

# **Mobile Future - Issues and Records Management Responses**

**By**

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## **Introduction**

Information and communication technology (ICT) challenges the theory and practice of records management. Electronic records cannot be managed without changes in the methods developed for traditional records mainly in paper form. Metadata and context have to be assigned to the electronic documents to make it an electronic record. Records are not anymore stored in one place: they are stored in document management systems, electronic records management systems, and in different devices utilizing ICT. Additionally, documents and records may occur in numerous copies, versions, and formats at the same time in different locations.

Electronic records can be found in every area of government and business activities. Official records are produced to carry out business or administrative processes, decision making processes or procedures. The records must be preserved for later use as documentation and evidence, and for cultural and historical reasons. Records must also be made available to citizens and customers. (Young & Kampffmeyer, 2002).

Mobile technology is an expanding branch of ICT that has further expanded the challenges for records management. Mobile devices and new wireless tools challenge the theory and practices of records management (Mäkinen & Huotari, 2004; Mäkinen, 2005). With the growing number of people using mobile tools new kind of problems are also encountered. For example, it has been indicated that about 12 per cent of organizational knowledge is in its structured knowledge base and the majority lies scattered about organizations in the form of paper and electronic documents (Kikawada & Holtshouse, 2001). The mobile working environment does not improve this situation because the number of device used for processing records has increased dramatically. A person may work on various workstations of which some may be mobile. These workstations do not necessarily communicate with each other or with the information systems of an organization.

One of the problematic issues is data security: it needs to be taken care of. Organizations produce and manage confidential records and processing them in mobile devices is a great challenge for information and records managers. Wireless networks help in connecting to the Internet but they may be a great security risk in spite of different data encryption schemes. Complex communication systems increase the risk of losing information and breaking down the integrity of the organizational memory.

This paper is connected to the Ph.D. study which is being carried out in University of Tampere (Mäkinen 2004). The aim of the study is to increase our understanding of the current state of document management

and records management in mobile and wireless environments. Especially, the problems in developing organizational knowledge, intellectual capital, and the management of organizational memory are addressed. The work is based on a qualitative case study applying ethnographic research methods. Empirical data is being collected in the context of two medium-sized organizations in Finland using triangulation of data sources (interviews, observing, and document analysis).

## **Records in mobile world**

A mobile device is an application of wireless communication technologies to process, transmit and exchange data. This includes laptop computers, personal digital assistants (PDAs), mobile phones and smart phones (see e. g. Allen & Shoard, 2004; Weilenmann, 2003). Records can be created, processed, transferred, stored, disseminated, shared, used, and disposed in and by mobile devices. Work exploiting mobile technology has increased in two ways. Firstly, persons who have worked mobile in traditional sense have taken the computer as part of their work in different locations. This means that records that were earlier created as a separate process in the office (offline) are now created online in the actual work context. Secondly, work that was earlier made in a fixed location (e.g. in the office of a doctor) can now be made freely in any place selected (e.g. at home of a patient).

Experts, for example, military professions, trainers, salesmen, consultants, maintenance staff, both blue and white collar workers work mobile and in varying locations (Churchill & Munro, 2001). Work is done in airplanes, airports, trains, hotel rooms, and cars. According to a mobile worker, airplane is the best working environment, because there is plenty of food and peace, and no telephone. According to another mobile worker, sitting in a train is useful time because you are able to write a few emails to be sent as soon as you are able to connect the Internet.

Professionals working in the office have a greater familiarity and certainty about the environment and resources, such as facilities, technology, and people. Mobile workers experience a range of different context and facilities. (Perry et al., 2001). They may not have access to colleagues, organizational memory, or organizational information systems. As Perry and others put it, mobile workers have less control over the configuration of their environment and the way they manage their work.

Records contain business-bound information and consist of four elements: physical record, content, context and structure (Hofman, 1996; Thomassen, 2001). If any of the four elements does not exist, can it be regarded as a record? Especially contextualness, collectivity, and uniqueness are connected to recordness.

Since mobile workers have less control over the working environment, records may not be captured into records management systems and neither into the organizational memory. The threat is that a large share of records in mobile devices will not be identified, organized or described but lost and destroyed. This fear is realistic since there are no records management rules, standards, and instructions for mobile environment. In addition, mobile workers struggle with a complex technical environment, and they might not always know how to complete the process with records properly. This enhances the effects of a motivational problem that many persons, even experts, are just unaware or do not care of the importance of storing and organizing business records.

Wireless communication and various handheld devices multiply the number of storage formats and storage locations. Today, handheld devices like mobile phones and PDAs are used in everyday working life and many mobile workers just cannot imagine how their work would get done without these devices. Wireless and mobile technology brings connectivity to information sources and enhances communication capabilities. These small handheld devices typically do not have disc drivers or storage capability. (Phillips, 2002). Many users think that messages stored in these devices are temporary and do not save messages in the same way they save business records in their laptops or desktop computers. But these messages may be critical from the organizational memory point of view. How many of us have thought that a

mobile phone message (SMS - Short Message Service) may be a record which should be formally managed by retention periods?

The challenge of records and information professionals today is to develop records management systems that are able to capture, classify, and preserve the content, format, and the metadata of these records. (Andolsen, 2002). However, many of these systems are able to capture and preserve emails and link them to the process in which they were created. But how many of these systems are able to capture SMSs? One future scenario could be for example job applications in format of SMSs of the Multimedia Messaging Service (MMS). An electronic records management program may be one answer. As Andolsen (2002) puts it, the issues surrounding digital preservation are no longer technological, rather they are human.

The problems of creating records in mobile environment are related to version control, sharing and disposal of records. Mobile workers have to deal with different devices in different situations and environments producing, processing, sharing, and managing records. Everyday problem for a mobile worker is how to manage multiple versions of different records. Is the right one in the office computer, in the home computer, or in the laptop?

The problem is that in most cases mobile worker is not a professional information manager. Many mobile workers have all of their working life in one laptop hard drive. Unfortunately, laptops are not archives. How many people are even aware of existence of retention schedules? Losing a laptop can be a critical issue if laptop consists of secret records even if they were encrypted. More difficult problems can arise, if an organization has only few laptops and various employees use them. In that case, unauthorized persons may be able to see records and in addition to this they may destroy records which should be retained by retention schedule.

Some mobile workers have created their own survival strategies for managing vital information. This describes the challenges they are facing. Since mobile technology is a novel issue, most organizations have not recognized the challenges of mobile environment from the records and archive management point of view. Most organizations are neither aware of the threats of mobile nor wireless environment. For example, if a mobile worker uses multiple mobile devices, creates and manages confidential record in them, there is a great risk of losing these records. How many of organizations have explicit directions of managing and preserving and taking back-ups of records created in mobile devices? According to Andolsen (2002), the risk is to create a mountain of undifferentiated and irretrievable data. This risk concerns to the great extent electronic records in mobile and wireless environment.

### **Data security in mobile world**

A great deal of confidential records are produced and processed in mobile devices during business trips. Emails should be encrypted and paper documents should be secured. I claim that only few mobile workers are aware of this and even fewer are aware of records management requirements. Unsecured data in wrong hands can be a great risk to anyone. Viruses and worms are reality in email and telecommunication, and viruses, like Commonwarrior, also exist in mobile environment. There are over 50 viruses today threatening just mobile devices. Mobile viruses threaten especially smart phones and utilize for example Bluetooth to spread themselves.

If a laptop gets lost, it most likely is a catastrophe: if there are no backups taken a mobile worker may lose a great deal of his organizational memory. How many of us using laptops take backups regularly?

As Ron Elliott (2002) has pointed out, there lies three major information challenges in storing business records from wireless devices, and these challenges apply to other mobile devices. Firstly, organizational information is retained in the device and transferred to the organizational system. Secondly, the integrity and trustworthiness of information is ensured in the way that the information in the device is original and

not corrupted. Thirdly, it is ensured that information is transferred by an authorized user. Finally, a retention schedule is devised for timely destruction of information in handheld and mobile devices.

Especially wireless networks may be a data security risk. In spite of different data encryption schemes WLANs cannot be recommended to use delivering secret data.

## **Conclusion**

There are no regulations for producing, editing and storing records in the mobile working environment. What should records management professionals do? The answer to these challenges is to realise the present situation, understand these issues, list the threats, and create regulation for managing records in the mobile environment. This can only be done by records and archives management professionals, computer specialists and mobile workers together. Paper records are still here, but there are also in laptops, mobile phones, and PDAs. Mobile workers need to be aware of requirements of records management and archival service: the preservation of organizational memory is vital to organization functionality.

The organized collection of records forms the memory of an organization. Records managers should face the reality and look at the mobile future. Records managers' challenge today and in the future is to ensure authenticity, reliability, and trustworthy of records also in mobile environment.

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