

Chapter 110

Mobile Knowledge Management

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INTRODUCTION

Whereas knowledge management (KM) has gained much attention in the field of management science and practice as the eminent source of competitive advantage (e.g., Davenport & Prusak, 1998; Drucker, 1993; Nonaka & Takeuchi, 1995; Probst, Raub, & Romhardt, 2003), one issue has been largely neglected: The aspect of mobility.

Conventional solutions for knowledge management systems (KMSs) have in common that they are designed for stationary workplaces and consequently require the corresponding infrastructure—that is, personal computers and fixed-line network access. Thus, they do not cater for business processes in which workers move around in or outside the premises. The result is that knowledge support for mobile workers is often

rather restricted, once a task has to be performed outside of the office. Organizations in which parts of the workforce belong to one of the following classifications are concerned in that context:

- Specialists, mobile on the premises (e.g., in-house technicians)
- Specialists, mobile outside the premises (e.g., members of the sales force)
- Specialists and executives in companies with mobile operations (e.g., organizations like contracting business, police, or armed forces)
- Decision makers (e.g., CEOs who are required to make timely and well-funded decisions disregarding their current position)

The need for mobile KM stems from one of the most prominent challenges in KM: ensuring the availability of knowledge in the moment of knowledge demand. Insufficient knowledge at “point-of-action” is the wording Wiig (1995) uses

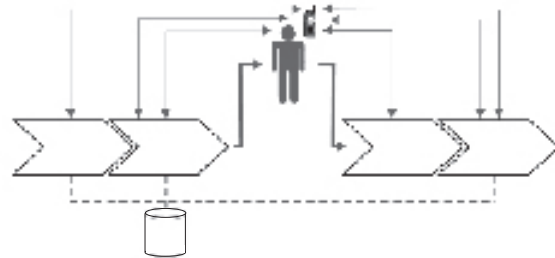
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to describe that problem. There exist situations in the course of daily work that require particular knowledge that is not owned by the individual actor. As long as organization members are located at the same place, knowledge repositories can be easily accessed. In some cases it might for example be sufficient to walk down the office floor and ask colleagues for help in order to establish a basic form of knowledge exchange. Another example is the access of best practices databases using a stationary computer.

Analyzing business processes with mobile elements, it is obvious that the insufficient integration of many mobile workplaces leads to suboptimal processes. It is usually required to interrupt the actual task in order to feed knowledge into or retrieve it from repositories. A mobile worker can access his company's knowledge infrastructure not at all or only indirectly. This leads to a time-consuming process in which workers spend valuable working hours searching for knowledge instead of pursuing their actual job. That is exactly what has to be avoided, considering the imperative of making access to knowledge as simple as possible. Figure 1 illustrates the break existing in the process chain due to the insufficient integration of mobile workplaces: as the mobile worker is not integrated into the process chain, the information and knowledge flows in mobile business processes are equally disrupted.

As the aspect of mobility is underrepresented in KM literature, we aim at providing an evaluation framework for managing knowledge in mobile settings (i.e., mobile KM). In order to do that, we will resort to the insights gained in the discussion of mobile techniques. As both concepts have not been sufficiently put together, we think that substantial benefits can be derived by merging the ideas behind mobile techniques and KM.

Figure 1. Non-integration of mobile workplaces into the process chain



BACKGROUND

As a survey of KM literature shows, mobile KM has been largely neglected. The following section presents an overview of exemplary articles dealing with mobile KM.

The works of Fagrell (2000) can be regarded as some of the first valuable approaches to address the area of mobile KM. With NewsMate, Fagrell is presenting a KMS application that aims at supporting mobile knowledge workers. In this system KM is integrated with the relevant task that needs to be supported. A proof of concept is given by presenting a working prototype. This prototype allows journalists to access internal and external information. Further, NewsMate acts as an expert finder by automatically identifying colleagues who have worked on the same topic.

Grimm, Tazari, and Balfanz (2002) are discussing limitations of mobile devices for the purposes of mobile KM and present a framework for the implementation of mobile KMSs. In the course of that, they address technological as well as human limitations and thus touch the area of human computer interaction (HCI). The authors aim at using the potential of mobile technology to deliver context-specific information by using the user's location to determine relevant context. Using a "virtually centralized" context manager to handle profiles of relevant objects, a situation recognition engine enables the context-specific provision of knowledge.

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