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### Recommended Citation

Bragge, Johanna; Hengst, Marielle den; Tuunanen, Tuure; and Virtanen, Ville, "A Repeatable Collaboration Process for Developing a Road Map for Emerging New Technology Business: Case Mobile Marketing" (2005). *AMCIS 2005 Proceedings*. 198.  
<http://aisel.aisnet.org/amcis2005/198>

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# A Repeatable Collaboration Process for Developing a Road Map for Emerging New Technology Business: Case Mobile Marketing

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## ABSTRACT

The unique and little practiced characteristics of mobile as a marketing medium create a need to set up an action and research agenda regularly to foster the development of the mobile marketing value system. Numerous stakeholders take part in the network to deliver the mobile services. Strengthening their inter-organizational relationships is critical for the emerging value system to evolve. Our paper employs Collaboration Engineering to address this undertaking by designing a standard process that actors in mobile marketing, as well as in other emerging new technology businesses, can use to collaboratively develop a road map for the future. The first field test of this process was conducted in London in connection with the Mobile Marketing Summit '04 organized by Nokia. The results are promising. Together with senior management of 25 leading brand marketers and advertising agencies we were able to outline an extensive road map while strengthening the network formation in the field.

## Keywords

Collaboration Engineering, road map, action and research agenda, new technology business, mobile marketing, value system, group support systems, action research

## INTRODUCTION

Mobile services are developing at a high rate. One area among these services that is still in its infancy but which offers enormous growth potential is mobile marketing (MM). Mobile marketing can be defined as the *use of interactive wireless media to provide customers with time and location sensitive, personalized information that promotes goods, services and ideas, thereby generating value for all stakeholders* (Dickinger, Haghirian, Murphy and Scharl, 2004). The unique and little practiced characteristics of mobile as a marketing medium, along with the fast technological changes, create a need to set up a common action and research agenda regularly. The aim of this is to foster the evolvement of the whole MM value system (Möller and Svahn, 2003). Like mobile business in general, also MM is characterized by many stakeholders taking part in the network to deliver the mobile services: marketing service providers, media owners, marketers, network operators, mobile technology providers etc. Kannan, Chang and Whinston (2001) divide the stakeholders in wireless commerce over four interdependent layers: (1) wireless infrastructure, (2) applications, (3) intermediaries and (4) online transactions. The stakeholders in each need to foster close partnerships with those in the other layers to make the commerce applications work. Also in the emerging MM value system the strengthening of the inter-organizational relationship formation between the various actors is critical for the system to evolve to a more stable one.

We believe that the stability of the emerging MM value system can be enhanced through a broadly agreed upon road map, that is, a common action and research agenda. However, developing a road map is complicated – it requires collaboration. Collaborative road-map development is plagued by the same problems as any type of group work: dominant or shy participants, misunderstanding, free-riding, lack of consensus, poorly defined goals etc. (Nunamaker, Briggs, Mittleman, Vogel and Balthazard, 1997). Actors in the mobile business may not possess the skills that are required to address these challenges and to guide the collaborative efforts toward a successful conclusion.

Our paper addresses this problem by designing a standard process, which stakeholders in the MM value system, as well as those in other emerging new technology businesses, can use for road-map development, and concurrently strengthen their relationships. We employ the principles of Collaboration Engineering (CE), which is a design approach that models and deploys repeatable collaboration processes for recurring high-value collaborative tasks for execution by the practitioners themselves (Briggs, de Vreede and Nunamaker, 2003; de Vreede and Briggs, 2005). Our action research endeavor includes a pilot study conducted in Helsinki, Finland, and a main field test conducted in London, UK, in connection with the Mobile Marketing Summit '04 organized by Nokia. The results are promising. Together with senior management of 25 leading brand marketers and advertising agencies we were able to outline - in a productive and satisfying way - an extensive road map including action proposals for various stakeholders and research that should be carried out. The road map is currently evaluated by Nokia and the Mobile Marketing Association of Europe. Moreover, we were able to strengthen the inter-organizational relationships between the various actors taking part in the process.

The remainder of the paper is structured as follows. In Section 2 we review the literature on the mobile marketing value system. In Section 3 we give an overview of the newly emerged field of Collaboration Engineering. Section 4 discusses the methodology of the study, and Section 5 describes the results of the action research intervention we conducted. Finally, the results are discussed and conclusions are drawn in Sections 6 and 7, respectively.

### THE MOBILE MARKETING VALUE SYSTEM

Many of us have received marketing stimuli to our mobile devices, e.g. SMS message notes when we are entering a new roaming area. However, mobile or wireless marketing is not that common yet, although its' potential as a really unique one-to-one customer relationship management channel is impressive. Due to its novelty, published academic research on MM is only now starting to emerge (see e.g. Barnes, 2002; Barnes and Scornavacca, 2004; Barwise and Strong, 2002; Tsang, Ho and Liang, 2004).

The objectives of MM campaigns are to increase brand awareness, generate a customer profile opt-in database, drive up attendance to events or visits to a store, improve customer loyalty and increase revenues. MM does not stand alone; rather it leverages traditional promotional channels (MMA, 2005).

At the moment, the most recognized area of MM is mobile advertising, which we already touched with our roaming example above. Mobile advertising may be defined as *any paid message communicated by mobile media with the intent to influence the attitudes, intentions and behavior of those addressed by the commercial messages* (Leppäniemi, Karjaluoto and Salo, 2004). As mobile devices are very personalized and they allow the interaction with the users virtually any time and anywhere, mobile advertisements must be custom-made and also adaptable to different types of terminals. Most of the academic papers we found were regarding mobile advertising (e.g. Barnes, 2002; Barwise and Strong, 2002; Perlado and Barwise, 2004; Tsang et al., 2004). A recurring theme with the reviewed papers was whether, and under which conditions, the user is willing to give permission to accept mobile advertisements. This topic is of the utmost importance, as spam and privacy have threatened to take down the MM industry before it gets fully off the ground (Fuller, 2005). There are, however, plenty of other areas in MM that urgently need more attention.

A road-map is essential so that the emerging value system of MM could evolve to a more established one. Möller and Svahn (2003) define the value system construct as being based on the notion that each product/service requires a set of value activities performed by a number of actors forming a value-creating system. They add that a value system's key aspect is that value creation spans firm boundaries and can be encapsulated in the value system. Emerging new value systems are characterized by old and new actors, radical changes in old value activities, creation of new value activities, uncertainty about both value activities and actors, and radical system-wide change (Möller and Svahn, 2003, see especially Figure 1). These systems thus involve dynamic and complex learning processes and an inter-organizational relationship formation that cannot be specified in advance (Möller, Rajala and Svahn, 2005). Komulainen, Mainela, Tähtinen and Ulkuniemi (2004) claim that there is a disintegration among actors in MM - they do not yet know how to best create value together<sup>1</sup>. The authors add that there is a lack of intermediaries who would bring together the different actors (Komulainen et al., 2004). An intermediary should be powerful and compelling enough to bring together (potential) major actors in the field.

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<sup>1</sup> Value can be defined as a subjective perception of the trade-off between multiple benefits and sacrifices, relative to competition (Komulainen et al., 2004).

## COLLABORATION ENGINEERING

People often face tasks that they cannot accomplish as separate individuals. By collaborating people combine their expertise, their insights, and their resources to accomplish the task at hand. Collaboration is defined here as making a joint effort toward a goal (Nunamaker, Briggs and de Vreede, 2001). Achieving effective and efficient collaboration is easier said than done. Collaborative efforts can be far improved if they are explicitly designed, structured and professionally managed so as to minimize cognitive load and maximize the focus of purposeful effort. This is referred to as facilitation. Facilitation is considered among the most critical success factors for effective and efficient collaboration (Adkins, Burgoon and Nunamaker, 2002; Anson, Bostrom and Wynne, 1995; Niederman, Beise and Beranek, 1996). It is also considered complex for which different high level skills are required, among which: communication skills, understanding the group and its objectives, understanding technology, managing conflict and directing the process (Ackermann, 1996; Clawson, Bostrom and Anson, 1993; de Vreede, Niederman and Paarlberg, 2002; Niederman et al., 1996). Factors such as the high cognitive load, system complexity, corporate politics and organizational economics make competent facilitators not wide-spread (Morton, Ackermann and Belton, 2003) and make it difficult for organizations to keep high-quality facilitators in place (Briggs et al., 2003). Therefore many teams who could benefit from the intervention of professional facilitators often have to do without them. One solution to this challenge is to design collaboration processes that can be facilitated by the practitioners themselves without the ongoing intervention of professional facilitators. Addressing this challenge is the domain of the newly emerged field of Collaboration Engineering (CE).

CE is a design approach for recurring collaboration processes that can be transferred to groups that can be self-sustaining in these processes using collaboration techniques and technology (Briggs et al., 2003; de Vreede and Briggs, 2005). When people collaborate they move through patterns of collaboration. Therefore, CE seeks to codify key facilitation interventions that can help a group move through a pattern of collaboration. Five general patterns of collaboration are distinguished through which each group will go regardless of the technology, group or context: *diverge*, *converge*, *organize*, *evaluate*, and *build consensus* (Briggs et al., 2003; de Vreede and Briggs, 2005).

For each of these patterns thinkLets exist. A thinkLet is a named, packaged facilitation intervention that creates a predictable, repeatable pattern of collaboration among people working together toward a goal. It is the smallest unit of intellectual capital needed to allow a process designer to communicate the implementation of a facilitation intervention so that others can successfully reproduce the patterns of collaboration the intervention is meant to create (Briggs et al., 2003; de Vreede and Briggs, 2005). ThinkLets can be used as conceptual building blocks in the design of collaboration processes (Kolfshoten, Appelman, Briggs and de Vreede, 2004; Kolfshoten, Briggs, Appelman and de Vreede, 2004). As each thinkLet represents a distinct intervention in a group process to make the group go through a particular pattern of collaboration, thinkLets can be combined to form collaboration processes. Each thinkLet has a mnemonic name, e.g. *FastFocus*, making them easier to remember.

## METHODOLOGY OF THE STUDY

We followed the guidelines of Klein and Myers (1999) and adopted action research (Baskerville and Wood-Harper, 1996; Lau, 1999; Myers, 2005) as the research method in this study. For the most part, the technology-driven (North American) research on Group Support Systems (GSS) has employed quantitative experimental approaches. In this study we employ action research (AR) as the main research approach, which is more typical for the model-driven (European) group decision support research (Morton et al., 2003). According to Kock, conducting AR in a business context has traditionally involved helping one or more organizations become better (e.g. by improving the quality of their services) and, at the same time, doing research (i.e. collecting and analyzing research data) (Kock, 2003). There are several different ways to define and conduct AR (Lau, 1999). We apply the AR cycle presented by Susman and Evered (1978), which includes the following phases: *diagnosing*, *action planning*, *action taking*, *evaluating* and *specifying learning (reflection)*. In accordance to Mingers (2001), we supplement qualitative analyses (session transcripts, interviews, and observations) with quantitative ones (number of brainstormed items, session feedback surveys). We also try to provide sufficient details on the interventions taken, as (Lau, 1999) has called for.

In this study the roles of the researchers were manifold. Two of the researchers were both observers and participants (facilitators) having expertise either in CE or MM research. The other two researchers provided content specific knowledge with respect to CE or marketing science.

The initiative for designing a repeatable collaboration process to outline the road map for MM came from one of the researchers after he had studied the drivers and barriers of the field extensively through personal interviews (Virtanen and Raulas, 2004). Many of his interviewees complained that the other stakeholders in the field were barring the advancement of MM due to for example unbearable pricing of their services or unwillingness to learn new practices. There was certainly a

need to discuss the issue together to pursue collaborative advantage. The researcher discussed his idea with representatives of Nokia who started enthusiastically setting up a forum for making the first steps of the planned collaboration possible. Nokia is the market leader in mobile phones and its brand has for many years been among the five-to-ten most valued global brands. Thus, Nokia represented a powerful intermediary, who is active also in several strategic business nets in mobile business (Möller et al., 2005).

For the problem solving method (see McKay and Marshall, 2001) we employed Collaboration Engineering, and as for the technology we utilized a GSS called GroupSystems™ in a face-to-face setting. One week before the actual field test we held a pilot session in Finland with local marketing professionals interested in mobile business. Based on the experiences of the pilot, we refined the final process.

As said before, we collected data from both qualitative and quantitative sources. The researchers observed the workshop to see whether everything went as planned and to analyze whether they would want to change things. The workshop participants were asked to fill out an electronic questionnaire afterwards to measure their perception of the process regarding its outcome, effectiveness and capability of strengthening the inter-organizational relationships. In addition, the problem owner was interviewed afterwards for more detailed feedback on the workshop. Next to that, the electronic session data was available to the researchers to analyze productivity. The variety of data sources gave a rich representation of the study and made it possible to triangulate on the data.

## RESULTS

In this section we first present the collaboration process designed for the road-map development, and thereafter we describe how the process was conducted as the interactive workshop at the Mobile Marketing Summit '04 in London. We conclude this section by presenting the findings from the feedback questionnaire.

### The collaboration process

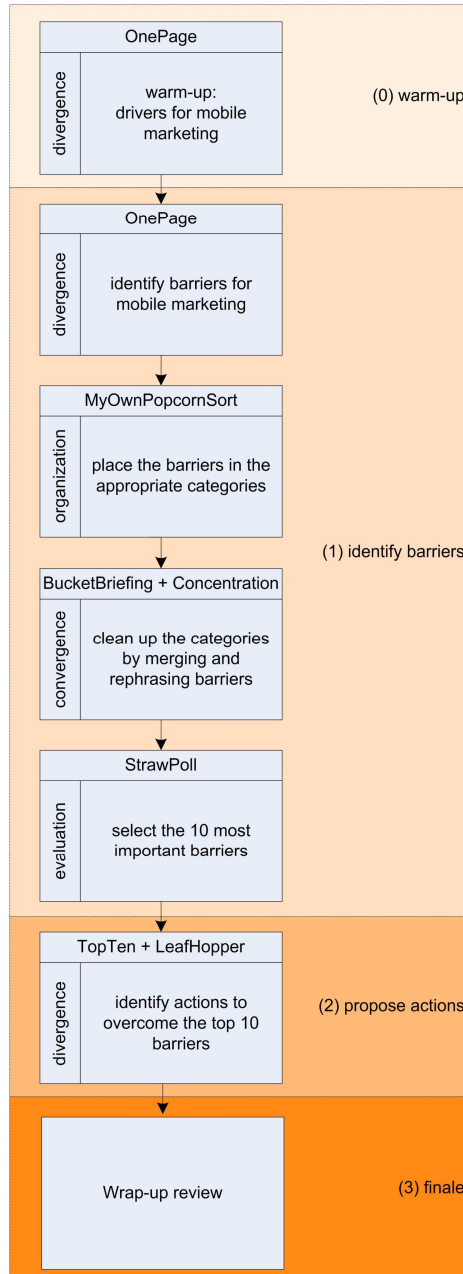
After a few rounds of discussions between the CE researchers and MM experts, the steps of the collaboration process were decided to be: (0) warm-up, (1) identify barriers, (2) propose actions and research, and (3) finale. We focused on each of these steps by designing a sequence of appropriate thinkLets. Some of these thinkLets were replaced by others after the pilot study conducted in Helsinki. However, due to space limitations, we do not report the pilot here in detail. The most important lesson of the pilot was that the process had to be streamlined to meet the time-limit we had been given for the process (1.5 hours). Otherwise the process piloted produced the patterns of collaboration as expected, and the participants felt very satisfied. The final process is depicted using the facilitation process model notation in Figure 1. The individual thinkLets are described briefly below and in more detail in Briggs and de Vreede (2001), and some also in Briggs et al. (2003)

The warm-up step is needed to get people acquainted with the goal of the workshop and with the GSS. The participants are asked to practice with the system by using it on a 'dummy' question. We prefer a constructive question that is related to the topic of the session: identifying drivers for growth of MM.

The core session is started by asking the participants to list all factors they perceive as barriers for growth of MM. To come up with the key barriers, several thinkLets are used, either as such found from the literature or in a slightly modified version: *OnePage* (Divergence), *MyOwnPopcornSort* (Organization), *BucketBriefing + Concentration* (Convergence) and *StrawPoll* (Evaluation). In *OnePage*, the participants brainstorm ideas in response to a single question. The participants are working on one page that contains all barriers entered. They contribute barriers or react on barriers already entered in the system by others. This often results in a long list of ideas, but the list will contain redundant ideas, irrelevant ideas, ideas on different levels of abstraction, and ambiguous ideas. Several thinkLets are used to clean up the list. In *MyOwnPopcornSort* (modified from *PopcornSort*), the participants drag-and-drop the barriers (they have *themselves* entered) to the most appropriate category. This is followed by *BucketBriefing + Concentration* thinkLets in which smaller groups of 1-3 participants check out the contents of the categories. The participants discuss the meaning and the wording of the brainstormed items and suggest merging and rephrasing of items. The *StrawPoll* is then used to zoom in on the key barriers. The participants can each select a limited number (10) of barriers they perceive most important. The group result is that a number of issues get no votes and that a number of issues end up as the real key issues.

The next step in the process is the generation of proposals for actions to overcome the barriers. The *TopTen + LeafHopper* (Divergence) thinkLets are used for this. In *TopTen + LeafHopper*, the participants brainstorm on the (around) top ten barriers for possible actions that should be taken to overcome each of these barriers. *LeafHopper* means that the participants can hop among the barriers to contribute actions, as dictated by their interest and expertise. After this step, the workshop is wrapped up by giving a short review of the results of the workshop. The time schedule for the above repeatable process is 1.5

hours in total. The warm-up takes about 5 minutes; the identification of barriers is scheduled for 40 minutes. The generation of actions takes no more than 30 minutes, and the wrap-up is scheduled for 10 minutes.



**Figure 1. Facilitation Process Model of the collaboration process for road-map development**

**The interactive workshop**

The collaboration process was conducted as an interactive workshop in connection with the Mobile Marketing Summit '04 organized by Nokia in London. This was the first time the Summit was held, as it was designed particularly to be a forum for this purpose. The program of the one-day Summit consisted of an introduction to the latest advances in mobile technology, several success-story case presentations, how-to-do-it tutorials, the interactive workshop, and a closing dinner. Besides the invitees from the leading brand-owner and agency representatives (33) there were around 30 other participants from Nokia's

different units, their event management agency and the press. The Summit was held at a central place in London in a neutral venue. From the 33 invited participants 25 took part in the interactive session. We used GroupSystems™ MeetingRoom rented from a local GSS service provider. The physical layout of the meeting was U-shaped, with laptops (see Figure 2). The session was decided the previous evening to be facilitated by the GSS provider due to unexpectedly large differences between the UK and Scandinavian keyboards. The agenda was extremely tight, so there was absolutely no time for extra delays. The session lasted around 1.5 hours.



**Figure 2. Physical layout of the interactive workshop**

For the warm-up task the participants ideated 72 perceived drivers for MM (including duplicates). The following themes were often raised when analyzing the drivers: the changing environment of marketing and the unique characteristics of mobile communications, namely context awareness, interactivity and ubiquity. Turning to the perceived barriers for growth of MM, the participants identified 123 barriers resulting to 68 after removing the duplicates in small groups. The main themes of these barriers (as emerged from the data analysis afterwards) are titled as (1) lack of research, (2) resistance to change among marketing service providers and marketers, (3) lack of co-operation and knowledge sharing, (4) fear of technology, (5) complexity of implementation and (6) fear of spam stigma (see more details in Virtanen, Bragge and Tuunanen, 2005). The process continued by putting the 68 identified barriers into order of importance by a multiple selection *StrawPoll*. After identifying the most important barriers, the representatives came up with 103 proposals for action to overcome the 13 most important barriers. The main themes in these proposals were (1) the need of more research to prove the effectiveness and to determine the most effective formats of mobile campaigns, (2) the need for standardization across mobile and marketing technology platforms and solutions, (3) the need for commonly agreed guidelines for implementation, pricing and cost sharing models, and (4) the need of the emerging value system players, such as leading brands, marketing service providers, media owners, mobile and marketing technology providers, operators and mobile handset manufacturers, to work together to fulfill the above needs (Virtanen et al., 2005).

### **Feedback questionnaire**

During the wrap-up of the workshop, the participants were asked to fill out an electronic feedback questionnaire for a first indication of their perception of the process regarding its outcome, effectiveness and capability of strengthening their inter-organizational relationships. We had deliberately minimized the amount of questions (seven participants missed the questionnaire due to the late timing of the workshop). The descriptive statistics of the questionnaire are presented in Table 1. None of the participants had used GroupSystems™ nor any equivalent groupware before.

| <b>Means and (Standard deviations)</b><br>(Rated using a Likert scale of 1-7, with 7 the highest value)        | <b>Agencies</b><br>(n=10)   | <b>Marketers</b><br>(n=8) | <b>All</b><br>(N=18)         |
|--|-----------------------------|---------------------------|------------------------------|
| Do you think the results of the workshop are useful?   | <b>5.50</b> (0.71)          | <b>5.00</b> (0.93)        | <b>5.28</b> (0.83)           |
| Are the workshop results worth the time and effort you invested?   | <b>5.50</b> (1.18)          | <b>5.38</b> (0.74)        | <b>5.44</b> (0.98)           |
| How well did this workshop help in understanding better the objectives and opinions of the other stakeholders? | <b>5.33</b> (1.22)<br>(n=9) | <b>4.63</b> (1.41)        | <b>5.00</b> (1.32)<br>(N=17) |
| How well did the workshop help in forming a shared understanding of the topic between different stakeholders?  | <b>5.30</b> (0.82)          | <b>4.38</b> (1.19)        | <b>4.89</b> (1.08)           |

**Table 1. Descriptive statistics of the feedback survey**

We asked also two open-ended questions. When asked which features did the participants think were especially successful in the workshop, they mentioned: the dynamic content, debate and dialogue, efficiency of data collection with laptops, the tool's suitability for quick and 360° insights, identification of the drivers, which was as important as the barriers, and "Well done Nokia for making this happen".

When we asked what we could have done better to improve the brainstorming session or to make it more efficient, they mentioned: have operators as part of the session, more time – too rushed, smaller groups to agree on the final 3-5 big issues, more discussion that would be open and moderated to improve depth of understanding, it was done a bit late, use of break-out groups rather than technology, longer time but for now it was ok.

Out of those 18 respondents, who responded to Nokia's own feedback survey (on paperback), 12 wanted to keep the length of the interactive workshop the same, 3 wanted to have more and 3 wanted to have less. Several delegates suggested that the Summit should become a regular event (Nokia 2004). Other statements that confirmed the successfulness of the whole Summit were "Excellent initiative and appropriate that Nokia is 'connecting people' and professionals", "As the scope of mobile marketing grows, so does the need for establishing common understanding of its potential. The summit is a welcomed initiative to drive that understanding – I hope Nokia will repeat it next year", and "This is honestly one of the most fruitful events I have ever attended" (Nokia, 2004).

## DISCUSSION

We have applied the CE approach to design and implement a repeatable collaboration process for developing a road map for an emerging new technology business: mobile marketing. In this section we reflect on this by paying attention to issues we observed with respect to the design, conveyance and implementation of the collaboration process.

In *designing* the collaboration process, thinkLets appeared to be a very powerful means to structure discussions between the researchers. The collaboration engineers (CEs) overseas were able to discuss the design of the collaboration process by using only the thinkLet names and the main topics addressed in the thinkLets. Without having thinkLets it would have necessitated a lot of more information exchange to discuss the design: information that is captured in thinkLets should have been detailed.

In *conveying* the collaboration process from the CEs to the MM experts during the design, we encountered several challenges. The MM experts needed to be involved to discuss the process and tune it to the situation at hand. The thinkLet notation appeared to lack for this discussion, especially when the language used was not English. A thorough discussion was needed to go through the collaboration process design: the thinkLets were detailed to the lowest level to make sure the non-CEs understood what was going to happen during the collaboration process. From this we might conclude that either the 'practitioners' need extra information or training to understand the thinkLet notation, or the CE approach needs to be extended with a notation for non-CEs. However, in terms of knowledge management (see e.g. Hansen, Nohria and Tierney, 1999), we see that CE has really succeeded in codifying the tacit knowledge of experienced facilitators into highly usable and repeatable units of explicit knowledge – thinkLets – units that can easily be deployed also by novice facilitators.

The *implementation* of the collaboration process for the road-map development showed that the thinkLets provided the patterns of collaboration as predicted. The implementation concluded into pleased participants and problem-owner, and an extensive road map. Assuming that the interactive workshop is repeated e.g. in other continents than Europe, it is easy to transfer the process to facilitators available locally. First evidence for this was gained during the field test where an outside GSS facilitator was instructed by one the researchers to run the process. Although the process would never be rolled out to a practitioner inside the organization responsible for the workshop according to the strictest sense of CE, we believe our process has at least passed the "weak market test" - using the expression from the constructive approach in management accounting research (Kasanen, Lukka and Siitonen, 1993). That is, a unit manager with financial responsibility has been



willing to apply the construction in his or her business. Passing the semi-strong market test would imply that the construction has become widely adopted by companies, and a strong market test that the units applying the construction systematically would have produced better (financial) results than those which are not using it. We believe that CE could be enhanced by taking an equivalent 3-tier market test into use, as the constructive approach in management accounting research is basically very much alike CE in general.

## CONCLUSIONS

In this study we described a successful application of Collaboration Engineering to road-map development in an emerging new technology business: mobile marketing. As all research, this study has its limitations. We have so far conducted only one field test (and a small-scaled pilot). While designing the process, we took into account the option asserted of conducting the interactive workshop also in other continents than Europe. However, this, as well as the suggestion from the participants to repeat the Summit yearly is currently under follow-up negotiations. Another limitation of our study is that not all stakeholder groups of the MM value system were present at the Summit. Yet, we were only in a consulting role at the invitation process for the Summit. After the Summit we have been asked to conduct another workshop with the same outline for a different topic in Finland with around 150 participants. That opportunity would certainly provide us valuable further information on the flexibility of the process. One option would be to compare the designed process with a one conducted using more traditional tools for collaboration.

## ACKNOWLEDGEMENTS

The authors wish to thank the representatives of Nokia Corporation and Web-Meetings Ltd as well as the participants of the Nokia Mobile Marketing Summit '04 for their collaboration.

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