Mobile Internet in Agriculture (Hajdú-Bihar county) Survery

Róbert Szilágyi[1],Miklós Herdon[1]

[1] University of Debrecen Centre of Agricultral Sciences,
4032 Debrecen Böszörményi str. 138 UD

Abstract. For the purpose of analyzing mobile Internet user expectations we have gone through a series of structured interviews. There are two parts of this analysis: we have talked with experts and farmers. In this paper we present the results of the survey conducted in July and August 2006, based on interviews with the experts. Experts are more or less aware of the technology (and related services) but neither at the workplace, nor at home do they use it. Some progress can be seen, but it is slow and in many areas (for example having an own website, keeping touch through Internet) there is much to learn and advance.

Keywords. Mobile Internet, survey

Driving forces for m-communication

At present the mobile communication is driven by different factors [1]: Firstly, there are social development trends. M-commerce is an application of the Evernet idea, the possibility to be able to communicate privately or for business anytime and anywhere. While traditional communications services address all social layers, the future will bring a growing fragmentation of the market and customer segments.

Secondly, there are transmission technology-related driving factors. Not only will we experience voice transmission of a quality comparable to a fixed line, we will also have mobile access to Internet and to other Internet Protocol (IP)-based services and applications.

Thirdly, there are economic drivers. Positive network externalities, attractive content, low costs and reasonable prices of the mobile services, substitution possibilities and other factors are contributing substantially to the market growth. Fixed-line connections are substituted through mobile connections to an extent indicated by the price of UMTS services, the capacities of the UMTS net and the UMTS penetration rate. It is also expected that the mobile telephone suppliers adopting ''penetration pricing'' will stimulate a stronger substitution effect. Based on these driving forces, we expect the mobile environment to be the next market attracting the attention of a large number of diverse and global players. (Figure 1.)

Mobile Internet Survey

For the purpose of analyzing mobile Internet user expectations we have gone through a series of structured interviews. There are two parts of this analysis: we have talked with experts and farmers. In this paper we present the results of the survey conducted in July and August 2006, based on interviews with the experts. We have tried to contact 400 experts based on the e-mail address list in Nemzeti Vidékfejlesztési Terv. 87 of them replied to our query. Breakdown of these 87 experts by location: Northern Hungary 12%, Middle Hungary 5%, Western Transdanubia 11%, Southern Transdanubia 4%, Southern part of the Great Plain 16%, Northern part of the Great Plain 45%, Middle Transdanubia 7%.

The questionnaire consisted of 11 questions grouped into 3 main sections. At the beginning of the questionnaire there are some questions relating to the scope of activity and location. In the first section there are 7 questions about technologies used, the second section examines possibilities of mobile Internet usage and the third section is about mobile Internet services and applications.
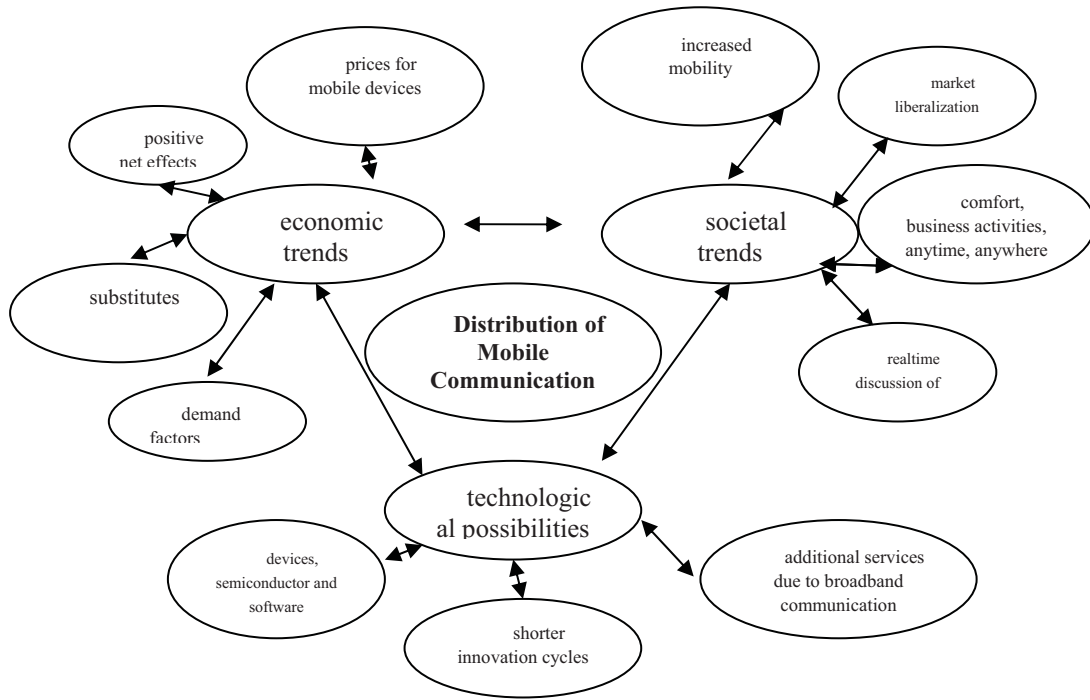
Figure 1. Drivers for mobile communication

Using the answers given to questions related to distribution of used technological appliances we have created Figure 2.
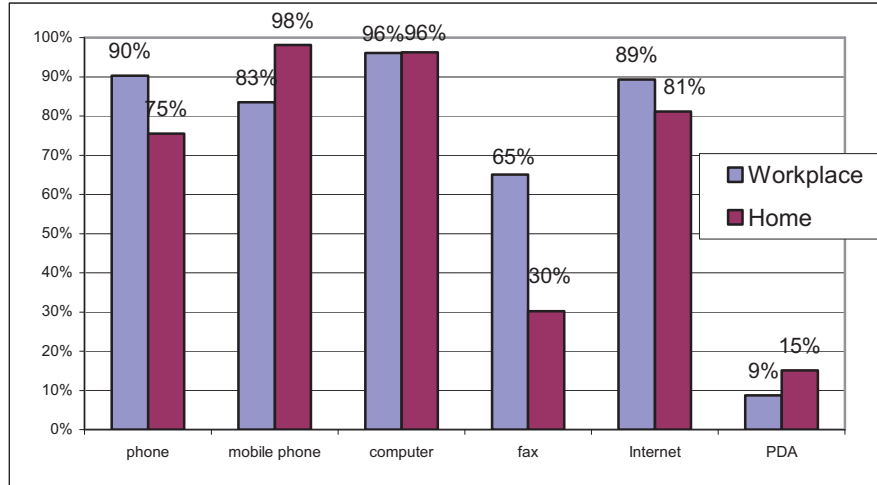

Figure 2. Supply of communication appliances among experts

During the examination we have analysed supply of communication appliances at home and at the workplace separately. As you can see almost all experts have at least one mobile phone and a computer and 80% of them has Internet connection either at home or at the workplace. One out of ten experts has a PDA at the workplace (15% at home).

Technologies used for connection to the Internet and distribution of services is presented on Figure 3.
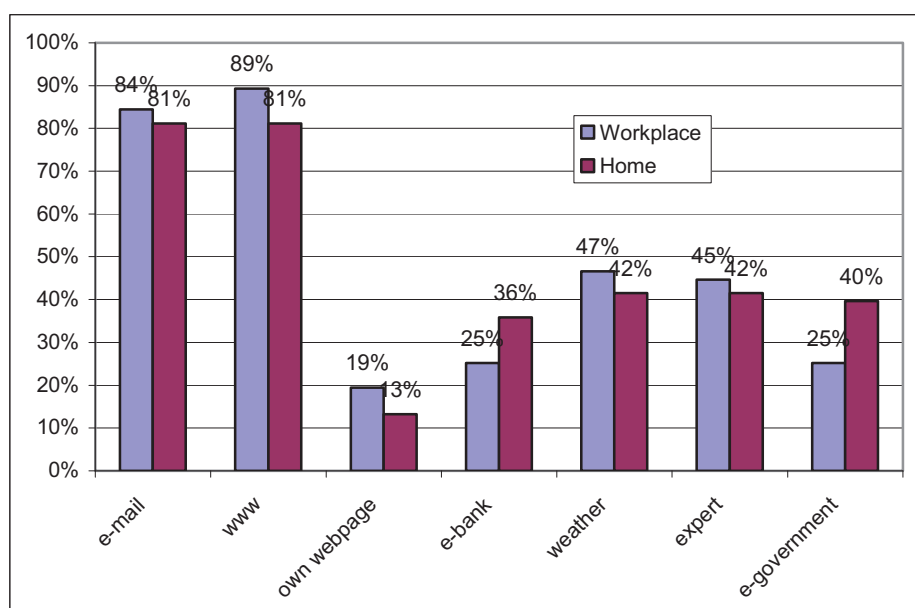
Figure 3. Technologies and services used by experts

Looking at Figure 3 it is clear that e-mail and surfing the web are the most widely used services (both are used by about 80% of the questionees). Because of the special nature of agriculture it is understandable that almost half of the group searches for weather data either at home or during work (42% and 47% respectively). Every fifth of them owns a web site or uses e-bank. They deal with issues regarding e-government typically at home (40%, as opposed to about 25% at the workplace). In general almost every other expert uses Internet (42% and 45%).

Most of them is aware of mobile Internet (67%) but only 23% uses it. 77% uses SMS. WAP is used by about 18% which corresponds to the Hungarian average. On the other hand 12% using M-Bank is probably higher than the Hungarian average. The cause of low WAP usage probably can be found in the scarce content of WAP services. 47% of experts use mobile phone services listed above during the course of their work.

Examining the reasons mentioned by those who do not use mobile Internet we can see that the most important factor here is (as expected) money. 37% do not use it because it is too expensive for them. Having too little information and trust in the technology are two other main factors (16% and 7% respectively). If these factors weren't present about 70% would use mobile Internet according to the results. (We have a bit of doubt here however. It doesn't seem probable that if the costs were to drop considerably every 7 out of 10 expert would have mobile Internet connection.)

We examined the possibilities granted by mobile Internet with the second group of questions. Figure 4. shows the results.
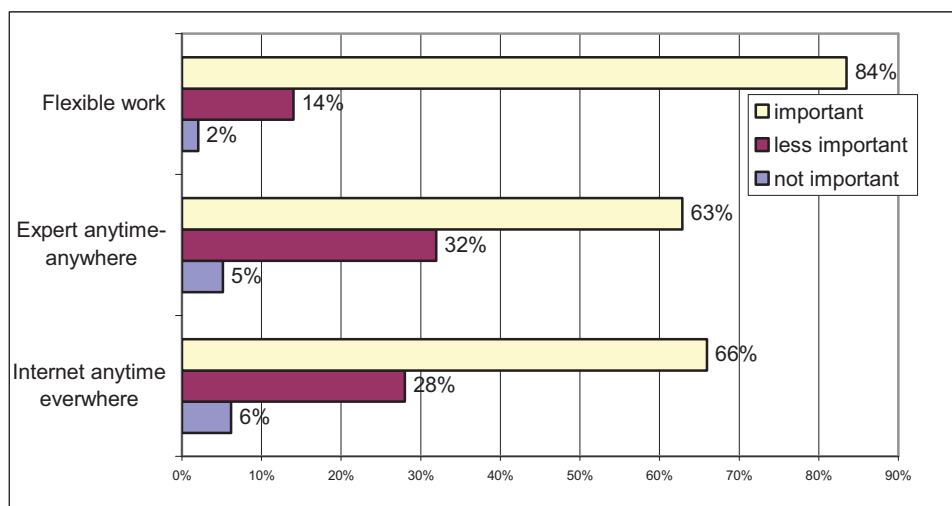
Figure 4. Possibilities granted by mobile Internet

As you can see 84% of all questionees regarded possibilities of mobile Internet important in the field of flexible work arrangements (14% thought it was not so important, and only 2% said it was not important at all).

Reaching the help of experts anytime, anywhere is considered important by 63%, almost 1/3 of them said it was less important (32%).

Reaching Internet anytime anywhere is deemed important by 2/3 of them. Looking at the results it seems that experts who know what it is are apparently aware of the possibilities this technology has to offer. At the same time there are about 2-6% who said that mobile Internet is not important but this could be the consequence of the fact that 33% of all experts interviewed does not even know what mobile Internet is. On several occasions they have asked us to define mobile Internet before answering (but even those, who are not so well acquainted with the technology itself are able to see what possibilities it has). The third section of questions is related to mobile Internet applications and services.

Getting information and e-government is important int he eyes of the experts as the result show (both at 53%). We think it is welcome news that precision farming (33%) and food safety (35%) are getting more significant (and so do environment monitoring and e-learning – 37% and 33% respectively).

Conclusion

We think that this survey sums up the situation of mobile Internet in agriculture. Experts are more or less aware of the technology (and related services) but neither at the workplace, nor at home do they use it. Some progress can be seen, but it is slow and in many areas (for example having an own website, keeping touch through Internet) there is much to learn and advance.

References

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