

Maciocha Agnes¹, Niehoff Brian², Surakka Jukka³

1 Institute of Art, Design and Technology, Ireland

2 Kansas State University, USA

3 Arcada University, Finland

Knowledge creation and the employee well-being – analysis of the relationship

ABSTRACT

This paper takes a theoretical approach to investigate the relationship between organisational well-being and knowledge creation. Very little research has considered the linkage between these two domains. This paper investigated the role of activities aimed at improving employee well-being, using the Metal Age method (Nasman, 2011), to enrich different types of *ba*, and thus enhance knowledge creation. It is concluded that well-being activities reduce the tension between exploration and exploitation of organisational knowledge and thus provide solutions to the problems related to organisational renewal. A reconfigured model of knowledge creation is proposed.

Keywords: Knowledge creation, well-being, Metal Age, knowledge management

1 Introduction

In today's fast changing market, the necessity to constantly innovate is evident. Organisations and companies need to adapt and constantly transform in order to survive. As the source of competitive advantage has shifted from exploitation of physical resources to intangibles, knowledge and knowledge creating activities have been recognised to provide the foundation of organisational dynamic capability (Iansiti, Clark 1994, p. 563) and organisational competence (Teece 1982; Prahalad, Hammel 1990). Composed of the interrelated, interdependent knowledge systems that include employee skills, technical systems, managerial systems and values and norms (Leonard –Barton 1992 p. 8), this organisational capability provides a strong base for actions – a necessary aspect for timely reaction to the changes in external environment. The capability to create new knowledge while maintaining strong financial performance can be a source of sustainable competitive advantage. The challenge of this approach requires a tenuous balance between the exploration of new possibilities and the exploitation of old certainties. Deficiency in this equilibrium can often be effective in the short run, but will most likely result in self-destruction in the long run (March, 1991).

The maintenance of the delicate balance between investments and outputs (Hussi 2005) is truly challenging. As knowledge is unavoidably dependent on human capital, the need for innovativeness has significant implications for the work environment. The rapid, non-linear, unpredictable and revolutionary changes in the recent past have placed additional strain on employees, and hence organisations for efficient use of their resources. Principles like flexibility, agility and customer orientation have permeated work organisations from strategic management to operative performance, changing the nature of work from mostly linear processes to

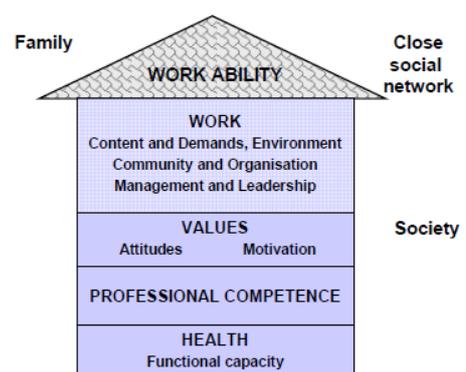
mostly non-linear (Kasvi, 2003). The changing business models have modified the methods of organisation of work and people thus compelling employees to constantly develop their competencies. Since competitive advantage depends more and more on employee knowledge, skills such as problem identification, problem solving, and strategic brokering, along with social and communication skills have become increasingly required from employees (Marquard 1996). Moreover, the alteration and redefinition of work tasks is happening at a much faster pace than the training and resources that can be provided by the organisation. Consequently, the excessive work pace along with the above- mentioned changes have resulted in sustained and uncontrolled stress on employees. The changes in the work environment also impede the opportunity for social interactions between the organisation's members (Dyer & Nobeoka, 2000), negatively impinging on knowledge creation. Organisations thus face a considerable challenge as the more efficient they try to be, the more difficult it is to manage the knowledge creation process. Therefore, a delicate balance between the scope of utilisation of knowledge and human capital renewal has to be developed and maintained. This can be assisted through the advancement of employee well-being programmes. The potential impact of this approach will depend on its scope as it affects health, competencies and attitudes towards work creating a basis for a long working life. Consisting of various activities, such programmes are aimed at improving the physical and mental conditions, developing professional skills, assisting with adaptation to change, and supporting employee job satisfaction and motivation.

The structure of this paper is as follows. We first describe the concepts of work ability and employee well-being. Next, we provide a detailed description of the Metal Age method. Then, by using a modified, reconfigured model of knowledge creation, we will analyse the contribution of the Metal Age method in the knowledge creation process. Finally, we discuss the degree to which the well-being activities provide a solution to the tension that exists in organisational renewal, i.e., the conflict between exploitation and exploration of knowledge.

2 Work ability and well-being

Work ability programmes were introduced as a response to the challenges related to the changing business environment, an aging workforce and reduced occupational early exit options in advanced European countries. Initially, the focus was put on the occupational health only. However, they gradually started embracing notions related to employee well-being by combining versatile factors such as professional competence, the demands of the work, the organization of the work, employee work loads, control over the work, physical and psychosocial resources, emotional intelligence, health status, and work climate (figure 1). As a result of such a broad scope, significant consequences and benefits could be related not only to employees or organisations but also working teams, municipalities or society at large (Hasselhorn 2008). The projects' activities concentrate on four main areas:

Figure 1. Work ability House



Source: Risa 2007

- 1) the employees' health and coping resources,
- 2) professional competence,
- 3) work and the working conditions, and
- 4) the work community and leadership and management practices.

It is believed that by assisting employees at better coping at work, having more energy, work motivation, and high-quality work efforts, as well as the enhanced joy of working (Risa 2007), these programmes should result in higher productivity of employees (Tuomi et.al 2001; Ilmarinen 2006) and thus better performance of the organisation (Peltomaki 2002).

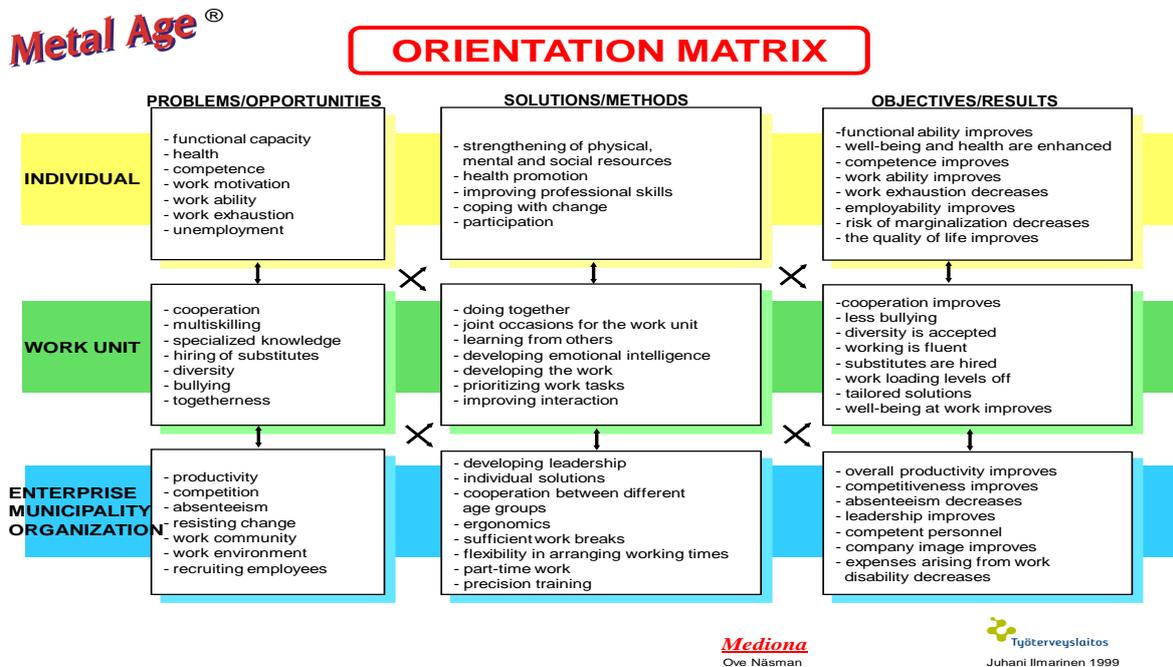
3 Metal Age Method

Developed by Ove Nasman (2011), the Metal Age is a structured model aimed at the development of employee well-being. As the focal point is on the activation of the individual, it does not require systematic analysis of all aspects and reasons that have impact on well-being situation at work. Actually, it does not put a lot of attention on analyzing problems. It rather centers all energy on identifying and applying solutions. Consequently, both employees and leaders are actively involved in the process focused on creating solutions for enhancing occupational well-being. Furthermore, if the whole team of a work unit is engaged in developing its well-being, each member will be more likely to perceive his work as being meaningful (Nasman, 2011). The goal is the continuous development process in one's own work and work environment. One of the beneficial outcomes of this participatory innovative work is that employees get to be a part of the organization's program development activities. This is a mutual learning process between employees and managers, which also develops trust and dialogue between members of the organization. In creating concrete, practical and tailored solutions, employees are involved in planning and prioritizing the development areas needed most by employees. Employees also gain a better understanding of the importance of prioritization, which suggests that not all of the important development areas can be implemented simultaneously. A common agreement is sought among the leaders and employees on the most important development areas to address first. As there is always a limit on the number of actions and measures that can be implemented at one time, the group learns to find agreement regarding which concrete improvements to try first. As a result, improved communication, mutual understanding and consensus within the work unit are gained. Despite the fact, that the prioritisation seems to be the crucial stage of the Metal Age method, the approach consists of four other distinct phases. They are as follows:

- 1) **Orientation:** -recognition that there are three different points of view of the situation: the individuals, the work unit and organization (figure 2).
- 2) **Intervention planning:** focus on finding development areas for improving well-being at work for the Metal Age planning group. At this stage the participants should evaluate the development areas freely and list the development areas before grouping them together,
- 3) **Prioritization:** provision for discussion about which challenges are the most important and urgent. Without prioritization there is risk that the work place does not implement any solutions because the list of possible development areas can become so extensive that there are not enough resources; hence, nothing gets done.

- 4) **Suggestions:** –focus on suggestions for concrete action. Concrete actions are suggested and agreed on for the development area that had the highest score during prioritisation.
- 5) **Follow-up:** (KIVA –questionnaire). The Metal Age planning session is concluded by the group agreeing on holding a follow-up meeting after 12 months.

Figure 2. Orientation matrix (Näsman 2011)



The most important aspect of this method is that it activates each individual by 'compelling' each one to contribute to the teamwork by working in groups of two as none of the participants can be passive in that situation. Furthermore, the participation of the boss or team leader is necessary. This creates a natural link between the set of agreed targets and actions that should be followed and executive administration of the organisation (Näsman, 2011).

4 Employee well-being and knowledge creation: - analysis of the relationship

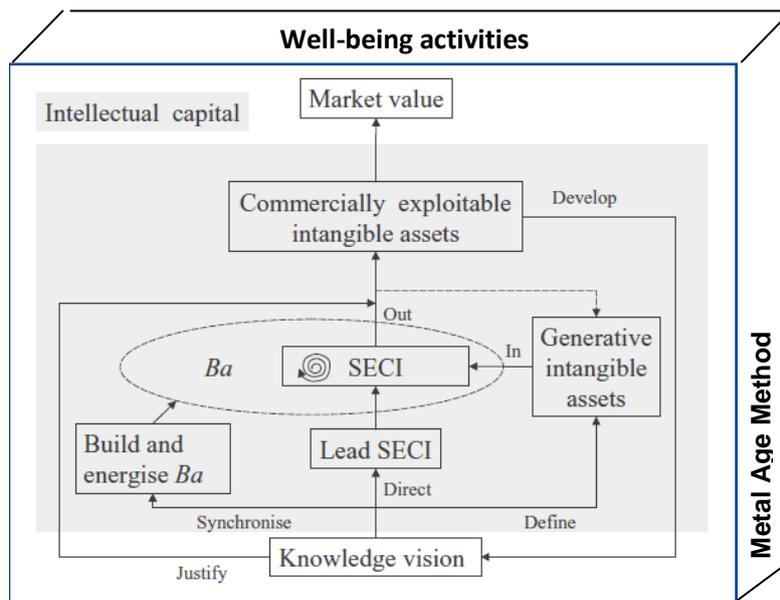
The sustainable economic development of any organisation is based on the maintenance of delicate balance between investments and productivity. In the post-industrial society, the effective knowledge creation and utilisation become an imperative to success. However, the sustained, long term success of a company is closely linked with its investments in assets that are responsible for knowledge generation, namely human capital.

In the Reconfigured model of knowledge management, Hussi (2004) provides an explanation of the relationship between the SECI model, Intellectual Capital and Intangible Assets. He distinguishes between generative intangible assets (that take the form of human capital, and internal and external structures) and commercially exploitable assets (Hussi, 2004). He further explains that the generative intangible assets provide input into the SECI model which results in commercially exploitable intangible assets (they constitute the basis for market valuation).

However, we believe that the proposition does not address the fundamental tension of strategic renewal – namely the conflict between exploration and exploitation

(Crossan, Berdrow, 2003; March 1991). Despite of very limited number of KM studies (Pöyhönen, 2004; Junnell, Stahle, 2011), we argue that organisational renewal, its function and dynamics are of significant importance, partly as an intellectual capital concept and as a determinant of the company's competitive advantage. Consequently, the role of organizational renewal capability must be recognized in its ability to create intangible resources (Pöyhönen, 2004). Thus, we propose to expand the model by embracing the strategic renewal aspect.

Figure 3: A modified, reconfigured, model of knowledge management



Source: based on Hussi, 2004

We argue that in order to ascertain the organization's ability to create commercially exploitable intangible assets in ever-increasing economic pressure and for the long term, the generative intangible assets be supported and revitalized through the implementation of employee well-being programmes. To represent our thoughts, we proposed a modified reconfigured model of knowledge management (figure 3).

We believe that the concept of employee well-being, and especially the Metal Age method, can be considered as enhancing knowledge creation on the one hand, and providing balance between exploitation and exploration on the other hand. In other words, the process of commercially exploitable intangible assets creation is augmented by improvement of various modes of knowledge creation along with augmentation of *ba* - the shared space within which individuals interact with each other (Nonaka et al. 2000). The *ba* can be understood as a platform where data, information and knowledge can come and go and continuously evolve (Durrant 2003).

The well-being activities, and especially the Metal Age method, have particular impact on the development of the originating *ba*. Due to its emphasis on openness among group members, the Metal Age method provides foundations for the creation of care, love, trust and commitment within units, organizations, and society. Consequently, by emphasizing openness in an organisation's functioning, this type of *ba* is of particular importance as it assists in harnessing extra organisational tacit knowledge into the knowledge creation process. In the Metal Age method, it is

especially reinforced by active engagement of both employees and leaders in pursuit of the enhancement of organisational well-being. As a result, the particular platform for mutual trust and commitment is developed. These concepts, in turn are deemed to play a particular role in the process of knowledge creation which has been investigated by (Begona, Moreno – Luzon, 2005; Moreno-Luzon, Lloria, 2008; Teerajetgul, Charoenngam, 2006;). This type of *ba* is closely related with the socialisation phase of knowledge creation. Being fundamental to sharing tacit knowledge, it is understood sometimes as (self-transcendence) (Durrant 2003) and represents the conversion of tacit into tacit knowledge. According to Argyris and Schon (1978), Schein (1996), and Senge (1990), this stage's focus is based on creating a shared understanding between members by facilitating the knowledge flow through group collaboration. As this process takes place through interaction between players -- observation, imitation, formal and informal conversations, face – to face meetings or telephone conferences (Durrant 2003) -- various networks of interactions which facilitate the sharing of experiences and mental models are developed.

According to Hussi (2005), this phase can be enhanced by having group members with different backgrounds and multiple sources of information. This approach is visible in the Metal Age method, and especially in the orientation phase, where workers representing different organizational level are engaged in the creation of the orientation matrix. Employees and leaders work together analysing the situation at work and embrace individual, unit, and organisation points of view.

Additionally, as work unit members are advised to actively engage in the enhancement of well –being at work, the supporting process for the interacting *ba* is taking place. According to Nonaka and Takeuchi (1995), the interacting *ba* is focusing on grouping the right mix of people with the special mix of abilities and knowledge that could work on the externalisation of tacit knowledge. The externalisation is the step in which tacit knowledge is converted into explicit concepts that can be comprehended by the other members and thus assimilated by the group. This stage is of utmost importance for organisations (Hussi 2005) as the externalisation of highly professional or highly personal tacit knowledge attained in the socialisation phase from external relationships or specialists is transformed into an easily understandable form and thus can be disseminated throughout the entire organisation. In the Metal Age approach, this step is clearly visible in the prioritization and suggestion phases, in which individuals need to agree on the most fundamental and urgent challenges and provide suggestions for specific actions that would address those challenges. In this phase, the group activity is the focal point, as through ongoing dialogue and reflection (Graumann 1990; Nonaka & Takeuchi 1995; Senge, 1990) the suggestions for improvement are agreed upon and thus can be further planned. According to Nonaka and Konno (1998) the externalization mode enables the expression of the employees' knowledge in an explicit form along with transmission of tacit components to the other group members. This is clearly visible during above mentioned phases, as various metaphors, analogies, concepts, hypotheses and models can be used (for more on the use of metaphors, concepts etc. in this phase see Emig 1983; Nonaka, et al., 2000).

We believe that the support for the remaining modes of knowledge creation, ie., the combination and internalization phases, constitute a by –product of the intervention. When the particular actions for improvement of well-being are successful and undertaken in different departments and organizational levels, they can be further improved or amended, and eventually become internalized by individuals in their

working routine. It is important, however, to highlight that the conducted well-being activities do not have linear influence on knowledge creation. For example, the interacting *ba* enhancement can be observable also after successful implementation of concrete actions developed during the Metal Age intervention. This relates to the significantly improved feeling of the possibility to control some aspect of the work environment as the employees are able to acknowledge the results of their actions that were undertaken as a result of the Metal Age method. Consequently, this will have a positive effect on their self-confidence, work motivation, and thus the capability for social interaction and their sense of humour. Again, as these factors are determinants of the interacting *ba* and the externalisation phase, they have a crucial impact on the innovative nature of individuals (Inkinen, Kaivo-oja, 2009). This, in turn, has an impact on the ability of the organisation to create new knowledge, while effectively utilising the existing one. As a consequence, we believe that the well-being actions, by supporting *ba*, and various modes of knowledge *creation*, in essence, rejuvenate the generative intangible assets and as such they provide solutions related to the tension between exploitation and exploration of organisational knowledge.

5 Conclusions

In this paper, we joined two developed fields of research, namely knowledge management and occupational health. Specifically, the central part of our focus was the contribution of the well-being practices, and especially Metal Age method, to the knowledge creation process. We illustrated that the Metal Age approach can offer structure and prioritization for *ba on one hand and support the various modes on knowledge creation on the other hand*. Furthermore, based on the reconfigured model of knowledge creation proposed by Hussi (2004), we suggested an extension by arguing that it does not address the tension between exploitation and exploration of knowledge. We believe that the well-being activities could provide a solution to the problem of strategic renewal by providing support and regeneration for generative intangible assets, considered here as human capital. Following this line of thinking, we advocated for a modified reconfigured, sustainable model of knowledge creation, in which the well-being activities aim at rejuvenating the human capital and support for various types of *ba* and the modes of knowledge creation.

When we consider Nonaka's (2009) suggestion regarding two types of outcomes resulting from the knowledge conversion, namely social practice and knowledge outcomes, we could clearly see these products in the new recommended model. The well-being activities that are created through the Metal Age method result in the new social practices that in turn have a crucial impact on the generation of commercially exploitable intangible assets. Furthermore, we believe that, enhanced by the well-being activities, the process of knowledge conversion is actually the mediating factor for increased company productivity and thus profitability that have been noticed in the studies focusing on well-being at work (Tuomi et al. 2001). However, as this paper, and thus, the proposed model were based on the literature search, the need for empirical verification is further recommended.

References

- Ahonen H., Engestrom Y., Virkkunen J., (2002) Knowledge Management – The Second Generation: Creating Competencies Within and Between Work Communities in the Competence Laboratory, Idea Group Publishing
- Argyris C., Schon D., (1974), Theories of Action in Practice – Increasing Professional Effectiveness, Jossey-Bass, San Francisco,
- Begona L., Moreno Luzon M., (2005), Construction and Validation of Measurement Scale for Enablers of Knowledge Creation, Management Research, Vol. 3, Issue 3
- Crossan, M., Berdrow I., (2003), Organisational Learning and Strategic Renewal, Strategic Management Journal, Vo. 24, No. 11, November
- Durrant C., (2003) An Exploration Of Inter-Firm Knowledge Transfer In Multinational Organisations , A thesis submitted to Auckland University of Technology in partial fulfilment of the degree of Master of Business Studies
- Dyer H., Nobeoka (2000) Creating and Managing Performance Knowledge Sharing; The Toyota Case, Strategic Management Journal, 21
- Emig J., (1983) The Web of Meaning, Upper Montclair, NJ, Boynton/Cook
- Graumann C., (1990), Perspectives Structure and Dynamics in Dialogues, In I Markova and K. Foppa (eds.), the Dynamics of Dialogues, Harvester Wheat Sheaf, New York
- Hasselhorn H., (2008), Work Ability – Concepts and Assessment, Proceedings of Enterprise for Health Management Conference, London
- Hussi T., (2004) Reconfiguring knowledge management – combining intellectual capital, intangible assets and knowledge creation, Journal of Knowledge Management, Vol. 8, No. 2,
- Hussi T., (2005), Essays on Managing Knowledge and Work Related Wellbeing, Swedish School of Economics and Business Administration, Department of Management and Organisation, Helsingfors
- Iansiti M. Clark K. (1994) 'Integration and dynamic capability: Evidence from product development in automobiles and mainframe computers', *Industrial and Corporate Change*, 3(3), pp. 557
- Ilmarinen J., (2006) The ageing workforce-challenges for occupational health, Occupational Medicine, Oxford Journals, Vol. 56, Issue 6, pp. 362-364, downloaded from <http://occm.oxfordjournals.org/> by guest on April 22, 2012
- Inkinen S., Kaivo-oja J., (2009), Understanding Innovation Dynamics: Aspects of Creative Processes, Foresight Strategies, Innovation Media, and Innovation Ecosystems, FFRC eBOOK 9/2009, Finland Futures Research Centre, Turku School of Economics.
- Junnell J., Stahle P., (2011), Measuring organizational renewal capability: case training service business, Competitiveness Review: An International Business Journal, Vo. 21, No. 3

Kasvi J., (2003), Knowledge Support in Learning Operative Organisations, Helsinki University of Technology, Industrial Management and Work and Organisational Psychology, Dissertation Series No 2, January,

Leonard –Barton D., (1992), Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development, Harvard Business School Working Paper No. 92-005, Harvard Business School: Boston

March J., (1991), Exploration and exploitation in organizational learning, Organization Science, Vol. 2, No. 1, February

Moreno-Luzon M., Lloria B., (2008), The Role of Non-structural and Informal Mechanisms of Integration and Coordination as Forces in Knowledge creation, British Journal of Management, vol. 19, Issue 3, September

Näsman O (2011). Metal Age and Kiva-questionnaire. Mediona/The Archipelago Academy for Well-being at Work. Finland

Nonaka I, Takeuchi H (1995). The Knowledge-Creating Company. Oxford: Oxford University Press

Nonaka I., Konno N., (1998), The concept of 'ba': building a foundation for knowledge creation, California Management Review, Berkley 40 (3)

Nonaka I., Takeuchi H., (1995), The Knowledge Creating Company, Oxford Press, Oxford

Nonaka I., Toyama R, Konno N., (2000), SECI, Ba and Leadership: A unified Model of Dynamic Knowledge Creation

Marquard M. (1996) Building the Learning Organization – A Systems Approach to Quantum Improvement. New York: McGraw-Hill.

Peltomaki P., Viluksela M., Hiltunen M., Kaupinen T., Lamberg M., Mikkola J., Pirttila I., Rasanen K., Suurnakki T, Tuomi K, Husmann K., (2002) MWA barometer. Maintenance of Work ability in Finnish Wroklplaces in year 2001 (in Finnish), Finnish Institute of Occupational Helath and Ministry of Social Affairs and Health, Helsinki, in Hussi (2005)

Poyhonen, A. (2004), Modelling and Measuring Organizational Renewal Capability, Vol. 200, Lappeenranta, Acta Universitatis Lappeenrantaensis, Digipaino, available at: <https://www.doria.fi/bitstream/handle/10024/31233/TMP.objres.329.pdf>, accessed: 10.05.11

Prahalad C., Hamel G., (1990), The Core Competence of the Corporation, Harvard Business Review, 68, (3)

Risa K., (2007) The Druvan model: Well –being creates productivity, The Centre for Occupational Safety, Helsinki, Finland, European Agency for Safety and Health at Work, available at <http://www.ttk.fi/files/1166/wellbeingproductivity.pdf> , accessed: 10.05.11

Schein E., (1996), Three Culture of Management: The Key to Organisational Learning, Sloan Management Review, Fall: 38 (1)

Senge P., (1990), The Fifth Discipline: The Art and Practice of the Learning Organisation, New York: Doubleday Currency

Teece D., (1982), Towards an Economic Theory of the Multiproduct Firm, Journal of Economic Behaviour and Organisation, Vol. 3

Teerajetgul W., Charoenngam Ch., (2006), Factors inducing knowledge creation: empirical evidence from Thai construction projects, *Engineering, Construction and Architectural Management*, Vol 13, No. 6

Tuomi K., Huuhtanen P., Nykyri E., Ilmarinen J., (2001) Promotion of work ability, the quality of work and retirement, *Occupied Medicine*, Vol. 51, No. 5, pp.319-324