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Skills Management – Managing Competencies in the Knowledge-based Economy

J.UCS Special Issue

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The papers of this special issue have been presented at or were inspired by a special track on "I-Know '03 – Third International Conference on Knowledge Management" in Graz organised by the Know-Center. The guest editors wish to acknowledge the contribution by the authors and discussants who have made the special track a valuable experience to all those who have participated.

The management of employee competencies has recently received a lot of attention in many different areas of organisational research and practice. Starting in the 1990's, competencies and how to identify and develop them started to be on the agendas of many Human Resource (HR) Management initiatives, and several innovative approaches to managing a company's people were introduced. These approaches had in common that they moved away from a job-based approach to HR Management and embraced a skills or knowledge based view in which the skills of the workforce shifted into the centre of attention.

These approaches have gained momentum since capabilities of Information Technology were used to support the management of people skills, and especially since technology opened up new opportunities for identifying expertise in organisations.

Finally, Knowledge Management research has brought in new perspectives for skills management. From a strategic point of view, it has been stressed that organisations have to be aware of their knowledge stocks and flows in order to secure their long-term competitive advantage. In the knowledge-based economy, employee competencies are one of the most important resources that companies use to create value. A growing interest in concepts such as intellectual capital management or competency-based management gives evidence of these developments. And while early approaches of Knowledge Management have often been criticized for relying too much on the management of explicit knowledge and ignoring to a large extent the equally or even more valuable knowledge that is tacit, recent approaches aim at managing the people that possess or create knowledge instead of trying to manage the knowledge itself. This has lead to initiatives such as staffing project teams based on team members' competencies or creating knowledge maps or yellow pages to identify people who have the competencies required for a certain task.

The contributions of this special issue give evidence of this broad field of research. The reader will find views from Mathematics and Computer Science, Psychology and Education, as well as Management and Economics within the following pages. The special track on I-Know '03 has demonstrated the value of dialogue between the disciplines, but also the challenging nature of this process.

The contribution of Kai Reinhardt and Klaus North sets the scene by describing an integrated model of competence management from within a strong business perspective. Next, several working systems that have been introduced in companies are being introduced. Simon Beck presents a skills management methodology in use at the Putzmeister AG which is used for devising development plans and sustaining the company's yellow pages. Markus Won and Volkmar Pipek present a system which attempts to raise awareness of expertise in organizations by generating hypotheses derived from user interaction within a groupware system. Wolfgang Hiermann and Max Höfferer describe a skills management system in use at BEKO, a software development company that is faced with rapidly changing requirements to their employees. José Braga de Vasconcelos, Chris Kimble and Álvaro Rocha pursue a different approach by making use of a group memory system for knowledge intensive organisations which uses ontologies to describe individual and group competencies.

What follows are several slightly more theoretical accounts. Cord Hockemeyer, Owen Conlan, Vincent Wade and Dietrich Albert have developed a personalised eLearning system and extend their framework to personal and organisational skills management. The contribution of Simona Colucci, Tomasso Di Noia, Eugenio Di Sciascio, Francesco M. Donini, Marina Mongiello and Marco Mottola deals with a formal framework for matching supply and demand of employee skills based on description logic, and describes a prototype system for project planning. Luca Stefanutti and Dietrich Albert present a formalised approach for assessing skills in human problem solving as used in simulated training environments.

Empirical research is fundamental for advancing knowledge about human competencies in organisations. The following contributions show how research benefits from confronting models with the real world. Juan G. Cegarra-Navarro and Beatriz Rodrigo-Moya introduce a methodology which establishes a relationship between human and customer capital which they studied using a sample of sales representatives in the optical industry. Anna Mette Fuglseth and Kjell Grønhaug present an instrument for measurement of organisational learning and illustrate such measurement with the Role Construct Repertory Test. Tobias Ley and Dietrich Albert present a methodology and a case study for identifying expertise in dynamic organisations. Lastly, Eduardo Tomé broadens the perspective and looks at the effects of employee qualification on indicators of economic development.

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