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Mobile Services Revisited: an Analysis of ICMB 2006

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Abstract

This paper analyzes the 44 papers included in the proceedings of the 5th ICMB conference in Copenhagen 2006. The purpose of the paper was to investigate to what extent the conference fulfilled its objectives which was to compare previous expectations with present realities along the following four areas: (1) business models, (2) the influence of m-business on private and work life, (3) the impact of regulation, and (4) the re-composition of the value network. In the analysis we apply the well-known framework by Lyytinen and Yoo for studying nomadic computing. In addition to this we also classify the papers in relation to type of artifact investigated, application area, and research methodology. The analysis show that the main focus lay on the use and adoption of mobile services – over 60% of the papers address. Few papers address the impact of service on any level of analysis. Business model is a recurring topic in 17 of the papers. There is lack in theorizing of the artifact, e.g. many just study mobile devices, but do not describe what type they study.

1. Introduction

The mobile phone is one of the greatest innovations of modern time. It is the fourth item to be carried by mankind in addition to the wallet, the watch and keys (Constantiou, Damsgaard, & Knutsen, 2006). Whereas the former three have fought vigorously for centuries for their lucrative position the mobile phone has claimed victory in just a decade and a half. The mobile phone has become a ubiquitous part of us and many think of the mobile phone as a true extension of themselves (Kruse, Ström Carlsson, & Ericsson Consumer and Enterprise Lab, 2003).

Whereas voice and basic services such as text messages (SMS) have been embraced expeditious other more advanced mobile services has been much less successful to the surprise and frustration of many, including actors in the telecommunication industry and researchers (Constantiou et al., 2006). Numerous times has the mobile service revolution been proclaimed to be just around the corner, e.g. Lyytinen and Yoo (2002) forecasted the amount of data transfer via wireless connection will be 200 Megabytes per user in 2006 something that was very far from true. It is fair to state that it is not exactly clear why the promise of mobile services has not materialized. Some claim that it is the low data communication speed (Kumar, Shailaja, Kavitha, & Saxena, 2006), others the poor quality of the services (McMahon & Steketee, 2006; Steinert, 2006) whereas others point to antiquated and static business models in the telecommunication sector (Coursaris, Hassanein, & Head, 2006; Saugstrup & Henten, 2006; Thestrup, Sørensen, & De Bona, 2006) or poor revenue sharing along the value chain (Ballon & Bossuyt, 2006; Henri & Aurélie, 2006) are the main culprits.

In 2006 the theme of the fifth International Conference on Mobile Business was mobile services revisited. The underlying assumption was that in 2006 m-business would have evolved to a degree where predictions about the future would have passed and we would have witnessed the full impact of m-business. The conference was therefore dedicated to comparing previous expectations with the realities. The comparisons could take place in the following areas:

- business models,

- the influence of m-business on private and work life,
- the impact of regulation,
- and in the re-composition of the value network.

The goal was to revise previous understanding and generate insights about the fundamental factors that guide the evolution of m-business. So, the purpose of this paper is to evaluate the 5th ICMB conference whether it reached its goals and fulfilled its promises. To accomplish our aim we provided a systematic investigation of the papers published in the proceedings of ICMB 2006. The main research questions are: What were the topics and research issues? What were the levels of analysis? What methodologies were applied? What were the artifacts of focus and the application areas? With the analysis we provide a map of the research into mobile business.

The remainder of this paper is organized as follows. In the next section we present our main analytical tool for the investigation. In section three we describe and justify our research approach (literature analysis) and present some descriptive data. Our analyses are provided in section four. Section five discusses our findings and we make some conclusions. We also report some untapped research issues that are worth pursuing for researchers in this field.

2. Framework for the analysis

To guide our analysis of the proceedings we use the well-cited holistic framework of Lyytinen and Yoo (2002) that incorporates 8 research themes and 20 research issues that researchers must address if they wish to fully comprehend and provide advice to the fundamental changes we witness in the area of nomadic computing.

There are three drivers of change in nomadic computing (Lyytinen & Yoo, 2002). They are convergence, mobility and mass scale. They all evolve around an infrastructure layer and a service layer. Figure 1 depicts the drivers of nomadic computing environments. The drivers are interdependent, but yet distinct in the sense that they each individually can contribute to the innovation of both services and infrastructure. But when simultaneously working together the contribution becomes larger than just the sum of the drivers separately (Lyytinen & Yoo, 2002, p. 378).

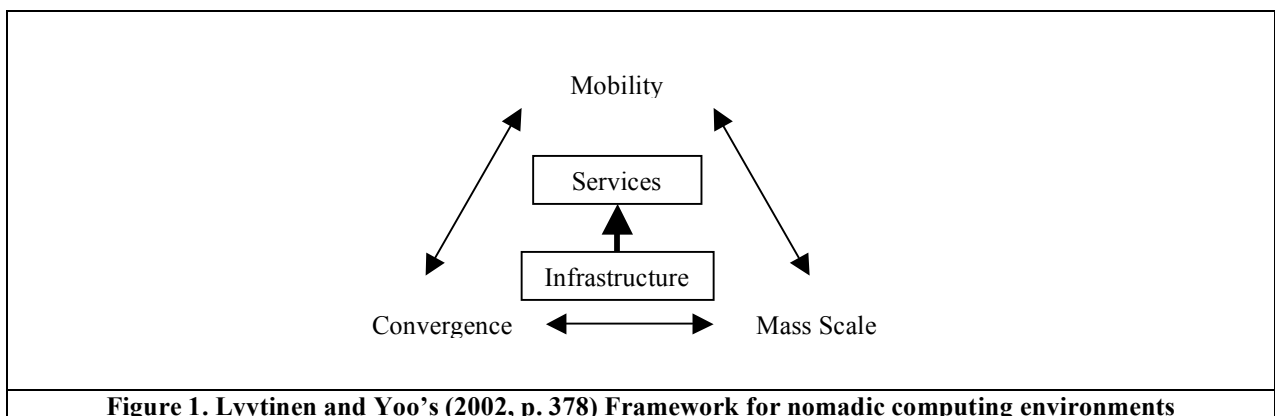


Figure 1. Lyytinen and Yoo's (2002, p. 378) Framework for nomadic computing environments

In the following we shortly present the three fundamental drivers and the two layers in the framework and adapt them to a mobile business context.

Mobility captures the development of computing that used to be placed in large rooms at central locations to a situation where we can carry computing capability with us (e.g. the mobile phone, a navigation system or more recently Apple's iPhone and iPod). *Digital convergence* refers to the process where technological platform for, e.g. voice, photos and music, begin to seamlessly work together. Digital convergence also captures the development of new enabling technologies for example IPv6 and the family of IEEE 802.1x protocols (Bluetooth, WiFi and WiMax) but also the 3G protocol UMTS and 3.5G HSDPA. Whereas most mobile phones in the past only packed one of the above protocols most mobile phones presently bundle several of the above. The last of the three fundamental drivers is *mass scale*. This refers to the mass scale of which nomadic and hence also mobile services will be made available. There are for example around 2.5 billion mobile phone users in the world growing at 200 million per quarter. Soon the majority of people on earth will have a mobile phone.

The drivers effect and enable the development of the underlying *infrastructure* on which the *services* are designed and developed upon. There is a mutual dependency between the two layers. The demand for services drives the development of the infrastructure which enables new services (Lyytinen & Yoo, 2002, p. 379).

When deriving the research issues Lyytinen and Yoo uses the dichotomy between services and infrastructure and crosses them with the level of analysis (individual, team, organizational and inter-organizational level). Services are further divided into three research topics (*design, use and adoption, and impact*). The infrastructure layer is further categorized into *enabling capabilities* and *governance and control*. This 4 by 5 matrix yields 20 research issues that researchers must address in order to comprehend and offer guidance to the rapid and fundamental changes that the three drivers impart on the research environment. The framework thus provides us with our analytical foundation. The next section explains and justifies our use of the framework to analyze the 44 articles published in the proceedings of ICMB 2006 (Damsgaard & Yoo, 2006)

3. Methodology

This section describes why and we went about answering the research questions. Webster and Watson's (2002, p. xiii) provides good arguments for writing and conducting literature reviews.

"A review of prior, relevant literature is an essential feature of any academic project. An effective review creates a firm foundation for advancing knowledge. It facilitates theory development, closes areas where a plethora of research exists, and uncovers areas where research is needed".

In addition, they argue that a good literature review should be focused upon topics and concepts (Webster & Watson, 2002). In identifying topics we apply the previously introduced frameworks. The reason for selecting the framework is the degree of institutionalization in the scientific community. First, it is published in one of the leading IS-journals (*Information Systems*

Research), according to several rankings (see e.g. www.isworld.org for journal ranking). The second reason is the large number of citations (159 according to Google Scholar in the beginning of February 2008).

The starting point in analyzing the papers was to uniquely identify each paper, based on alphabetic order (see Appendix 1.). In order to keep track of the analysis an excel sheet was created. The excel sheet contained 44 rows, one for each paper, and 15 columns. The columns reflect the different level of analysis (four columns) and drivers (three columns) in Lyytinen and Yoo's (2002) holistic framework. In addition to this we added one column for identifying application area, one column for type of artifact, one for conference area, and five columns for identifying the research methodology. Thereafter, the analysis took place. We decided to classify the papers according to track appearance, instead of alphabetic order, since papers within a track ought to have similarities.

We classified each paper in relation to level of analysis (*individual, team/group, organization, and inter-organization*) and in relation to the *design, use and adoption, and impact of services* as well as the enabling *capability and governance of the underlying infrastructure*. Then we classified the papers according to the three key drivers (*mobility, convergence, mass scale*), *research methodology, artifact type, and application area*. We used the excel sheet to keep track of our classification by making notes and writing key words in the corresponding cell in the excel sheet. To illustrate the process we exemplify it with the best paper of the conference (Bina & Giaglis, 2006). Bina and Giaglis (2006) paper applied survey as research methodology (in table 1 this paper is identified as paper no. 3) and was focused on WLAN as technological artifact in an inter-organizational context. Furthermore, the paper was classified as applying both mobility and mass scale and fundamental driver. The paper was also classified as belonging to service, individual level, and use and adoption of the holistic framework.

The process was not as straightforward as the illustration above may suggest. In most case there were several iterations when classifying a paper. One reason was that our understanding of the data material increased as we classified more papers. Therefore several of the early classifications were re-done.

Before presenting the result in the next section, we will first reveal some descriptive data of the 44 papers. There were 65 submissions of which 44 were included in the proceedings. The papers were submitted into seven tracks (numbers within brackets are the amount of papers in that track): M-business models (17), ubiquitous computing (7), M-business in mobile work and interaction (6), M-health (2), social and societal implications and considerations (6), economics of m-business (2), and mobile information systems (4). In relation to the four areas of the conference the approximate distribution was identified: 40% address business models, 32% address the influence of m-business on private and work life, 13% address the re-composition of the value network, 3% address the impact of regulation, and 12% address other areas.

There were several different types of mobile artifacts. The most common artifacts were mobile phones, mobile applications, WLAN/WiFi/Wimax, large computing devices, mobile devices, and others. One interesting thing is that several of the papers use the term mobile device (Fox,

Rezania, Wareham, & Christiaanse, 2006; Melo, Nagler-Ihle, & Weber, 2006), but does not describe what type of artifact they refer to. So, there is a lack of descriptions and theorizing of the artifact (Orlikowski & Lacono, 2001). This will most definitely have an impact on our collective ability to accumulate knowledge concerning the phenomena of mobile related artifacts. The same problem exists in the information systems field (Orlikowski & Lacono, 2001).

The papers addressed several application areas and the most common areas are marketing and advertising (e.g. Chen & Pau, 2006; Heinonen & Strandvik, 2006; Key Pousttchi & Wiedemann, 2006), inter-organizational use (e.g. Ballon & Bossuyt, 2006; Krotov & Junglas, 2006; Marchegiani, 2006; Key Pousttchi & Thurnher, 2006), and electronic payment (e.g. Fabini, Reichl, Poropatich, Huber, & Jordan, 2006; Hussin, Edwards, & Coulton, 2006; Ondrus & Pigneur, 2006). The focus is clearly oriented towards business-to-consumer orientation (B2B). Very few papers addressed the firm internal use of mobile applications.

The final descriptive area is the research methodology. In table 1 we have summarized the classification of applied research methodology. We used the following categories: *single case study*, *multiple case study*, *survey*, *interview*, and *not reported or conceptual*. Multiple case, survey and interviews are the main empirical approaches. Single case studies are found in five of the papers. Note that several of the papers applied several types of research methodology (e.g. Fox et al., 2006; Komulainen, Ristola, & Still, 2006; Key Pousttchi & Thurnher, 2006).

Research methodology	Paper number in appendix 1	No of papers
Single case study	5, 17, 25, 43, 44	5
Multiple case	1, 2, 4, 6, 7, 8, 10, 13, 22, 23, 31, 33, 37, 41, 42	15
Survey	3, 9, 12, 16, 19, 20, 22, 27, 28, 34, 36, 38	12
Interview	2, 9, 15, 22, 26, 32, 33, 34, 35	9
Not reported or conceptual	11, 14, 18, 21, 24, 29, 30, 31, 39, 40, 43	11

3.1 Result

In the following section we will present the result of the classification of the 44 articles into the two theoretical frameworks. The results are found in table 2 and 3. Note that we in table 3 show the names of the authors instead of just the number.

In relation to the nomadic computing environments framework most of the papers were classified into the service dimension. *Mobility* was the most addressed driver (25 no of papers) followed by *convergence* (21 no of papers) and *mass scale* (20 no of papers). Five of the papers did not address any of the drivers for mobile business. Several of the papers addressed two or three of the drivers. The framework was found a little bit problematic, since its discriminating ability was found low. A summary of this classification is found in table 2.

	<i>Service</i>	<i>Infrastructure</i>
<i>Mobility</i>	3, 4, 6, 9, 11, 12, 13, 14, 15, 16, 18, 20, 21, 25, 26, 28, 29, 31, 33, 34, 36, 37, 41, 43, 44	7, 8, 30
<i>Convergence</i>	4, 5, 6, 9, 10, 12, 14, 15, 16, 17, 18, 20, 21, 22, 25, 31, 32, 34, 37, 38, 44	7, 13, 30
<i>Mass Scale</i>	1, 3, 5, 6, 10, 11, 17, 18, 19, 21, 22, 23, 27, 28, 31, 36, 39, 41, 43, 44	7, 8, 13
<i>Not possible to classify</i>	2, 24, 35, 40	42

As shown by table 3, last column, there is an overwhelming majority of papers, 45 in total, in relation to service and only 5 in relation to infrastructure. Note that seven of the papers were classified into more than one category (Coursaris et al., 2006; Decker, Schiefer, & Bulander, 2006; Garner et al., 2006; Imai, Sugieue, Hori, & Masuda, 2006; Komulainen et al., 2006; Key Pousttchi & Thurnher, 2006; Ziv & Mullet, 2006). The most common issue is *use and adoption of services*, with 31 papers. To our surprise only seven papers addressed the *impact*. This was somewhat surprising when considering the theme of the conference, which was formulated as “*m-business would have evolved to a degree where predictions about the future would have passed and we would have witnessed the full impact of m-business*”. *Design*, i.e. development, was addressed in seven papers. When we move over to *infrastructure* we can see that four papers addressed *enabling capabilities* and only one papers addressed *governance and control of infrastructure*. In relation to level of analysis the most is *inter-organizational* level with 18 papers followed by *organizational* and *individual level* with 13 papers each. The *team/group level* was addressed by seven papers.

	Level of analyses				Total
	Individual	Team/Group	Organizational	Inter-organizational	
Services					
<i>Design</i>	McMahon and Stekete; Chen and Paul	Nickerson and Isaac	Kumar et al.	Drossos and Giaglis; Heinonen and Strandvik; Pousttchi and Widemann	7
<i>Use and Adoption</i>	Bina and Giaglis; Fox et al.; Pousttchi and Thurnher; Komulainen; Campbell; Feng et al.; Junglas and Spitzmüller; Kargin and Basoglu; Komnios; Repo	Henri and Aurélie; Imai et al.; Ziv and Mullet; Lu and Swatman; Richter et al.; Leijdekkers and Gay;	Steinert; Coursaris et al.; Melo et al.; Krotov and Junglas; Komulainen; Decker et al.; Imai et al.; Hawryszkiewicz and Steele; Yuan and Zeng;	Thestrup et al. Marchegiani Garner et al.; Hussin et al. Ondrus and Pigneur Angelov adn Rao Comonova and Pigneur Tan and Henten	31
<i>Impact</i>	No paper	No paper	Pousttchi and Thurnher; Fabini et al. Ziv and Mullet	Sagstrup and Henten; Ballon Bossyt; Decker et al.; Tan and Wong	7
Infrastructure					
<i>Enabling capabilities</i>	Coursaris et al. Decker et al.	No paper	No paper	Garner et al. Yamakami	4
<i>Governance and control</i>	No paper	No paper	No paper	Michael et al.	1

4. Analysis

We use Lyytinen and Yoo (2002) framework found in table 3 to structure of the analyses. We begin to analyze the papers horizontally (the level of analysis). This is followed by the vertical dimensions (*design, use and adoption, impact, enabling capabilities, governance and control*).

4.1 Vertical dimension

The focuses of papers addressed *individual* level are either concerned with the design or use and adoption of new mobile based artifacts. Design recommendations are based on user needs or derived from theory. In relation to design we can see design guidelines as a recurring aspect. New artifacts are oriented towards mass market and generic services pushed onto the user. Another important design idea is personalization and the users choose of specific services. Value creation is often used as design criteria, but how it is achieved is fully expressed. In relation to use and adoption there is a move from the often used technology acceptance model to new perspectives. The main driver for use and adoption is motivation (demand side), which plays a crucial role in both determining what is needed of new artifacts. The view of the user is either 'common people' with needs or professional users (mobile worker). The mobile phone is a highly personal device. Thus, when using it for business to consumer it becomes very delicate. Issues related to information overload, control of personal information and learning are not addressed.

The *team and group* level can be divided into groups with a common interest and work groups. The two categories apply different underlying theoretical frameworks. Groups are both communities who are connected via computer technology to surveillance and monitoring where the groups are diverse placed people receiving different forms of information. A key issue is the use of mobile devices in social contexts (acceptability) and new forms of mobile communication. Another issue the anywhere, anytime in terms of appropriateness (social rules), and design of social situations based on location and time. Research issues related to the design, such as integration between people and technology, are superficially covered. Impact issues, e.g. performance and trust, are not addressed at all.

Mobile devices in *organizational* contexts are means for collaboration between people. And the success of organizational mobile devices relies on standardization of technology and interfaces between devices. Inclusion of all users is a central theme, regardless of place and time (e.g. the home, the office or temporary visitor) is central to the design. There is a strong empathizes on how organizations can add value through mobile service and applications. This is based on reviews of literature and suggests guidelines and propositions to achieve advantages for organizations. Key issue in adoption of is task and technology fit. Barriers are also critical to understand in the implementation of mobile technology. The design of generic services for diverse organizational contexts is considered. Another emerge issue is related to security when using mobile devices. However, there are few guidelines on how to achieve this.

At the *inter-organizational* level the focus is towards marketing, marketing campaigns and the success factors within marketing campaigns. A majority of papers argues that there is a lack of guidance for mobile marketing campaigns and majority of the recommendations are derived from literature. The turning point for mobile marketing is SMS. Several of the papers concern areas such as consumer expectations or the actual demand-side usage with derived technical implementation. Implicitly, a cooperation of a network by organizations must be assumed. Several papers analyses and investigates present research, experience gained, and adoption in order to advance current understanding. Many studies attempt to identify gaps between theory and actual market behavior. New perspectives are proposed to better explain market changes. Security issues are of growing concerns, but interoperability between technical standards is one of the strongest barriers to diffusion of mobile services.

4.2 Horizontal dimension

The focus of *design of services* is on recommendations how to design. The recommendations are either based on interviews with potential users or based on deductive reasoning on the requirements from theory. There are two types of design guidelines, which to some extent are contradictory. They generic service designed for a mass market vs. personalized services for each and one of us. This conflict may be solved through efficient technical configuration, which can be used as a method by the consumer to define what he or she wants - not just selecting on offers. This resembles the conflict between pull vs. push strategy. There are no major differences between the levels of analysis.

The aim of the papers are either concerned with introducing a new herein or suggesting specific characteristic guide lines for mobile communication, *adoption* of models (read: new perspectives) from the 'traditional' to the new mobile opportunities and new conceivable services vs. Applying current services in other ways or in a different combination of available opportunities. Motivation (demand side) is has a crucial role in both determining what is needed of new considerations and as to what a more proper fashion of configuration of the technology may be. Some ascribes the mobile phone as a highly personal device (privacy) and thus as using it as a B2C channel as being very delicate. This view is mainly within consumer markets, and generally it is accepted that there is a need for rules or considerations within this area. It does, however, not seem to be a point of major concern with mobile workers in an organization context, neither is organizational security mentioned much, and where it is related to the communication between an organization and a consumer in e.g. e-commerce. Within an organizational setting "the anytime- anywhere" connectivity seems focused on that a person can always be reached or reach someone else, efficiency. But, in and end consumer setting the connectivity attends more to social usage/ marketing effects.

Impact is only addressed on the organizational and inter-organizational levels. Papers attempts to identify propositions of achieve advantages for organizations. Via hindsight knowledge tries to suggest future impact effect and areas. One emerging issue is the business models and in particular comparisons of business model configurations and the impact on the key stakeholders, such as mobile operators, content providers, and content distributors.

Enabling capabilities is similar to use and adoption of service and divided into two parts, new innovations or the use of existing infrastructure in new context. Infrastructure value is based on fundamental attributes. An underlying idea is that value creation has not been achieved (both demand side and supplier side) and that mobile solutions are driven by cost considerations. Innovation is central and can be researched through SME participation in order to drive the demand-side usage.

Mobile devices mean new possibilities of *governance and control*. For instance, the Global Positioning System (GPS) can be used to track and monitor humans. This can be used both for commercial applications (marketing and sales) and for monitoring people. This gives the people or organizations in control of the technology unforeseen possibilities that can intrude the privacy of the individual.

5. Discussion and conclusions

In this section we discuss the result of the analysis. The first overall question is did the conference meet its goals. Based, on the systematic analysis of the presented papers we can believe that the conference meet its goals. The only critic concerning the areas covered by the papers is related towards the impact of regulation. If this is due to review process or the type of papers submitted to the conference cannot be determined at this stage. The frameworks (nomadic computing and holistic framework) proposed by Lyytinen and Yoo (2002) are useful when analyzing papers addressing nomadic computing as the ones presented at the 5th ICMB conference. All papers could be classified according to the frameworks, except for those that did not describe any fundamental driver. The frameworks are comprehensive, since no additional driver, research theme, or research issue emerged from the analyses of the papers. Some small alterations, such as security issues are mentioned by Lyytinen and Yoo at inter-organizational, but papers at organizational level addressed this issue as well. But, Lyytinen and Yoo do not claim that their 20 research questions are an exhaustive list. So, one contribution by this paper is that Lyytinen and Yoo's framework have been validated as useful and relevant and we further believe that it is a suitable framework for conducting reviews of mobile business literature.

Based on our use of the framework we believe that the clear distinction between services and infrastructure could be the basis of a new research theme that is particular interesting for mobile business. The motivation for this suggestion is not based on the number of papers that address the infrastructure aspect but rather due to lack or absence of papers addressing this important topic.

The focus on service and not infrastructure is understandable, since services are a focal point of the areas of the conference, such as business models and influence of m-business on private and work life. However, the lack of interest in impact or research into the theme is disappointing, because we need more empirical research addressing the impact of mobile service on individuals, team/groups, organizations, and inter-organizations. We need a variety in the underlying theories and disciplines, from economics to psychology, and also in research approach, from positivistic to interpretive approach.

On the horizontal dimension the focus was on the use and adoption of service across level of analysis. The interesting and positive finding was that we can see a move from the technology acceptance model towards motivation based models. Thus usefulness and ease of use are not the only factors explaining why we adopt mobile services and devices.

The vertical dimension shows an orientation towards the inter-organizational level of analysis, with a strong focus towards marketing and marketing campaigns. We see this as an interesting field for research and suggest collaborations between marketing and mobile researchers, thus leading to cross-fertilization.

So, finally some concluding words and learning experiences that we would like to share and hopefully convey to others. The first is that literature reviews of past conference is a good way of advancing our knowledge and should be a natural part of the future conferences. This will facilitate theory development, uncover new areas for research, and be a solid ground for calls for papers. The second one relates to the result of our analyses, namely the lack of theorizing the artifact. We found several papers just stating mobile devices, but what type of mobile device do they refer to? Is it a phone or a laptop? We believe that this is very critical in order to advance the field of nomadic computing.

6. Acknowledgements

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- Nickerson, R. C., & Isaac, H. (2006). "Am I Disturbing You?": A Research Model for Investigating the Use of Mobile Phones in Social Settings. Paper presented at the International Conference on Mobile Business.
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- Pousttchi, K., & Wiedemann, D. G. (2006). A Contribution to Theory Building for Mobile Marketing: Categorizing Mobile Marketing Campaigns through Case Study Research. Paper presented at the International Conference on Mobile Business.
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- Richter, J. G., Nixdorf, M., Becker, A., Koch, T., Monser, R., & Schneider, M. (2006). Mobile Computing instead of paper based documentation in German Rheumatology. Paper presented at the International Conference on Mobile Business.

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- Tan, S.-E., & Henten, A. (2006). New Mobile Technologies: Sustaining or Disruptive? Paper presented at the International Conference on Mobile Business.
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- Ziv, N. D., & Mullet, B. (2006). An Exploration on Mobile Social Networking: Dodgeball as a Case in Point. Paper presented at the International Conference on Mobile Business.

Appendix 1. Identifier of papers

No	Author/s and name of paper
1.	Angelov, B. and Rao, B. (2006) From Macedonia to Mauritius: New Trajectories in Wireless Broadband Development.
2.	Ballon, P. and Bossuyt, M. V. (2006) Comparing business models for multimedia content distribution platforms.
3.	Bina, M. and Giaglis, G. M. (2006) Unwired Collective Action: Motivations of Wireless Community Participants.
4.	Campbell, D. E., Sarker, S. and Valacich, J. S. (2006) Collaboration using Mobile Technologies (MCTs): When is it essential?.
5.	Camponovo, G. and Pigneur, Y. (2006) From Hype to Reality: A Case Study on the Evolution of the Swiss WISP Industry.
6.	Chen, H. and Pau, L.-F. (2006) Individual Tariffs for Mobile Services: Theoretical Framework and a Computational Case in Mobile Music.
7.	Coursaris, C., Hassanein, K. and Head, M. (2006) Mobile Technologies and the Value Chain: Participants, Activities and Value Creation.
8.	Decker, M., Schiefer, G. and Bulander, R. (2006) A SME-friendly framework for the provision of mobile services.
9.	Drossos, D. and Giaglis, G. M. (2006) Mobile Advertising Effectiveness: an Exploratory Study.
10.	Fabini, J., Reichl, P., Poropatich, A., Huber, R. and Jordan, N. (2006) "IMS in a Bottle": Initial Experiences from an OpenSER-based Prototype Implementation of the 3GPP IP Multimedia Subsystem.
11.	Feng, H., Hoegler, T. and Stucky, W. (2006) Exploring the Critical Success Factors for Mobile Commerce.
12.	Fox, P., Rezania, D., Wareham, J. and Christiaanse, E. (2006) Will Mobiles Dream of Electric Sheep? Expectations of the New Generation of Mobile Users: Misfits with Practice and Research.
13.	Garner, P., Edwards, R. and Coulton, P. (2006) Card-based Macropayment for Mobile Phones.
14.	Hawryszkiewicz, I. T. and Steele, R. (2006) Service Oriented Design Methodologies for Mobile Applications.
15.	Heinonen, K. and Strandvik, T. (2006) How do consumers react to mobile marketing?.
16.	Henri, I. and Aurélie, L. (2006) « Give me a mobile phone, and I will work harder! » Assessing the value of mobile technologies in organizations : an exploratory research.
17.	Hussin, W. H. W., Edwards, R. and Coulton, P. (2006) E-Pass Using DRM in Symbian v8 OS and TrustZone: Securing Vital Data on Mobile Devices.
18.	Imai, Y., Sugieue, Y., Hori, Y. and Masuda, S. i. (2006) Application of A Remote Surveillance System with Mobile Phone-Enhanced User Interface.
19.	Junglas, I. and Spitzmüller, C. (2006) Personality Traits and Privacy Perceptions: An Empirical Study in the Context of Location-Based Services.
20.	Kargin, B. and Basoglu, N. (2006) Adoption Factors of Mobile Services.
21.	Komninos, A., Barrie, P., Newman, J. and Landsburgh, S. (2006) me-Commerce: An Infrastructure for Personal Predictive Mobile Commerce.

22.	Komulainen, H., Ristola, A. and Still, J. (2006) Mobile advertising in the eyes of retailers and consumers – empirical evidence from a real-life experiment.
23.	Krotov, V. and Junglas, I. (2006) Mobile Technology as an Enabler of Organizational Agility.
24.	Kumar , K. P., Shailaja, G., Kavitha, A. and Saxena, A. (2006) Mutual Authentication and Key Agreement for GSM.
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