
Editorial

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Biographical notes: Gianluca Elia is an Assistant Professor in Management Engineering at the University of Salento. His research focuses on technology enhanced learning, knowledge management, human resource management and technology entrepreneurship. In 2006, he received the Learning Technology Award from Brandon Hall Research. He was also the Coordinator of the ‘Mediterranean School of e-Business Management’, a multi-partnership initiative focused on digital innovation in southern Mediterranean countries. He participated in the 2011 edition of the Entrepreneurship Development Program at the MIT Sloan. He published several articles on international journals and conference proceedings. He also edited three books. Since 2001, he has been teaching e-business management, knowledge management, management accounting and entrepreneurship.

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In current technology-intensive and fast changing socio-economic scenarios, organisations cannot foresee anything more. People who want to lead organisations in these dynamic realities can leverage only on knowledge to make more effective their decision making processes.

In this vision, it is widely recognised that knowledge represents the main asset of an organisation. This implies that learning becomes a core process, and human resources shift from being a cost to be a success factor and a fundamental asset.

In this perspective, effective human resource management (HRM) can provide an organisation with the capability to understand customers' needs, to extract effectively new ideas from its employees or suppliers and customers alike, and to turn them into innovative products and services. Human resource management plays an important role in building and sharing the right set of employees' competencies that help organisations to elaborate its own business strategy to successfully compete in the business arena. In particular, HRM aims at developing and exploiting individual and organisational expertise for improving individual and organisational performances. In this sense, HRM practices contributes to activate a virtuous cycle merging learning, expertise and performance, and realising a valuable mix among processes, people, strategy and operation.

In many organisations, HR executives and experts have found that developing an IT infrastructure supporting HRM can have a significant impact on the competitiveness level within the industry, by allowing a more efficient administration of personnel, a more effective and performing processes of scouting and recruitment, training and development, evolution of qualified employees, compensation and rewarding, knowledge exchange and sharing of expertise, communication and performance appraisal. In other words, a complete IT-based HRM system covers three main areas: the operational HRM (area concerning the basic administrative activities), the relational HRM (area concerning selection, recruiting, training, assessment and reward of new personnel) and the transformational HRM (area concerning the organisational change processes and strategic re-orientation).

Many companies are now aware that timely capturing their employees' collective knowledge is the only way to preserve their investments in human capital. As a result, some of them have invested to develop both the IT-backbone and a corporate culture of sharing knowledge and experience, capable of convincing employees to connect, share and integrate their expertise, in the final aim to promote innovation. Traditionally, innovation has been seen as the responsibility of a R&D team or of a business unit. Recent experiences have shown that innovation is largely dependent on creative individuals working in an environment that spans multiple organisations and includes, beyond regular employees, also consultants, suppliers and customers too. IT-based HRM system can play a key role in attracting and keeping the most innovative people and partners, creating a culture that supports innovation.

Thus, interactivity and networking among people and organisations are two fundamental elements introduced by the application of technology (and the internet) to HRM systems. Traditionally, e-HRM is used interchangeably with virtual HRM systems, web-based HRM systems, computer-based HRM systems and HRM portals. We love to consider e-HRM as an acronym of 'effective'-HRM, by realising the direct support and the use of web and technology based channels as embedded and implicit factors enabling the implementation of HRM strategies, processes, policies and tools in organisations, to assure business growth and competitiveness. Thus, e-HRM becomes a fundamental component of the structural capital of organisations, providing the HRM departments with a strategic focus, flexibility, efficiency, service orientation and attention to relationships with employees, collaborators and stakeholders.

This special issue of the *International Journal of Knowledge and Learning* includes six papers. They cover three complementary aspects in e-HRM: the learner's profile, the learning process, and the technology-enhanced learning tools. To elaborate an effective HRM strategy, these three elements must be coherently addressed towards the fulfilment of the business strategy of the organisation.

As for the learner's profile, the contribution of Antonella Poce highlights the creativity skills as fundamental abilities required to solve problematic situations where no algorithmic solution is available. The author underlines the importance of creativity in education processes, and the role of ICT to enhance the effectiveness of the entire process.

As for the learning process, the article of Abeer Hmoud Al-Faouri focuses on the organisational learning process as a key process characterising high levels of competitiveness and productivity of organisations. In particular, the author considers the organisational learning at project level as a key ingredient of high-performing organisations.

As for the learning tools, the remaining four papers presents four different categories of tools: a workflow management system (Stefano Valtolina, Barbara Rita Barricelli, Fabio Ariano, Marco Padula and Paolo Luigi Scala), an enterprise social software (Simone Braun, Christine Kunzmann and Andreas Schmidt), a competence semantic system (Gang Zhao), and an ontology-based management system (Gábor Kismihók, Réka Vas and Stefan T. Mol). These systems can be considered as the main assets of an innovative KM systems for HRM. Through these systems, the intellectual capital of an organisation can be effectively managed, with a special focus on the human capital dimension.

A brief presentation of each paper is here reported.

The first paper, by Antonella Poce entitled 'Fostering creativity through assessment and the use of IT: a feasibility study carried out in higher education', presents some preliminary results demonstrating that creativity skills can be enhanced particularly through the use of the ICT. The author hypothesises that self-assessment of creative skills can produce a better understanding of the processes that guide the creation of innovative knowledge.

To verify this hypothesis, the author applied a two-phase research. The first phase involved a group of PhD students in 'innovation and evaluation of educational systems' at the University of Rome Tre, and it was aimed at understanding the concept of 'creativity' and the role of technology in strengthening it. Specifically, the study focuses on a particular kind of skills, the 'creative critical thinking' skills, meant as those abilities needed to solve problematic situations where no algorithmic solution is available.

The second phase involved, beyond the first group of PhD students, also the undergraduate students of the Veterinary Medicine School of Science at the University of Nottingham, and another group of undergraduate students at the University of Roma Tre. A semi-structured questionnaire was submitted to these groups of people to collect information regarding the self-assessment of creative critical thinking abilities in relation to the use of ICT, and the past experience in which people applied successfully creative critical thinking skills thanks to the usage of innovative technology.

Main results show that interaction is considered as the key to improve creative critical thinking abilities and technology facilitates and enhances it at different levels.

The second paper, by Abeer Hmoud Al-Faouri entitled ‘The influence of organisational learning culture on information system project team capabilities: an empirical study’, investigates whether the organisational learning culture influences project team’s capabilities, and specifically project manager capabilities and project members’ capabilities.

Based on the literature, the concept of organisational learning has operationalised into seven constructs, such as continuous learning, inquiry and dialogue, team learning, embedded systems, empowerment, connection to environment, and strategic leadership.

Data were collected through a structured questionnaire submitted to project managers and project members. 174 questionnaires have been collected by involving 21 different organisations in seven Arabian countries. Collected data have been analysed through multiple regression analysis for testing the hypotheses of the study. The results indicated that four dimensions of organisational learning culture – continuous learning, inquiry and dialogue, connection to environment, and strategic leadership – significantly influence the project manager capabilities. However, team learning, embedded systems, and empowerment were not predictors of project manager capabilities. The study also showed that establishing embedded systems for capturing and sharing learning significantly enhances project members’ capabilities.

The third paper, by Gábor Kismihók, Réka Vas, and Stefan T. Mol entitled ‘An innovative ontology-driven system supporting personnel selection: the OntoHR case’, presents the fundamentals of an HRM system that aims to decrease the gap existing between higher vocational education and the labour market in the ICT sector. A specific application on the profile of the information system analyst is then illustrated. The paper is framed in the OntoHR European project, funded under the EU Lifelong Learning Programme.

The authors describe how ontologies can be built and used to assess applicants’ job knowledge in a three-fold perspective: personnel selection, personal development, and VET curriculum development. Through the OntoHR, competencies are measured indirectly, through assessing mental ability and knowledge.

The European Qualification Framework (EQF) was selected as the reference system of ICT skills to build the OntoHR prototypical applications in Italy and Netherlands. Obtained results have been preliminarily validated through face-to-face interviews with domain experts.

The fourth paper, by Stefano Valtolina, Barbara Rita Barricelli, Fabio Ariano, Marco Padula and Paolo Luigi Scala entitled ‘Knowledge management for designing business workflows through semantic compositions of web services’, presents a workflow management system called task management system (TMS) devoted to support human resources in designing networked complex workflows by exploring working activities, users’ knowledge and expertise.

Through the TMS, employees, who are experts of a specific domain, are able to design a workflow directly, to execute it and to validate its execution.

Thus, the proposed tool aims at simplifying the coordination and management of workflows, so improving knowledge sharing processes and exchanges within the network of human resources involved in the process execution.

Specifically, the article presents how workflow designers use TMS to transform the task analysis documents prepared by domain experts into a description of the workflow.

An application of the TMS is also presented, with reference to the case of an Italian certification institution.

The fifth paper, by Simone Braun, Christine Kunzmann, and Andreas Schmidt entitled ‘Semantic people tagging and ontology maturing: an enterprise social media approach to competence management’, presents an approach of enterprise social media management by semantic people tagging and ontology maturing. In specific, they have developed a framework for semantic people tagging and have presented, in the paper, the general approach which is based on the ontology maturing concept of gradual formalisation. In addition, the paper presents an implementation of the work based on a social semantic bookmarking system.

Finally, the sixth paper, by Gang Zhao entitled ‘Competence semantics: engineering and application’, proposes a descriptive and computational framework, named ‘competence semantics’, to capture, model and process the meanings of competence to obtain an explicit representation for HRM and development. The framework is based on a multiple view of the competence, according to several dimensions such as context, person, evidence, employment, and education. It describes how the competence data are represented in the information system, how the natural language is used in the communication about competence, and how the knowledge about competence is presented. The paper presents also the application of the framework to a knowledge base of competencies related to the French national occupation. Specifically, the application concerns the comparison of real life anonymous data of 13,000 job offers and 13,000 job seekers, in the ICT related sectors.