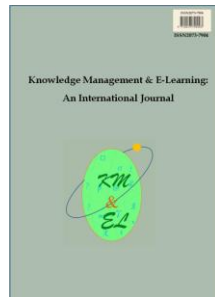


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# **Knowledge Management & E-Learning: An International Journal**

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## **Editorial: The War for Talent: Technologies and solutions toward competency and skills development and talent identification**

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## **Editorial: The War for Talent: Technologies and solutions toward competency and skills development and talent identification**

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**Abstract:** This special issue is dedicated to advanced technological solutions and novel methodical approaches toward human capital management in terms of career development, assessment and recruitment as a driver for innovation and sustainable competitive advantage for academia and business in the changing conditions of the global employment market, and the War for Talent. Latest competitiveness-driven developments in productivity and services move forward human capital management and assessment technology and services alongside with talent identification as a driver for innovation and key source of maximizing the Return-On-Investment in people and technology in academia and business. Governments and business start thinking about competency and skills development as the critical issue for the workforce, and the workplaces. Against this background, a complex interrelationship arises between strategic management, human capital management, and the overall quality management in every educational and enterprise setting. In addition, identifying highly competent human capital develops into a challenging issue of the recruitment process.

**Keywords:** Talent management; Competency management; Skills development; Human capital development; Demographic change

**Biographical notes:** Dr. Fanny Klett assumed the Directorship of the German Workforce Advanced Distributed Learning Partnership Laboratory, which is run in cooperation with the US Government, in 2009. Prior to this position, she has been with leading research institutions in principal positions. Fanny Klett is regularly invited as Visiting Professor and Distinguished Lecturer at universities across Europe and Asia. Her research and development interests are on advanced solutions in the areas of information, data and content management with regard to competency and job performance management, assessment, knowledge management, technology-enhanced learning, and interoperability. Dr. Klett actively works in standardization bodies, such as IEEE Learning Technology Standards Committee, US Advanced Distributed Learning Initiative, and is CEN WS-LT LTSO expert. She chaired and served on more than 20 conference planning and program committees of UNESCO, IEEE, APSCE, etc. Fanny Klett is associated editor of IEEE publications and serves on the peer-reviewer board of the IEEE Transactions on Education, and

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## 1. Introduction

In 1958, a Nobel prize-winning economist Schultz described the interrelationship between education and productivity and identified people as the source of the economic growth (Schultz, 1958). In 1964, a Nobel prize-winning economist Becker stated that “the basic resource in any company is the people. The most successful companies will be those that manage human capital in the most effective and efficient manner.” (Becker, 1994). In 1997, McKinsey & Company created the term “the War for Talent” referring to novel approaches and processes in talent management (McKinsey & Company, 1997). This term reflected at the right moment business and societal issues and expectations.

The problem was not new: Human capital has ever been a key source of innovation and competitive improvement. The methods were also not new: Exploiting the human capital potential and boosting its value to the organization has been for decades a systematic process to determine the competencies that are fundamental to achieve an enhanced job performance. But the goals for researchers, leaders, experts and policy makers became new: They pointed toward a plan, starting with detecting and analysing the multifaceted aspects of the War for Talent, gathering the measures, setting up a strategy and tactics and recording, structuring and evaluating results as well as countering unconstructive development to secure market success.

Governments and business started thinking about competency and skills development as the critical issue for the workforce, and the workplaces. They have realized that the War for Talent will persist for many decades due to the fact that its roots are deeply anchored in the society, including the demographic change and policies. Few enterprises are recently realizing the complex interrelationship between strategic management, human capital management, and the overall quality management in an

educational or enterprise setting. Human capital management is rarely seen as a holistic approach to talent management, career development, learning and assessment, and recruitment. In addition, the identification of highly competent human capital develops into a challenging issue of the recruitment process.

In the second decade of the 21<sup>st</sup> century, why do organizations still fail to successfully cope with the main challenges of our Knowledge Age and the Knowledge Economy, and have difficulties to identify the consequences for talent management and development?

The potential for talent management adapted to the new global economy is considerable and there are essential chances. But to take advantage of them we must make sure that human capital management is recognized as a driver for innovation and sustainable competitive advantage for all enterprises in the changing conditions of the global employment market, and that business and academia are willing and ready to modernize their approach to talent management.

The Human Resource Services Report (PricewaterhouseCoopers, 2006) undoubtedly demonstrated that clear correlations exist between high investment in learning and competitive business results.

The Kienbaum 2012 HR Trends Report (Kienbaum, 2012) pointed out that the central focus of human resource management activities lies on the improvement of leadership and management skills (34 %), on recruiting (30 %), on increasing the employer's attractiveness (28 %), and on talent management (26 %). The middle-ranked set of activities concern important challenges such as strategic human resources planning (23 %), change management (21 %) as well as corporate training, demographic development and competency and skills management, each by 19 %.

The SoftSelect & Haufe HR Trend Report 2013 (SoftSelect & Haufe, 2013) surveyed human resource managers from 212 small-to-medium and big enterprises in Germany regarding their experiences, forecasts and requirements on talent management. The enterprises in the area of production engineering, services industry, commerce and government built a representative mean of the German economy and illustrated the implemented talent management activities. Nearly 75 % of the enterprises stated to have a strategic approach to recruitment, retention and development of highly skilled employees. But talent management has still free potential. The analysis of the respondents' implementation of a talent management strategy refers to use of professional talent management software in only 40% of the enterprises. One possible reason for this finding might be the fact that only few software vendors can fulfil the high expectations of the human resource managers. The desires refer not only to supplying a technical framework for the procedures but to a wide understanding of the requirements of human resources tasks, such as provision of expert information, consulting offers and training. Furthermore, talent management as a form of straight recruitment and promotion of so called High Potentials is mostly narrowly viewed. Human resource managers state that they focus on knowledge and skills identification and development of all employees. The report also depicts how the human resource managers weight specific aspects of talent management: 93% regard particular trainings, seminars and e-learning for highly skilled employees as an important factor; 83% refer to a performance related pay and further management by objectives as well as to competency management, knowledge management, recruiting and succession planning.

One of the main challenges the War for Talent is having the right employees with the right qualifications at the right time. At the strategic organizational level, the War for

Talent requires as a business reality the identification of gaps in the organizational human capital strategy and methods. At the tactical organizational level, the War for Talent entails the identification of the employee's talents, and skills gaps as well as the concrete development of the employee's skills. Viewed this way, an alignment between managing learning, ability and performance is needed, in order to set long term development goals for both, the enterprises and the employees. Consequently, such enterprises that commit to talent management and learning, and decide to track, identify and process competencies and skills, can achieve a variety of business advantages such as transparency about the expectations of the employees and managers as well as implementation of consistent development standards across the enterprise (Klett, 2010).

At the operational organizational level, the War for Talent involves a shift from managing data and information to managing people, attitudes and knowledge in terms of human capital and talent, which particularly calls for a proper application of conventional and new technologies, and traditional and novel approaches to learning, assessment and performance technologies, and quality management to suitably setup development plans whereas employees follow achievable career paths. Disappointingly, the uptake of technologies for recruitment needs, talent and competency management and skills development has been unacceptably delayed.

Latest competitiveness-driven developments in productivity and services confirm one more time that the talent involved in the enterprise is critical for determining success in the marketplace. At the same time, the enterprises experience a next challenge - to retain great talent, as demand for talented people exceeds supply of talent, which is constrained, among others by demographic factors.

## **2. Preview of papers**

This special issue of the *KM&EL International Journal* is devoted to novel methodical approaches, non-traditional practices, and advanced technological solutions toward human capital management in terms of competency management, skills identification and development, career development, learning and assessment as well as organizational change in the global employment market. This issue provides insights on the current research and practices around the globe, mirroring experience from the UK, China, Iran, South Africa, Hong Kong, and Germany, and each addressing unique aspects of the multi-faceted War for Talent.

The first paper presented in this Special Issue, is especially devoted to the key awareness of the importance of widely applying competencies to support human resource management. Salas-Pilco makes a fundamental contribution presenting an original overview on the successive changes and the evolution of a representative set of frameworks for the 21st century competencies. This contribution addresses stakeholders in human resource management from educational experts through job market analysts to industry and business with a special focus on the Information and Communication Technologies (ICT) competencies. By providing an incremental analysis of competency frameworks created by diverse institutions such as international organizations, private consortia and also governments, this paper serves as a guideline for educational policies and job market stakeholders. Comparing, analyzing and classifying the competencies into general categories, the author makes trends visible, and facilitates the understanding of the key competencies that young people should cultivate to succeed in the global employment market. Against this background, Salas-Pilco offers valuable support to all researchers and practitioners dealing with conceptual models, user requirements, and

advanced human resource management systems development as well as general technology-based systems toward enhancing human performance and development.

Following the vital demand of the War for Talent to allow for an adaptive talent development, the second paper addresses concrete aspects of improving the competencies of a special group of students, namely average students, who are essentially the prevailing part of the student population, but who have in fact the most potential for progress. Jia, Xiang, Ding, Chen, Wang, Bai, and Yang ask an important research question: Can computer aided instruction (CAI) help all kinds of students including disabled, average and talented ones improve their learning outcome and to what extent? While research has shown the positive effect of CAI on learning performance within a short duration, the authors address the long-term integration of CAI into a blended learning setting to help low-performance students improve their learning performance. Moreover, the authors know the importance of assessment to evolve the students' learning efficiency and learning outcome and tackle essential aspects of designing school tests and feedback. The study underlying the research refers to the integration of a special course management system for English instruction, especially vocabulary acquisition for formal secondary school students in China throughout a whole school term. The findings of the study illustrate that the described blended learning setting can decrease the mean difference of the learning performance in an ordinary English test between the ordinary class and the talented class. Thus, this research builds an important step toward closing the gap between the theoretical research and the pedagogical practice, and reducing its effect on the school test performance of existing classes comprised mainly of average students. The authors present precise results to be implemented by various researchers, educational curricula and policy makers as well as system developers toward establishing an educational equivalency for all students, and assisting the average students to catch up with the talented ones and enable them to successfully participate in the job market, together with the talented ones.

Dedicated to the context of adaptive talent development but in the same time referring as well to skills development, the third paper spots initially the talents, in particular PhD students. Ward presents a non-traditional study into what is important in the researcher development journey in view of various stakeholders, namely students, academic supervisors and research administrators. This study undertaken within the University of York constitutes simultaneously the awareness of the UK government that correctly sets a focus on postgraduate skills development in the War for Talent. The complex observation in this paper points toward the skills of fundamental inquiry and research, the skills of questioning, hypothesis formation, experiment construction, data collection and analysis and communication as well as more generic skills of negotiation, argument, team working, etc. Ward's comprehensive quantitative survey has the goal to compare the perception of importance of the researcher skills development by both, PhD students and general administration, based on the UK postgraduate student context, an elaboration on the UK models of PhD supervision by detecting potential problems in the PhD journey, and revealing relevant administrative approaches. Moreover, Ward's advanced view on the skills development as an integral part of the human performance and talent management is demonstrated by applying the results of the study to enhance the user requirements gathering for the unique Skillsforge system where administrative requirements can be embedded – a fully integrated, 'software as a service' system designed specifically to support the researcher journey for the various roles in this process, such as student, supervisor, administrator, training provider as well as thesis advisor and examiners. The findings of the study are fundamental for a broad audience of local, national and multi-national experts and system designers following approaches to

leverage educational and research models also across countries, to standardize data, systems and interfaces, especially toward the need for eliminating “Islands of IT” and introducing fully integrated dedicated human resource management systems.

The fourth paper addresses once more skills development by targeting the challenging business interrelationship between the learning community, on the one hand, and the knowledge and content provider, on the other hand. Taking into account peopleware as one of the most important software solutions in the recent business, Mosharraf and Taghiyareh refer to an integrated infrastructure to manage the growing number of online students and courses in a novel manner. Based on the Hub model that has a student management system as a master system and customer relationship management systems as well as integrated logistics and further systems interconnecting with the master system, the authors introduce a learner relationship management (LRM) methodology acting as a central point between learners and other elements of the complex infrastructure. This LRM methodology addresses both, the learners by referring to their performance, satisfaction, and success, and the institution benefiting from eLearning and the learners, respectively. This novel way of linking the administrative and the business level of the educational institutions with the learners seen as customers, leads to adding new dimensions to eLearning and eLearning systems and to establishing strategies for attracting new customers, increasing their satisfaction, managing their relations, and preventing their attrition. Consequently, increasing the effectiveness of instructional programs, improving registration, usage, and educational collaboration, and initiating an appropriate learning process can lead to the enhancement not only of the learners’ performance, but also their satisfaction and the quality of their experiences. In the middle term, this learner-centred LRM approach can open up new sources for additional contribution to the revenue of these institutions, and increase their Return-On-Investment. In the longer term, the innovative LRM approach presented in this paper will grow by integrating also concepts of the supply chain management, and enterprise resource planning systems and moving to a fully integrated education-related peopleware. The research reflected in this paper serves as an incredible source for innovative change management in knowledge based organizations, and for system designers eager to provide a reliable infrastructure that precisely can combine data, services, processes, and business in an educational setting.

In view of the present Knowledge Economy, the fifth paper leaves the educational grounds and demonstrates the complexity of skills gap identification, skills and talent development and management in the business reality, in which graduates and more seasoned employees are involved, offering a critical view on the skills gap debate. Romo focuses on some major human resource practices in South Africa in the area of Information and Communication Technologies (ICT) and the engineering industry. In the Knowledge Economy, the people are the core capital, and managing and retaining human capital is becoming crucial to an enterprise’s success. Against this background, the author thoroughly investigates the current reported skills gaps for their origin, size, and nature. This paper provides precious information on performance-inhibiting factors, such as underutilisation of available skills, tolerance for individual preferences, and dynamically, and informally refinement of a role objective while an employee is occupying a certain role. Moreover, it illustrates how industry experiences real skills gaps, to some of which it appears to contribute by itself while not aware of frequently enlarging the skills gap due to certain human resource practices, for example inadequate personal development plans. Skills gap management evolves from an education issue (lack of knowledge) to an enterprise issue (lack of management). Analyzing and classifying the performance-inhibiting factors, the goal of this paper is to provide a solid reference for human resource managers, leadership, strategy experts, government and policy makers, to factors

influencing the industry's experience of skills gaps to allow for counteracting these skills gaps. Furthermore, this paper refers to the recent lack of a working definition for the so called Special Forces. Romo defines the Special Forces profile as the combination of technical expertise, sufficient experience as well as an extent of professional skills, where the balance may be contextual or industry specific based. The issues arise when the balance is disturbed because of poor organisational practices that make ineffective use of – when otherwise allocated – suitably skilled resources. Romo makes a strong contribution to closing the gap in the vague or even omitted treatment of the Special Forces profile, operating as a key human performance inhibiting factor, and to clarifying its manifold components and interfering factors toward properly balancing human resource processes and talent management in practice.

Devoted over again to skills management and particularly competency management, the sixth paper adds a new focus – recruitment procedures – and provides an original contribution to mastering competency management and recruitment on a technology basis with a detailed focus on the dynamically changing Information Technology industry. Malzahn, Ziebarth, and Hoppe present a significant conceptual model that covers the market level, the individual competency level and the social network level. This model serves an ontology based decision support system for human resource management, more specifically recruitment and competency development in terms of career planning and modelling a path from the professional's current profile to a targeted position. The system applies data mining, social network analysis and information retrieval techniques to semi-automatically create and update the competence ontology methods. A major advantage of the system is the built-in opportunity to identify trends with respect to competency importance and emerging job profiles, and thus, to facilitate human resource managers to spot emerging requirements. Furthermore, the system benefits the human resource managers by opening up the opportunity to match job profiles and identify similarities and differences to be properly exploited in career planning use cases, to support an early career planning, and develop the needed talents from the staff available. Moreover, the underlying model is based on frequently updated data like market demands, and changes in the social network, and simultaneously maintained over a longer period of time to allow for capturing the dynamics of a specific branch of trade, and personal profiles, respectively. The developed ontology editor serves working directly on the SQLSpaces and handling the big amount of data gathered from public data sources. Human action helps accurately improve the quality of the defined competencies and the interrelationships between them, and distinguish from "noise". The results presented in this paper provide essential details to all researchers and practitioners dealing with conceptual models, user requirements gathering, and advanced human resource management systems toward developing human competencies, including career planning.

Commonly, talent management, career development, recruitment, and learning and assessment are viewed as fragmental parts, and possible issues are counterfeited in an isolated manner. The integration of those parts into a holistic approach to human capital management can trigger beneficial effects in the means of job performance and enterprise's competitive advantage by multiplying the effects of the single parts. To deal with this challenge, this Special Issue introduces a position paper.

The goal of this paper is to draw attention of academics, industrial leaders, experts and policy makers to common obstacles and roots of the recent War for Talent, and to promising ways of solving the issues of skills gaps and skills shortage by strengthening the interrelationship between education and business and focusing on appropriate assessment strategies to shape adequate human capital that fits the employer's demands.



Diprose suitably tackles the manifoldness of skills required for a job candidate and argues that traditional examinations do not always test encompassing qualities, for example flexibility, thinking outside of ‘the box’, or interacting with others in problem solving, to respond to the employer’s market challenges and opportunities. Bearing in mind that the qualification awarded should represent the graduates learning and ability and bring opportunities, Diprose recommends setting the focus on the output of that education or training system – the candidate, namely the student’s learning and development of critical, analytical and investigative skills. The author accounts the fact that a simple degree certificate does not provide effective information on the candidate due to the nearby impossible verification or accreditation of the various sources of education and training. Consequently, Diprose concentrates in this paper on concrete opportunities to resolve the issues of inappropriate assessment in education that can lead to mismanaged talent management and failed job performance, for example. By valuing all the various ways to receive a higher education or training programme and considering the increasing globalization of business and employment, the first suggestion refers to a scheme of allowing candidates to register only for examinations at a university and not the course itself, and to constructive routes for the implementation of this scheme. The second suggestion concerns the beneficial application of an independent method of assessing students learning that should be available to each stakeholder depending upon the credibility of an award. Further moving assessment strategies forward, the author proposes the establishment of an Examination Verification Evaluation (EVE) process and independent verifying bodies to set up tailored verification examinations for students (or departments), revealing more information about student’s abilities than just a % mark or class of award. Diprose relates the organization of this assessment process to the independence and integrity of the verifying body that needs to be transparent, without conflict of commercial interest, as for example content provider. The author sees potential also in the combined work of professional bodies to decide on the assessment standards to be implemented and independent companies to administer the EVE, and provide verifying services to industry.

### **3. Conclusions**

Even if the War for Talent will further demand researchers, human resource managers, and government for decades based on the economical waves, we believe to provide with our findings in this Special Issue of the *KM&EL International Journal* important building blocks and recommendations to better master the demographic change in society and move forward human resource management solutions, and especially, talent and assessment technology and services alongside with talent development. The management of talent and learning can only be achieved through the alignment of strategy, learning and technology. Thus, analysing and applying competencies into supporting human resource management systems represents a driving force for addressing the future performance potential and, simultaneously, it serves as a key source of maximizing the Return-On-Investment in people and technology in academia and business.

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