How to Extend the ICT Used at Companies for Transferring and Sharing Knowledge

Albena Antonova[1], Anikó Csepregi[2], and Angel Marchev Jr.[3]

[1] FEBA, Sofia University,
125 Tzarigradsko Schausse Blvd., bl.3 Sofia 1113, Bulgaria,
a_antonova@feb.uni-sofia.bg
[2] University of Pannonia,
H-8200 Veszprém, Egyetem u. 10, Hungary
csepregia@gtk.uni-pannon.hu
[3] University of National and World Economy,
Department of Management,
angel.marchev@yahoo.com

Abstract. Knowledge sharing (KS) is recognized today as an increasingly important management problem because it reflects the capacity of organizations to absorb and profit from individual knowledge and to transform it to company market value proposition. Knowledge transfer (KT) is defined as the process of more general and abstract knowledge exchange via ICT. ICT plays an important role for KT, but in practice they are moderately used within the organization. The present paper aims to overview the concepts of KS and KT. As a result it will propose a model for KS´s impact on KT. After this an empirical research conducted among 200 HU and 157 BG managers will present how these managers rank competences, motivation practices and techniques for KS and how it influences KT and thus reflect on the use of ICT.

Keywords: knowledge sharing, knowledge transfer, KS competences, KS practices, KS technologies

1 Introduction

Knowledge sharing (KS) and knowledge transfer (KT) represent the key KM processes in organizations and are fundamental for generating new ideas and developing new business opportunities [1]. KS and KT increase the organizational knowledge and contribute for higher performance, enhance innovation and the ability to respond to internal and external challenges.

IT technologies are still used moderately at companies. A recent survey among 200 Hungarian and 157 Bulgarian managers prove that the main ICT tools used for KS are emails (85% BG, 78% HU), databases (54% BG, 65% HU) and intranet (48% BG, 59% HU). Moreover it can be observed that less than 1/3 of managers believe that the use of ICT can enable them to acquire and work easily with knowledge. These results are confirmed by other surveys [2] and open discussion why and how companies could profit from sophisticated IT for KS. Thus the present paper will propose a model to assess impact of KS on KT process and to understand factors facilitating IT implementation and use.

2 Theoretical background and overview of KS and KT

KS and KT are often mixed up and replaced as substitutes, designating the process of knowledge exchange between actors and across organizational units and boundaries. However, studying the literature, it can be noticed that KS is used in social and organizational research, highlighting the role of individual and organizational factors for KS [1,7]. The term KT is applied on rather abstract level, studying the transfer process, media and ICT technologies implementation. A definition of KS state that it is a set of behaviours about knowledge exchange which involves actors, knowledge content, organizational context, appropriate media, and social environment [3]. While KS is the process by which knowledge held by an individual is converted into a form that can be understood, absorbed, and used by other individuals [1]. Finally Christensen [4] believes that 'the goal of KS can either be to create new knowledge by differently combining existing knowledge or to become better at exploiting existing knowledge'.

KT is defined as 'activities of exchanging explicit or tacit knowledge between two agents, during which one agent receive and apply the knowledge provided by the other agent' [5]. Thus KT is the act of transmitting knowledge from one source to another source and using the transmitted knowledge in a general way. Thus KT technologies need to support both the knowledge codification and the knowledge extraction from the source and its representation in an object. Further the user should be able to interpret knowledge, and at the end of the KT has to show the same knowledge ability owned by the source [6].

The KS process consists of 2 main activities: transmission and absorption [7] between knowledge owner (who possesses knowledge) and knowledge perceiver (who acquires knowledge). First, the knowledge owner communicates knowledge in some forms (written, verbal) and after that the knowledge receiver has to be able to perceive expression of knowledge and make sense of it. Thus the KS includes both the externalization (through the competences of codification and presentation) and the internalization of knowledge through the capabilities of reading, learning, interpreting, and absorbing.

Combining and extending the approaches for KT [6] and for KS [8], a joint model of KS and KT processes within an organization is proposed in fig.1. Thus in order to improve the use of ICT for KS, companies should support and develop incentives to foster KS processes for both externalization and internalization of knowledge.
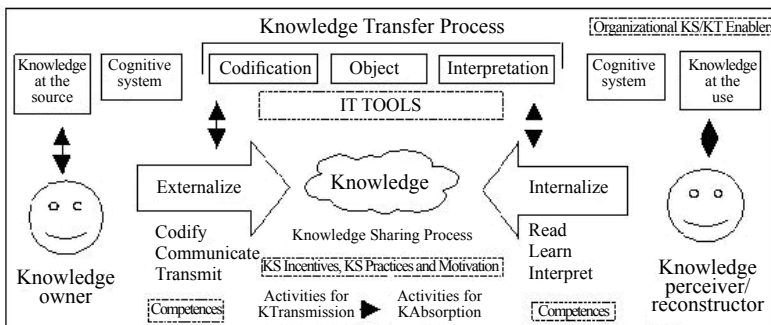

Fig. 1. Combination of KS and KT processes in organizational context [6,8].

3 Method and Empirical Results

In order to illustrate how works the proposed model, the results of an empirical survey of KS is presented and discussed. The survey has been conducted among Hungarian (2006-2010) and Bulgarian (2009-2010) middle managers at medium and large enterprises. A database of 157 questionnaires has been collected in BG which is compared with the last 200 questionnaires collected in HU during the same period. Realizing the similarities how BG and HU managers use ICT technologies for knowledge sharing (emails, databases and intranet), we decided to review how managers understand the other key enablers of KS – individual competences, motivational practices and KS soft techniques.

As discussed in the model above, knowledge owners and knowledge receivers need to possess appropriate competences to be able to participate in KS process. The survey data discover those key competences, identified by managers as most important for KS (Table 1). The empirical results show that similarly, middle managers in both countries prioritize the importance of competences enabling knowledge internalization.

Table 1. Individual competences for KS (% of managers ranking KS competences).

Competences for Externalization	Competences for Internalization
• Ability of explaining (35% HU, 58% BG) • Flexibility in communication (25% HU, 54%BG)	• Ability of cooperation in team (51% HU, 66% BG) • Problem solving (58% HU, 54 BG) • Ability of comprehension (41% HU, 58% BG) • Logical thinking (48% HU, 55% BG), • Ability of analyzing (23% HU, 52% BG)

Other elements of company KS policy are motivational incentives that encourage employees to share knowledge. Both BG and HU managers recognize similar incentives to reward KS efforts, focusing mainly on non-material stimulus (Table 2). Again, it can be observed that managers use incentives, prioritizing knowledge internalization practices.

Table 2. Motivational incentives for KS (% of managers, using KS motivational methods).

Incentives for K Externalization	Incentives for K Internalization
• Taking responsibility (27% HU, 53% BG) • Taking part in decision making (44% HU, 43% BG)	• opportunity of learning (50 HU, 43% BG) • job promotion (34% HU, 41%BG) • career perspectives (29%HU, 40% BG) • challenging tasks (47% HU, 39% BG)

The last factor includes soft techniques and practices used to foster KS in organizational context. Thus BG and HU managers outline some of the most common methods for KS (Table 3), including various learning opportunities (trainings, workshops, group work) and informal meetings.

Table 3. Soft techniques for KS (% of managers, using following KS techniques).

Techniques supporting Externalization	Techniques supporting Internalization
• Workshops (systematically share knowledge) (19% HU, 69% BG)	• Groupwork (learning by observing) (70% HU, 86%BG) • Trainings (learning) (38% HU, 63% BG) • Informal meetings (ad-hoc practical knowledge exchange) (70% HU, 36% BG)

4 Discussion

KS focuses on knowledge exchange between individuals, depending on personal and group factors, corporate context and culture, while KT views knowledge as an explicit object, independent from its owner or its further users. KT aims to externalize knowledge as specific object and thus IT tools play substantial role for KT. The proposed model demonstrates how individual (competences) and organizational (incentives, practices and motivation) factors reflect on the KS and influence KT and thus reflect ICT use. Thus in order to improve its KS and KT approach, companies should support and develop incentives to foster KS processes for both processes for externalization and internalization of knowledge.

Considering results of the presented empirical research, we can conclude that the majority of company efforts for KS in both countries focus on promoting knowledge absorption. This means that BG and HU companies encourage employees mainly to absorb and apply existing knowledge and not to share what they know. This conclusion is derived after the analysis of competences, incentives and techniques for KS and explains why employees use mainly emails, databases and intranets (IT tools for personal communication and structured information exchange with small impact on KT). This model proves that people see their role as knowledge receivers and don´t feel the need to provide or express knowledge. So before implementing more efficient IT tools for KT (as Web 2.0, Kportals, KMSystems), companies should make substantial efforts to change KS focus and to promote competences and practices enhancing knowledge externalization.

5 Conclusions

The present research investigates why only a few IT tools for KT are used in practice in companies, although there are a high number of alternatives. The proposed model gives a framework for companies to evaluate how coherent is their KS/KT approach is. So KS activities should raise competences and provide incentives to encourage employees both to externalize (share, communicate and present) and to internalize (understand, learn, absorb and apply) new knowledge. Further research could extend comparisons of KS and KT and provide more detailed theoretical and practical examples.

References

1. Lin, H.: Effects of Extrinsic And Intrinsic Motivation On Employee Knowledge Sharing Intention. Journal of IS, 33 (2), 135-149 (2007)
2. KPMG: Knowledge Management In Poland 2004 - Research Report. (2004)
3. Yang, C., Chen, C.: Can Organizational Knowledge Capabilities Affect Knowledge Sharing Behaviour? Journal of IS, 33 (1), 95-109 (2007)
4. Christensen, H.P.: Knowledge Sharing : Moving Away From The Obsession With Best Practices. Journal of Knowledge Management, 11(1), 36-47 (2007)
5. Kumar, J., Ganesh, L:, Research on Knowledge Transfer In Organizations, A Morphology. Journal of Knowledge Management, 13(4), 161-174 (2009)
6. Garavelli, A.C., Gorgoglione, M., Scozzi, B.: Managing Knowledge Transfer By Knowledge Technologies. Technovation. 22, 269-279 (2002)
7. Hendriks P.: Why Share Knowledge? Knowledge and Process Management, 6,(2), 91-100 (1999)
8. Argote L., Ingram P.: Knowledge Transfer: Basis For Competitive advantage In Firms. Organizational Behaviour and Human Decision Process, 82(1), 150-169 (2000)