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Mobile Commerce: Insights from Expert Surveys in Austria and Finland

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Abstract

Mobile commerce is a unique distribution channel based on the changing role of mobile devices from purely communicational to transactional. For some years there have been high expectations on mobile commerce and several forecasts predict significant revenue growth in the next few years as mobile devices and services will more efficiently support personalized and time-critical activities for consumers and companies alike. So far the adoption of new mobile services has been much slower than predicted. The technology innovations, the functionality of new mobile services and the end user needs of new services appear to be out of phase, as the network operators decided to use a supply (or “push”) approach instead of using a slower (but probably better) demand-driven (or “pull”) approach.

Based on our empirical evidence from surveys carried out in 2002 and 2003, we can emphasize that the lack of real-value added mobile applications is one of the most critical barriers to the adoption of mobile commerce in Austria and Finland. We found that the

experts from the two countries - markets being quite similar - had noticeably different views of the key issues of mobile commerce.

1. Introduction

Mobile commerce (mCommerce) represents an innovative way to build customer value and a new, unique distribution channel for digital products and services. Mobility translates to new opportunities, to freedom that consecutively creates choice and value. Mobility offers much more than convenience as it may revolutionize the way companies work, buy, sell and collaborate. Regardless of the fact that e-commerce has not reached the explosive growth figures which were commonly, yet unrealistically, predicted in the mid-1990s, scholars and industry representatives are now turning their attention towards the promise of electronic wireless media, envisaging that the next - or the real phase of e-commerce growth will be in the area of mobile commerce (see e.g. Hampe et al., 2000; Varshney et al., 2000; Kalakota and Robinson, 2002; Varshney and Vetter, 2001, 2002; Barnes, 2002, 2003; Li, 2002; UMTS Forum 2003, 2005; Alahuhta et al. 2005). However, the rate of growth of the mobile technology and the emergence of new ways of thinking have kept the domain dynamic and much less understood than more traditional forms of eCommerce. In this regard, much remains to be learned. Vendor and consumer preferences change over the years, both in terms of perception and reality, as does the general competitive climate. Further, the various mCommerce stakeholders' expectations and actions are interdependent, given the inherent complexity of the mCommerce domain.

Austria and Finland are both especially interesting environments in which to study mCommerce. Both are small countries with a population of 8.1 and 5.2 million, respectively. Almost 90% of the Austrian population had a mobile subscription in 2003, whereas in Finland the corresponding number was over 90% (Eurostat, 2005). The telecommunications infrastructures in both countries are advanced; 3G services were made available to the Austrian consumers in 2003 and a year later to their Finnish counterparts. Despite the fact that the consumers in both countries have a wide selection of mobile services available, they mainly use their devices for making phone calls and sending text messages (SMS, short message service). Nevertheless, both Austrian and Finnish consumers have recently shown a visibly growing interest towards the more advanced mobile services, and thus augmented the demand for newer mobile devices with the latest technology. In Austria, consumers receive a standard mobile phone free of charge or a more advanced handset with a reduced price when acquiring a new mobile subscription. The bundling of devices and mobile subscriptions gives an advantage to Austrian consumers, since the start-up costs have been removed or significantly reduced. Therefore, the threshold for acquiring and adopting (new) mobile technologies and services may be lower in Austria than in Finland. In Finland consumers have to purchase both mobile devices and mobile subscriptions, which means that the penetration rates of more advanced mobile devices and the latest technology are likely to be less than the corresponding Austrian penetration rate. However, the Finnish consumers have one major benefit: they pay less for their mobile phone calls and text messages than the Austrian consumers. In 2003 the monthly fee for 150 minutes worth of calling time together with 25 text messages (i.e. SMS, Short Message Service) was € 31.09 in Finland, and € 46.33 in Austria (Ministry of Transportation and Communications Finland, 2004).

In this paper, we will examine changes among experts in perceptions over a period of two years with regard to mCommerce products and services. We look especially at trends (both positive and negative) as well as "turnarounds"; e.g., situations where initially positive perceptions were subsequently dashed but then re-emerged in light of advances

in technology and applications. Finally, we will make some conclusions based on our findings.

2. Expert Surveys in Austria and in Finland

Finland has been mentioned as a forerunner in the use of mobile technology in several studies (cf. for instance Keen and Mackintosh, 2001) which is why we have asked Finnish experts to give their view of the mobile commerce markets. Austria was chosen based on its geographical location and its focus on advanced technology as an industrial driver, which made a comparison between the experts' opinions in the two countries both possible and interesting

ec3 regularly organises mobile business workshops, usually twice a year. The first workshop in this series took place in November 2002 on the occasion of the first Austrian MB-net meeting¹ (cf. MB-net Consortium, 2003; Denk and Wiesbauer, 2004; Wiesbauer, 2004). Austrian mobile business experts from research (universities and other public research institutions), politics and business (including, for instance, the major mobile telecommunication providers as well as rather small mobile service suppliers), are partly members of MB-net and thus participate in these workshops.

The expert surveys in Austria and Finland were carried out in 2002 and 2003. The primary goal was to get insights into the actual status of mCommerce and its progress in Austria and Finland. The target groups were set to include 50 industry experts and decision makers from companies that were offering m-commerce products/services; the target groups also included managers of companies providing consulting, financing and/or infrastructure in the area of mCommerce since they were seen to have sufficient expertise and knowledge. In addition, researchers were included in the list of experts in Austria. Collectively the two target groups represent a valid and interesting sample for study as they are (or should be) in continuous touch with the mCommerce market.

The Finnish expert surveys were carried out with web questionnaires; in Austria both paper and online questionnaires were used. The potential respondents were contacted via e-mail and/or by phone, and in the case of Austria also in face-to-face meetings. In order to increase the response rate and as a token of appreciation, summary reports of the results were made available for the respondents.

As table 1 illustrates, the questionnaires were divided in 3 consecutive parts: (i) general acceptance of mCommerce; (ii) mCommerce and companies; (iii) information about the company taking part in the survey.

¹ MB-net, a thematic network funded by the European Commission, investigates business and commercial prospects of mobile applications and services, to highlight the topics on which international research should focus during the next years.

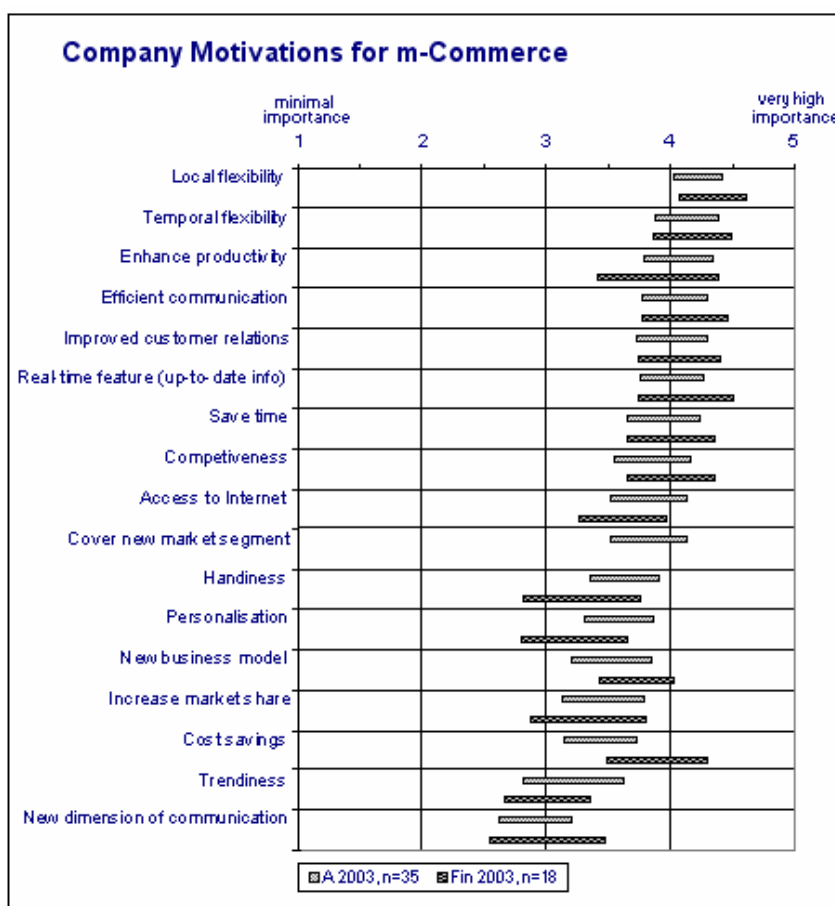
Table 1: Structure of the expert survey questionnaires in 2002 and 2003

EXPERT SURVEY 2002	EXPERT SURVEY 2003*
1 General acceptance of mCommerce in Austria / Finland	1 General acceptance of mCommerce in Austria / Finland
Barriers to rapid mCommerce diffusion Potentially successful mCommerce products /services Usage behaviour of mCommerce customers mCommerce pricing models mCommerce advertising models	Barriers to rapid mCommerce diffusion (for consumers) Usage behaviour of mCommerce customers Potentially successful mCommerce products /services mCommerce pricing models mCommerce advertising models
2 mCommerce and companies in Austria / Finland	2 mCommerce and companies in Austria / Finland
Competitiveness of Austrian / Finnish mCommerce companies Development of mCommerce revenues in B2C and B2B markets Potential forerunners in mCommerce usage Share of e- and mCommerce revenues in companies' total revenues	Barriers to rapid mCommerce diffusion (for companies) Usage behaviour of mCommerce companies Competitiveness of Austrian / Finnish mCommerce companies Development of mCommerce revenues in B2C and B2B markets Potential forerunners in mCommerce usage Share of e- and mCommerce revenues in companies' total revenues
3 Information about the company taking part in the survey	3 Information about the company taking part in the survey
Involvement in mCommerce Engagement in mCommerce (in years) mCommerce product / service portfolio mCommerce revenues Potential "killer applications" Annual revenue Company specific information Comments	Involvement in mCommerce Engagement in mCommerce (in years) mCommerce revenues mCommerce product / service portfolio Potential "killer applications" Annual revenue Company specific information Comments * A very similar structure was used for the 2002 survey in Austria

3. Company-Related Aspects

In 2002, 27 Austrian and 25 Finnish experts participated in the surveys. In Austria more than 50% were mCommerce researchers and/or consultants, ten of 27 came from companies providing mobile products and services. In Finland nearly 75% were providers of m-products and -services. In 2003, there were 36 respondents in Austria and 18 in Finland; most of the Finnish experts came from m-service or -product providers; 25% of the Austrian experts in 2003 were researchers, most of the remaining 75% were providers of mobile products and services.

Figure 1: Motivations for companies to move into mCommerce in Austria and Finland in 2003 (95% confidence intervals of expert ratings)



Asked to assess potential motivations of companies to move into mobile commerce, the Austrian experts ranked the improvement of customer orientation and the possibility to work in the new market segment as most important in 2002. Financial aspects (high start-up costs and insufficient financial resources), uncertainties about future opportunities and benefits together with a lack of perceived commercial profit were judged as the largest barriers to the adoption of m-commerce by companies. As opposed to that, rather general aspects, like political/legal barriers or insufficient confidence in the regulatory environment, were classified more or less unimportant. In 2003, the lists of potential motivations and barriers were modified and also presented to the Finnish experts. Regarding the motivations (figure 1 on page 4), local and temporal flexibility as well as

more efficient and effective communication headed the table in both countries. The new dimensions of communication and being trendy/up-to-date were regarded as the least important benefits for consumers.

With respect to mCommerce barriers, experts did not agree. Again, Austrian experts put high start-up costs and operating costs on top of the list. Slow data connections and the poor coverage of telecommunication networks were among the largest barriers. In Finland, these items got average scores; the poor network coverage was even regarded least critical. Limited financial resources and the lack of trust in mobile products and services were considered crucial, instead. In general, aspects concerning network operators, such as financial problems or neglected campaign promises as well as concerns about the company's image were deemed least relevant.

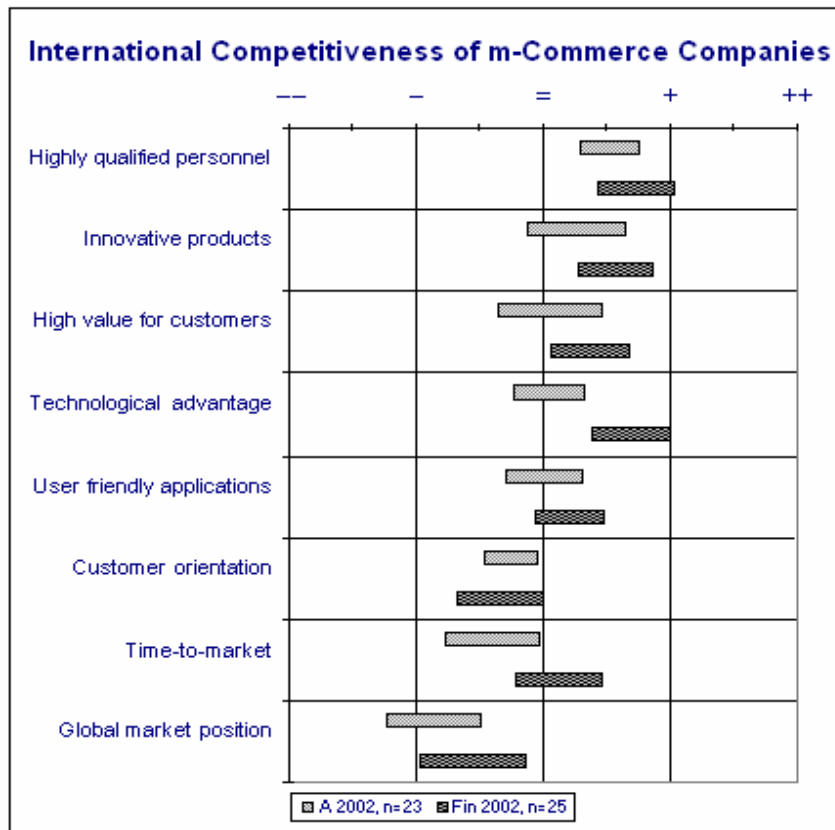


Figure 2: International competitiveness of Austrian and Finnish mCommerce companies in 2002 (95% confidence intervals of expert ratings)

Thus, what is the business case for mCommerce and how could companies be supported which want to or are already moving into the mCommerce market? Several explanations are plausible as many of the company motivations were seen as having rather a high importance in both countries. There were only slight differences between the rankings of the motivations. In Austria, the provision of venture capital and support for business models and inter-operable ICT-solutions were on the top of the list in 2002, whereas the further liberalisation of the telecommunication market and a stable legal framework were ranked higher as financial support lost importance in 2003. Finnish experts attached the highest importance to an increased usage of mobile technologies by governments.

Comparing domestic mCommerce companies to international competitors (figure 2), the

Finnish experts generally assigned better marks to Finnish companies than the Austrian experts assigned to Austrian companies. Concerning technological advantage there was a significant difference: Finnish companies were estimated higher. Nevertheless, Austrian companies do not have to hide. In more than half of the comparison dimensions, they were evaluated being as good as or even better than their international competitors. Companies from both countries were deemed to have a global market position below average. Evaluations were nearly the same in 2002 and 2003.

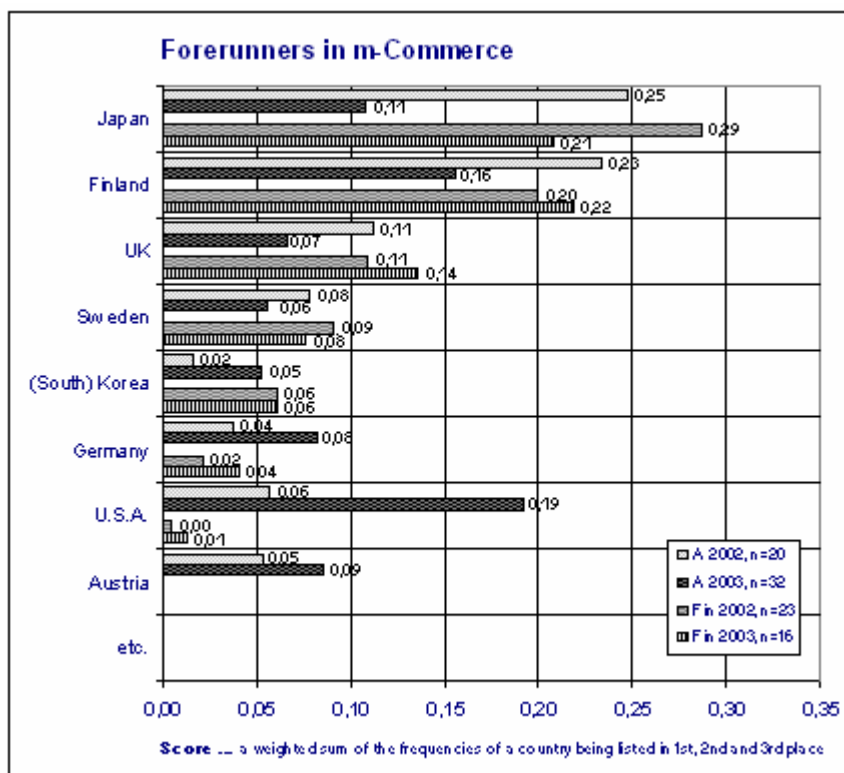


Figure 3: Forerunner countries in mCommerce according to Austrian and Finnish experts in 2002 and 2003

With respect to mCommerce forerunners (figure 3), the results showed similarities in both countries and in both years, at least regarding the top four mCommerce countries. With a relative advantage, Japan and Finland lay in front, while UK and Sweden came third and fourth. In addition, the Austrian experts named the U.S.A. and the German-speaking countries, which were not that popular among Finnish experts. The Austrian 2003 survey was different: the U.S.A. jumped from the fifth place to the top.

4. Consumer-Related Aspects

Similar to the main motivations for companies to move into mCommerce, the experts stated in all four surveys that the main motivations for consumers to use mobile products and services were temporal and local (figure 4). The availability of up-to-date information, time saving and increased productivity were also considered as important motivators. "Killing" time, aspects of improving one's social status and being trendy were

deemed rather unimportant. In contrast to their Finnish colleagues, the Austrian experts also highly valued the availability of personalised information services, the possibility to save costs by using mobile commerce and the handiness of mobile devices. The real-time feature of mCommerce was among the top three motivations in the Finnish survey. The experts' ratings were also different concerning fun and entertainment; the Finnish respondents rated them more important than their Austrian colleagues.

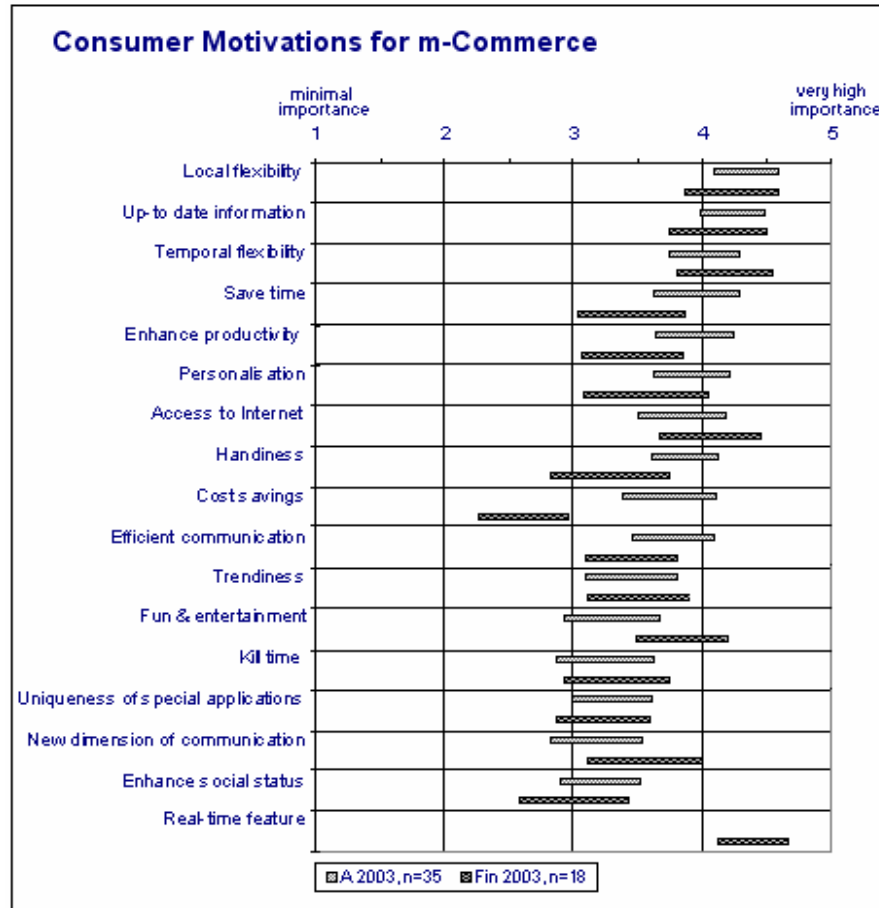


Figure 4: Motivations for consumers to use mCommerce in Austria and Finland in 2003 (95% confidence intervals of expert ratings)

All experts agreed that one of the most critical barriers to the adoption of mobile commerce in the next 18 months was the lack of mobile applications with real user value. They also agreed that the coverage of mobile networks and the capacity of mobile services had reached a sufficient level. However, while high initial and operating costs were seen as large barriers in Austria, the Finnish respondents saw the complexity of services as an important barrier. In turn, the Austrian experts rated service complexity as average; the Finnish experts rated the financial arguments as average. In 2003, slow data connections and data transfer rates also were among the main barriers.

Combining the evaluations of barriers for companies to enter the mobile market and for the acceptance of mCommerce by consumers, financial aspects, slow data connections, poor coverage of telecommunication networks as well as general doubts of the value adding aspects of mobile commerce were seen as obstacles.

The evaluation of consumer preferences for particular pricing and advertising strategies yielded a quite homogeneous picture. When asked about pricing models, the experts gave the best marks to flat rates and free services through the integration of advertising. Nevertheless, all proposed models were considered acceptable for consumers. The advantage of flat rates was even greater in the 2003 round of surveys. Similarly, all four suggested forms of advertising were deemed acceptable; yet, only requested advertisement was clearly on the top of the list. Location-based and personalised services were, again, attributed much higher values by the Austrian experts than by their Finnish colleagues.

When we examine the mobile commerce services the experts rated as most popular among consumers, the results are very similar in both countries. In 2002 the Austrian respondents rated location-based services, and communication (SMS, mobile email and MMS) and entertainment (games, lotto & betting, ring tones & icons and ticketing) services as the most profitable. Also in Finland, the experts predicted that SMS, MMS and mobile email will be most lucrative among consumers. In addition, also in Finland entertainment services, especially games, ring tones and icons were expected to be profitable.

In the 2003 survey round the Austrian experts rated entertainment services, in particular adult content, as best-selling among Austrian consumers. Also communication services (SMS, mobile email) and small payments were estimated to become successful. Their Finnish counterparts listed SMS as a winning mCommerce service; in second phase were the entertainment services (games, ring tones, logos and icons) and small payments.

5. Conclusions

When we compare Austria and Finland in terms of the use of mobile technology, the countries form quite similar markets for mobile commerce: (i) mobile networks are highly advanced with a high coverage (in Austria 98.7% coverage by A1² [Mobilkom Austria]; in Finland 99.0% by Sonera³ [TeliaSonera]); (ii) consumers have access to 3G services; and (iii) there is a growing industry for mobile technology applications.

Still the experts' opinions differed. In 2003 the Austrian experts regarded high start-up costs (initial and operating costs) as the main barriers for companies to adopt mCommerce, whereas in Finland, the experts pointed to the lack of financial resources and the lack of trust in mobile commerce services as the main barriers.

The bundling of mobile subscriptions and devices has lately been one of the hot topics in Finland. Currently the mobile network operators in Finland are not allowed to give consumers a mobile phone free of charge, but a DVD player or a stereo system is acceptable. The managing director of Elisa Communications, Veli-Matti Mattila, recently stated that the prohibition to bundle mobile phones and subscriptions is a major obstacle in the Finnish market for mobile services and is the main reason for the slow adoption of new mobile technology among Finnish consumers and also a reason for the slow growth of the use of advanced mobile services (Anttila, 2005). By changing the current legislation and allowing the consumers to get a complimentary mobile phone the tide will probably turn and the demand for mobile services will start to grow. This is an interesting statement, because the empirical consumer studies we have carried out in 2002-2004 in Finland show that the consumers have found the main barriers to be (i) high initial and operating costs and (ii) the limited capacity of mobile phones. The complexity involved

² Market leader in Austria (Economist Intelligence Unit, 2005)

³ Market leader in Finland (Economist Intelligence Unit, 2005)

in operating mobile devices or services was not considered to be an important barrier. Thus Mr. Mattila may be correct in his assessment.

References

- Alahuhta, P., Ahola, J., Hakala, H., (2005): Mobilizing Business Applications, Technology Review 167, Tekes, Helsinki. Retrieved February 7, 2005, from: www.tekes.fi/julkaisut/Mobilizing.pdf
- Anttila, T.J., (2005): Elisa: Kyttykauppa vapaaksi (Elisa: Free bundling), Ilta-Sanomat, February 12, 2005, Helsinki.
- Barnes, S.J., (2002): The Mobile Commerce Value Chain: Analysis and Future Developments, International Journal of Information Management, Vol. 22, No. 2, pp. 91-108.
- Barnes, S.J., (2003): The Wireless Application Protocol as a Platform for Mobile Services, "Mbusiness. The Strategic Implications of Wireless Communications", Elsevier, Amsterdam.
- Denk, M., Wiesbauer, B., (2004): "M-Commerce Expert Survey: Comparison of Austrian Results 2002 and 2003 and International Comparison", ec3 final report wp4ec3NetWorks3_br9, in German.
- Economist Intelligence Unit, (2005): Executive Briefing: Austria, Telecoms and Technology background. Retrieved February 1, 2005, from: http://eb.eiu.com/index.asp?layout=oneclick&country_id=1670000167#21
- Economist Intelligence Unit, (2005): Executive Briefing: Finland, Telecoms and Technology Background. Retrieved February 1, 2005, from: http://eb.eiu.com/index.asp?layout=oneclick&country_id=1340000134#21
- EuroStat, (2005): Telecommunications in the EU, News Release. Retrieved February 7, 2005, from: http://epp.eurostat.cec.eu.int/pls/portal/docs/page/pgp_prd_cat_prerel/pge_cat_prerel_year_2005/pge_cat_prerel_year_2005_month_02/4-07022005-en-ap.pdf
- Hampe, J. F., Swatman, P. M. C., Swatman, P. A., (2000): "Mobile Electronic Commerce: Reintermediation in the Payment System", Proceedings of the 13th Bled Electronic Commerce Conference, June 19-21, 2000, Bled, Slovenia.
- Kalakota, R., Robinson, M., (2002): "M-Business. The Race to Mobility," McGraw-Hill, New York.
- Keen, P., Mackintosh, R., (2001): "The Freedom Economy: Gaining the M-commerce Edge in the Era of the Wireless Internet," Osborne/McGraw-Hill, Berkeley.
- Li, V.K., (2002): "Global M-commerce - Business Opportunities for Wireless Data Services", World Market Series Business Briefings: Wireless Technology 2002, World Markets Research Centre, pp. 123-126.
- MB-net Consortium, (2003): MB-net - A Network of Excellence on m-Business Applications and Services, (Project # IST-2001-39164), Austria. Last visited June 6, 2003, at: <http://www.mbnnet-forum.org/>.
- Ministry of Transportation and Communications Finland, (2004): Matkapuheluhinnat 2004. Kansainvälinen vertailu (Prices of Mobile Calls in 2004. International comparison), Helsinki. Retrieved February 1, 2005, from: http://www.mintc.fi/oliver/upl774-41_2004.pdf, in Finnish.

- UMTS Forum, (2003): Mobile Evolution: Shaping the Future, <http://www.umts-forum.org>.
- UMTS Forum, (2005): 3G/UMTS Deployments, <http://www.umts-forum.org>.
- Varshney, U., Vetter, R.J., (2001): "A Framework for the Emerging Mobile Commerce Applications", Proceedings of the 34th Hawaiian International Conference on System Sciences (HICSS-34), Maui, USA, January 3-6, 2001, IEEE Computer Society Press, Los Alamitos, CA.
- Varshney, U., Vetter, R.J., (2002): Mobile Commerce: Framework, Applications and Networking Support, Mobile Networks and Applications, No. 7, pp. 183-198.
- Varshney, U., Vetter R.J., Kalakota R., (2000): Mobile Commerce: A New Frontier, IEEE Computer, Vol. 33, No. 10, pp. 32-38.
- Wiesbauer, B., (2004): "Analysis of Expert Opinions on the Situation and Future Trends of Mobile Commerce", Diploma thesis, University of Vienna & ec3, Vienna, in German.