Knowledge Management with Partners in a Dynamic Information Environment

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INTRODUCTION

There are great challenges of the management in creative knowledge work, where individuals and information systems have a considerable role when the organisation is striving to achieve its strategic objectives. It is shown in this article that analysing the information and operational environments helps management in knowledge management and activates the organisation's awareness about the development needs of information systems.

The purpose of this article is to analyse the interaction between the dynamic information environment (IE) and the operational environment to promote the cooperation of the higher education institution with business life and enhance the external impact of the institution on its environment. The dynamic IEs are analysed to manage the information systems and internal processes in an educational institution and their cooperating partners.

This article is organised as follows: The article introduces the approach of IEs and operational environments. Then the concept of a dynamic IE is used to analyse the information systems used in the core internal processes of the higher education institution. The study also describes the partnership in a dynamic IE. Thereafter, a short case study is presented about partnership using the electronic Optima platform at the Turku University of Applied Sciences (TUAS). Finally, the results of the study are summarised in the concluding section.

BACKGROUND

Dynamic Information and Operational Environments

The approach of IEs is used in this article as a background to describe the different kinds of information systems in various operational environments. The approach of IEs was developed by Ståhle and has been applied in several studies (Ståhle & Grönroos, 2000, Ståhle & Hong, 2002; Ståhle, Ståhle, & Pöyhönen, 2003). An organisation is described in these studies as a knowledge creating system, where management and information systems influence the activities of individuals in various IEs. The classification includes mechanical, organic, and dynamic IEs.

Mechanical IEs increase the efficiency of internal processes and include thoroughly controlled information systems such as accounting and logistics systems, which are tied to the processes and structures of an organisation. The nature of information is mainly of the input-output type, where the functions of the information systems are to automate, steer, and report. Typically, time-consuming routine tasks are performed cost-efficiently using mechanical IEs.

Organic IEs emphasise dialogue, communication, and sharing of experience-based tacit knowledge (Kim, Chaudhury, & Rao, 2002; Nonaka & Takeuchi, 1995; Takeuchi & Nonaka, 2004). Organic IEs include, for example, feedback systems, management information systems, and library systems. The management information system is a tool which emphasises the communication and implementation of strategic plans. Two-way and open dialogue within the organisation is important. The system can be planned and constructed

to facilitate strategic management and the balanced scorecard approach (Kettunen & Kantola, 2005; Kettunen, 2005, 2006).

Dynamic IEs aim to continuously produce innovations by self-organisation. An essential feature is that power and authority are not used but the process is led by the actor best suited for the task. The information in the dynamic IEs is obtained from the weak signals of networks. The dynamic IE typically reaches outside of the organisational limits and provides two-way access to the common information. The continuous and fast current of information reinforces the individuals for innovations.

The main idea of dynamic IEs and interaction with the operative environments is the strategic awareness of opportunities for virtual learning, interaction, communication, and diversity. In the learning process, open and grey areas can be found: virtual learning systems and networking, net casting and different portals connected with more risky, chaotic and innovative environments (Sauer, Bialek, Efimova, Schwartlander, Pless, & Neuhaus, 2005), and online networking platforms (Steinberg, 2006). The management and regional development process rely more on the open systems of the local, regional, and global partners of the TUAS.

Knowledge is accumulated through learning processes, which require both cultural and technological skills. Gathering explicit knowledge is relatively unproblematic because this type of data is codified and can be retrieved from mechanical and organic IEs. However, a great deal of knowledge is not codified and resides in the abilities and experiences of people. This knowledge can be gathered together in dynamic IEs. This knowledge may be of strategic importance but is difficult to acquire since it is not formalised and often concerns diffuse and context-sensitive matters. The way organisations enable access to uncodified knowledge is to invest in dynamic IEs, which support communication between individuals and interest groups.

Figure 1 combines dynamic IEs and operational environments. The dynamic IE is the source where new innovations emerge by self-organisation. The information is constructed by the weak signals and tacit knowledge of virtual networks. Intellectual capital is one of the main factors of organisational development and innovations. The essential issues include the speed of information flow, the ways of information change, and the utilization and quality of information. The continuous movement and fast current of information reinforce the intellectual capital and the ability for innovations (Ståhle & Grönroos, 2000).

The operational environment of an organisation consists of the organisation and its stakeholders, customers and partners, local community, and society. Each organisation has to adapt its internal processes, resources, and capabilities to the changing environment in the strategic plan. Higher education institutions have to adapt their activities to the education policy, the local demand for labour, and the needs of stakeholders. The different operational environments can be seen as interconnected surroundings within each other. The surrounding operational environments may have diverse connections with the information systems of the institution.

Castells (2001) introduces a concept of ad hoc network, which typically appears in e-business and network enterprises. The concept of ad hoc network is also used to describe a group formed to deal with specific issues and disbanded after the issue has been resolved. These temporary groups provide solutions to problems that are not resolved by ordinary processes of the organisation. Castells defines the concept of a network enterprise, which is designed around a specific business project in the network. The business of the network enterprise is performed using ad hoc networks, which have the flexibility and adaptability required by continuous technological innovation and rapidly changing demand. A network enterprise open to suppliers and customers enables the enterprise to obtain information from specialists widely across the supplier organisation and customers to specify their needs. In this course of action, the exchange of information and the actors are tied together to an ad hoc social network, where the continuous flow of communication between individuals creates a structure where information and knowledge circulates.

The work groups and informal communities of practice have an essential role in the exchange of information and knowledge. Access to nonredundant sources of information is therefore important (Hakkarainen, Palonen, Paavola, & Lehtinen, 2004). The structure of knowledge in organisational settings is often nested so that information circulates within work groups and informal communities rather than between them (Palonen, 2006).