consequence, of high prices, so almost nobody could afford them. This situation is changing, due mainly to the interest of the operators to promote the use of the services associated to the biggest band width supplied by 3G technology (UMTS). This interest allows to find UMTS terminals in the frontier of 100 Euros or, in the case of

some promotions, in the frontier of the 50 Euros. Due to previous shortage of terminals the 3G technology have not been able to develop their possibilities and it is only now when we will begin to see how the services associated to her (videocalling, video-streaming, etc).

Also, the European market that we take like as an unit groups the local markets of each one of the countries that have some common rules and a similar way of working and for that reason you can consider it like an unit. This is another of their important characteristics, the following of common, public and accessible rules for all.

From the point of view of the programming those ideas of use of common rules are followed; and the rules in Java programming model for small devices MIDP[1] have been adopted. The creation of applications using the language, very directly on the specific operating system of each terminal or over Symbian operating system, adopted by many makers, also has a room in this market. This option is more efficient and more powerful but of lower level and much less portable. Also, Symbian is not available in most of the terminals, only in those of more capacity.

The main characteristic in MIDP programming is that anyone can download for free from Sun website the specifications, the help and the tools to create its applications that can house in its own computer to make them available to the world in a web page (for navigators Wap) or download to its terminal by a cable or through the web page.

In summary we can say that:
− Mobile makers are free to create the terminal models that they want whenever they complete the minimum requirements that allow to use them in the existing networks.
− The operators are free to offer the services that determine, for those that there will be or not terminals and they will be able to be created on or not later.
− The users or application authors will be able to create their own applications without limitations and without special costs neither restrictions beyond that they use existing networks and terminals specifications.

3   The Japanese model

The society that supports this model of organization of telecommunications has some characteristics very different from the European one. It is a very interested population in the technological advances; they demand, accept and use the possibilities that the technology brings, integrating it in its customs, with a result of curious mixture of tradition and modernity, having the tradition as a rule but using the technology like tool.

In this society, the evolution of the telecommunications is leaded by NTT, the private company result of the public company of telecommunications privatization. Talking about wireless communications NTT DoCoMo [3], branch of NTT, is the one

that monopolizes most of the market, although it is followed closely by other companies like KDDI [4] and Vodafone KK [5].

The terminals that are manufactured for this market, should follow the specifications stressed by the company NTT DoCoMo, so there is scarce freedom in the manufacturers about developing new terminals. Also, there are less companies manufacturing than in Europe.

On the other hand, the contents, applications and available services, are very varied and interesting, many of them based on the localization and the use of maps (geo-referenced services). The available terminals have some very superior characteristics to the available ones in Europe and with prices much lower. Additionally, they evolve in a faster way and their adaptation speed to new services is much faster.

4 Advantages and disadvantages

From the point of view of terminal makers and content developers (applications, services, etc.), the Japanese model could be qualified as "more comfortable". The strict guidelines that the main operator (NTT DoCoMo) establishes make developments more uniform and save efforts in multiple adaptations to different mobile phone configurations (with different types of screens, in colour or black and white, different transmission technologies, etc.). This business model is succeeding in Japan and, from there, recently has been exported to the main European countries: Holland, Germany and Belgium (KPN Mobile N.V.), France (Bouygues Telecom CORP.), Spain (Telefónica Móviles Spain), Italy (Wind Telecomunicazioni S.p.A) and Greece (COSMOTE Mobile Telecommunications S.A.). Probably, it is still too soon to evaluate results, although we can affirm for sure that the explosive success of Japan, it is not taking place in Europe.

In the European case we have the opposite situation. The absence of strict behaviour patterns and the existence of low level standard that restrict the minimum necessary encourages new developments, but in a way that we could qualify as chaotic. In few cases it is possible to ensure the software uniformity and the developments require of a number of adaptations if they seek to cover the great diversity of configurations of existing terminals.

This is the focus from the point of view of the development of the business of operators and terminal makers, but the user, the last link of this chain, is the part who has less to say in both models.

In the Japanese model, this user enjoys the access to thousands of Internet sites (89.000 in March 2005) with suppliers that offer services and contents, but the uniformity in the equipments slow down the evolution of new services and the operator and the services success is due to a market formed by very interested users in technology who consume this products with avidity and that, seemingly, will continue feeding this market although it doesn't adapt to them..

In the European model, there are thousands of combinations for terminal configuration (types of screens, memory sizes, connectivity options, etc.) the freedom is apparently bigger and the social demand goes in this way, but the user continues

without having voice (although vote, as it has been seen in the current failure of the of the Japanese model establishment) since the freedom is applied in more grade to interest of makers and operators.

5 Conclusion

These reflections take us to two conclusions. First one is that, in the last years, the telecommunications companies have modified substantially the very fabric of society in the countries with more penetration index, changing lot of habits that have been adapted to the necessities of this communication type. This can be summarized in that the companies develop services and after that, by means of publicity, they promote the necessity of use of these services in the users. In a near future this will continue for the same road although in a slower way because of certain resistance which is starting to the new services, more and more complex and directed to smaller groups of people, and therefore, with smaller effect on the population's group.

The second is that this trend can end up being reversed if an important population's segment is separated more from the operator proposals and it outlines another type of solutions or services as necessary, having these services to be accepted by companies and changing the development of the services order, beginning the creation with a social necessity, so there is a business later. This new order of business will need an answer from the manufacturing and services companies.

References

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