SpringerBriefs in Digital Spaces

The Use of Smart Mobile Equipment for the Innovation in Organizational Coordination

Bearbeitet von
Namjae Cho

Wirtschaft > Betriebswirtschaft: Theorie & Allgemeines > Wirtschaftsinformatik, SAP, IT-Management

Zu Inhaltsverzeichnis

schnell und portofrei erhältlich bei

beck-shop.de
DIE FACHBUCHHANDLUNG

The Use of Smart Mobile Equipment for the Innovation in Organizational Coordination

1 Introduction

There is a series of emerging information technologies that have a good potential to enable emergent business innovation. Most of all, the new smart phone is an offspring of digital convergence of network, media, and electronic equipments. Smart phone, being an enabler of telecommunications network and open internet network access, help business people use diverse modes of data, information, images, and video on a unified mobile application platform. One major impact of such convergence is the increase of innovation potential in the structure and process of organizational coordination.

The importance of coordination in the process of creating value in organizations has been emphasized repeatedly (Argyres 1999; Malone and Crowston 1994; Gittell and Weiss 2004). Coordination is considered as the core principle of organizing (Faraj and Xiao 2006; Malone and Crowston 1994). Coordination can be considered as an umbrella concept which include integration (combining to an integral whole), collaboration (working jointly), and cooperation (joint operation). It is reported that an effective coordination contribute to organizational decision making, business performance, cost saving, flexible response to the changes in market (Ballou et al. 2000; Hoyt and Huq 2000; Barratt 2004; Ding and Chen 2008).

Due to the complexity of coordination, diverse factors affect the approaches, process, and outcome of coordination. For example, the focus and goals of coordination is affected by the nature of product. When the product is stable, it is advised to focus on the reduction of cost. On the other hand, when the product has a dynamic nature, the focus of management will be directed toward the fast development of new products, swift incorporation of new technology, and the implementation of new innovation.

At the core of the coordination of business activities lies the efficient and effective sharing of information using new technologies. Sharing information

could be realized through the adoption of standard data codes and information interchange technologies. However, the more difficult problem in the implementation of information sharing and coordination than the adoption of technology is the coordination of culture and business practices.

This project is to explore the potential of the use of new convergence technology, e.g. smart mobile phones, for an innovation in organizational productivity. A few companies like Samsung Insurance, Kolong, and Green Cross in Korea recently launched new IT projects to extend their corporate information systems to the use of smart phones so that their employees can access and share organizational information stored in the legacy system, intranets, and knowledge management systems. These attempts are expected to change the way people work and perform business activities. We will perform comparative case studies of these companies so that we can better understand how different business contexts affect the use of this new technology for the improvements in organizational coordination. In addition we plan to perform a survey to analyze organizational and individual responses to this new business practices.

The importance of organizations' information management process increases as it is directly related to the survival of companies under hyper-turbulent business environment. One critical capacity required for modern companies under rapidly changing industrial environment is the establishment of information management systems that help managers understand and interpret business environment correctly and respond quickly to the changes. For such reasons real-time information communication within and across organizational boundary is considered critical as a strategic infrastructure. Enhanced information processing capacity not only improves operational efficiency and corporate competitiveness, but it also helps companies capture new business opportunities for growth through efficient and effective decision making.

Mobile office systems have recently become the focus of interest as a key information processing technology as a stable wireless network environment for mobile Internet is secured and as powerful mobile equipment such smart phone is widely available. Mobile office system is considered to provide a task environment that enables the use of information anytime and anywhere using portable computers, mobile phones, and PDAs. It can also be integrated to business processes so that right business tools can be used for under appropriate situations (KT Economic Research Center 2010).

The adoption of mobile office environment started to spread out in Korea with the initiative of large corporations and public sector. The mobile office system is expected to provide the 'smartness' required for modern organizations as well as the 'mobility' required to cope with rapid changes.

The effect of the use of a technology is optimized when the technology is designed and applied to match the contingency of an organization. In this vein the organizational demand for technological functionalities should be carefully studied to guide a successful adoption of a new technology. However, systematic and empirical research around the use of mobile office system is yet far from sufficient.

This research is aimed to examine the nature of task characteristics and its relationship to the use of mobile office systems in order to understand the appropriate context of the use of mobile office system within an organization from the perspective of task-technology fit theory.

2 Theoretical Background and Research Hypotheses

2.1 Mobile Office System

2.1.1 Nature of Mobile Office System

Mobile Office System is an enterprise information technology which uses portable terminals to access corporate information systems to manage data and human resources in remote locations (Gebauer and Shaw 2004). Mobile office is being diffused rapidly as its adoption enables efficient task processing by employees working inside and outside of the office as well as in the operational field. Mobile office emerged as notebook computers are introduced as an important source of corporate competitiveness based on their high level of mobility. PDAs (Personal Digital Assistance) are also used as a hand-held terminal for mobile office for the management of inventory in logistics and retailing function based on wireless technology such as IrDA. The scope of today's Mobile Office System usage includes real-time task processing using groupware, corporate bulletin board, task schedule manager, ERP, SCM, CRM, and Intranets.

The introduction of Mobile Office System enables activity-centric and user-centric task processing as corporate data can be used anytime anywhere to improve productivity through improved communication and collaboration among employees (Beulen and Streng 2002). The effect of the use of Mobile Office System is considered to include fast decision making, reduction of operating costs, improved speed of service, improved organizational task efficiency, improved productivity, and increased level of customer service. The use of mobile office is expanding from logistics, retail, service, and insurance industries into such sectors as education, healthcare and public services.

2.1.2 Status of Mobile Office Adoption in Korea

Mobile office based on specialized PDA has long been used in Korea in various industries. Such systems largely used for field task management and sales resource management. The improvements in ubiquitous technology environment and safety infrastructure for high-speed mobile network enabled the convenient use of advanced smart phones for mobile office. Mobile office based on smart phone has high-level of interconnectivity and portability compared to PDSs and Laptops.

For this reason, smart phone-based mobile office is being actively adopted by companies in different sizes as well as public sector organizations.

The number of mobile office users is expected to increase from about 10,000 in 2009 to 1,000,000 by 2012. (Broadcasting and Communications Council 2010). Mobile office system is being actively adopted within Korea. KT (Korea Telecom) Economic Research (2010) reported that investment into mobile office environment in 2009 was 2.9 Trillion KRW and is expected to grow rapidly to reach 5.9 Trillion KRW by 2014.

Large Korean conglomerates such as Samsung, Kolon, and SK and large companies such as KT (Korea Telecom) and POSCO adopted corporate-wide mobile office systems. For example, Samsung group used smart phones for approval, e-mail, and employee search. Kolon group provided smart phone with mobile office to 8,000 employees of its 42 subsidiaries. SK Group spreads out a customized mobile office throughout its subsidiaries. Dongbu group uses mobile office for approval, pursues improvements in task process and corporate culture, and is planning to expand the system to sales and inventory management functions. POSCO provided smart phones to all managers for the use of e-mail, marketing-related tasks, and e-learning services. Shinhan Bank provides smart phones to 1,000 executive managers and had them use it for document approval, employee search, decision making, and messaging.

The adoption of smart phones for mobile office can also be observed in public sector. Ministry of Internal Administration and Safety provided smart phones connected to mobile office to 3,000 managers for the purpose of approval, reporting, and e-mail and is pursuing the adoption of extended standard for inter-operation. Broadcasting bureau uses smart phones with a connection to Internet phone exchange, FMC services, and weather-related service operator systems. Seoul Metropolitan Transit Railway, a public company owned and operated by the city of Seoul, uses mobile office with smart phones for real-time facility testing and maintenance, technical problem reporting, and the reporting of corresponding responses, as well as unified group communication functions. Table 1a, b enumerate organizations that adopt mobile office systems by the time of December, 2010.

2.1.3 Mobile Office System Functions

Mobile office service under mobile office system environment implies that corporate business tasks are performed using Laptops, PDAs, and smart phones as well as Internet services based on desktop computers to enable continuous access to enterprise information systems anytime anywhere. EMS (Enterprise Mobility Service) should include mobile equipment, mobile solutions, and related network infrastructure. The establishment of EMS should consider unique business context of each companies. The adoption of EMS is expected to help reduce communication cost and improve task efficiency so that RTE (Real Time Enterprise) can be realized.

Mobile office functions provided through EMS environment can be divided into two groups: primary functions related to company groupware and specialized

Fig. 1 Classification of Mobile Office Functions

functions to process specific tasks inter-operated with corporate legacy information systems as summarized in Fig. 1.

2.1.4 Mobile Office System Primary Functions

Mobile office system primary functions are provided via the interconnection with company groupware. These functions include the followings:

- **e-mail:** remote use of company e-mail server
- **Electronic approval:** real-time decision making and tracking using mobile electronic approval service which also provide review of related documents and opinions.
- **Task scheduler:** registration and search of task schedules using mobile terminals
- **Employee search:** registration and search of employee information, directory, and organization chart using mobile terminals which also allow immediate communication, messaging, and mailing.
- **Messenger:** coordinate task opinions and support fast decision making via the use of company messenger services among organizational members
- **Internet Data Retrieval:** search task-related information via Internet portals and enterprise databases
- **Social Network service:** real-time access to social network services for interaction among organizational members
- **Corporate Bulletin Board:** registration and search of task ideas and opinions using corporate groupware