HCD Suite – Technology Supported Human Resources Development

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Abstract: - Well-managed corporate learning environments are designed to create competitive advantage by intellectually empowering a company's workforce. Today's IT supports and increases the benefits, mainly from the perspectives of decision effectiveness, process administration, and infrastructure management. This paper presents the HCD Suite, a system especially designed to support goal-driven human capital development processes. It provides a set of services for identifying and satisfying knowledge gaps and matches them with offers from different service providers according to the needs of the individual learner. The HCD Suite implements a workflow that engages potential learners, managers, and HR developers in a collaborative decision process on when to invest in what type of training taking into consideration organisational goals as well as individual development goals. In addition, the workflow also triggers the evaluation of learning resources and supports the HR manager in providing better evidence for ROI of training budget.

Key-Words: - E-learning, Information technology, Learning resources, Training management, Human resources, Competence development

1 Introduction

Accelerated pace of change in the business environment calls for constant and continuous adaptation to the new developments. Complex and dynamic circumstances in the struggle for the preservation of competitive advantage, profitability and continuous growth have led modern organisations to realise that adequately educated and trained staff is company's greatest capital and at the same time one of the decisive factors for success when competing on a global scale. Being aware of its importance the development and strategy oriented companies invest considerable amount of resources into employee training. Nevertheless, according to the results of the 2003 research carried out by the McKinsey & Company Research Institute, the importance of transparent training management is often neglected.
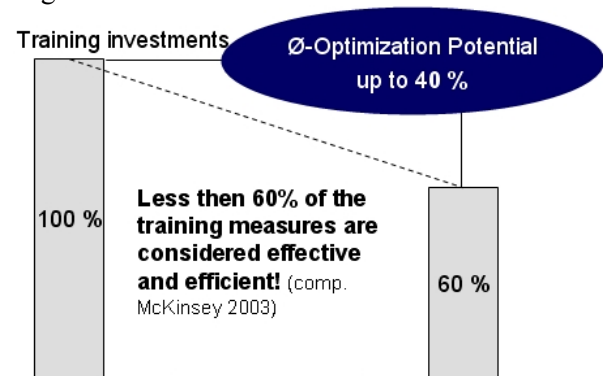

Fig. 1: Training investments

The research has shown that on average less than 60% of corporate training can be considered successful and efficient (Fig. 1). This means that efficient and transparent training management can improve the level of education and save a considerable amount of resources, as shown in Fig. 2.

Training Management Savings Potential		
Employee	Training Budget Per Employee*	Optimization Potential p.a.
100	€ 419,00	€ 17.000,00
500	€ 419,00	€ 85.000,00
1.000	€ 419,00	€ 170.000,00

Fig. 2: Training management savings potential

2 HCD Suite

E-learning is becoming an established and modern corporate approach to employee training. E-learning brings advantages due to its flexibility, facilitating the

creation of educational offers tailor made to suit individual's level of knowledge and needs of a particular job or task. However, putting it all into practice is not as simple as it seems. Companies often face difficulties when they try to:

- Get a simple overview of the current learning offers in the company.
- Obtain information on the courses the company's employees attended or information on study materials used in the past year fast and simple.
- Keep transparent records of goals and strategies for personal development of an employee.
- Document past experience and courses.
- Evaluate the quality of learning activities on offer.
- Find out if the newly acquired knowledge was successfully and efficiently implemented in daily work.
- Get fast and simple overview of the training activities currently offered on the market.
- Motivate employees to participate in the learning processes.

All these problems faced by corporate human resource managers can be resolved easily and entirely by **The Human Capital Development Suite** (**HCD Suite).**

The HCD Suite is a system, which was developed in the framework of ELENA (**Creating a Smart Space for Learning -** www.elena-project.org) project from the 5th Framework Programme of EU (Fig. 3), especially designed to support *goal-driven human capital development* processes. It provides a set of services for identifying and satisfying knowledge gaps and matches them with offers from different service providers according to the needs of the individual learner. The HCD Suite implements a workflow that engages potential *learners*, *managers*, and *HR developers* in a collaborative decision process on when to invest in what type of training taking into consideration organizational goals as well as individual development goals. In addition, the workflow also triggers the *evaluation* of learning resources and supports the HR manager in providing better evidence for ROI of training budget [2].

The complete support for the organizational training management of the HCD Suite is based on a holistic approach of the *Human Capital Development Life Cycle*, which describes measures before, during and after learning takes place that are crucial for successful knowledge acquisition.

Fig. 3: ELENA Consortium

User interface of the HCD Suite system (Fig. 4), located at www.hcd-online.com, is currently available in Slovene, English, German and Greek language.

Fig. 4: User-interface of the HCD Suite

2.1 The Human Capital Development Cycle

The "Human Capital Development Life Cycle" is a holistic approach to systematically gather and structure all the various activities around training management, such as designing, planning, administering, monitoring, and evaluating training activities.

Fig. 5: The Human-Capital-Development Life Cycle implemented by the HCD Suite

As depicted in Fig. 5, the HCD life cycle includes several steps that should be taken before, during and

after a certain training measure is consumed and can be group into four different phases [6].

2.1.1 Training Needs & Goal Analysis
As a first step, it is important to analyze the employee's current and future *training needs* and set *learning goals*. This process needs to take place on at least three levels:

- On a company level, derived from a company's strategic objectives.
- On a department/group level taking performance goals into account.
- On an individual level by considering an employee's strengths and weaknesses as well as their personal career plans.

Learning goals are not only derived in such a top-down approach. We assume that also other forces, e.g., new customer demands, new developments by competitors, do exist that help people identify new learning goals.

2.1.2 Selection & Planning of Learning Resources
In this second phase HR developers, learners and managers are looking at the available learning resources from an economical and a pedagogical perspective. Here, costs, previous experiences with the learning resources and the reputation of the provider are an important factor during the decision process.

The Searching & Browsing for Learning Resources facilitates learners and other stakeholders in corporate learning processes search/browse through a submitted query for learning resources either locally - adequate training courses within the company's internal database of training materials (HCD Suite DataBase) or on the network learning resources repositories, for example a learning brokerage systems, a learning management systems, a gateway to Amazon.com, and course providers. The Jozef Stefan Institute plans to create a Panslovenian repository of training service providers and connect it to the HCD Suite system in order to allow the Slovene companies to have a better overview of the Slovenian learning offers [5] (Fig. 6).
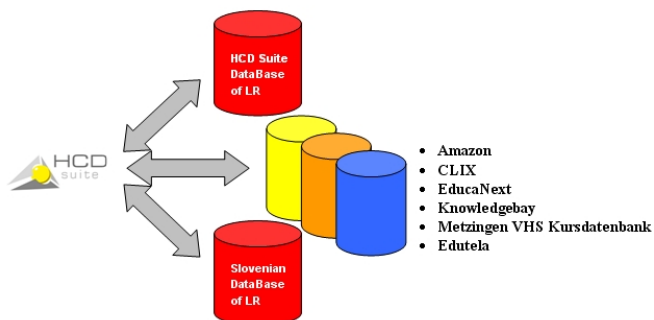

Fig. 6: HCD Suite System links with different training service provider repositories

The component for searching a network of registered learning repositories (network nodes) via the SQI (Simple Query Interface) is one of the.central component of HCD Suite [1]. The SQI was standardized by CEN/ISSS workshop 2005. For this purpose a common meta-data schema for learning resources was developed, a set of attributes for querying as well as a set of result attributes was agreed on. Users can enter search terms as single words or as phrases (by using double quotes). From the presented list of network nodes the learner can pre-select the ones that are most appropriate. Also the query can be restricted to the category of learning resource (learning activity vs. learning material), the price, copyrights, and the learning resource language. The learning resources returned from the network of learning repositories are collected by the network search client, ranked with personal information about the learner, which is gathered from the learning life cycle (the learner's goals as well as learning history) as well as from the user profile (the learner's favorite languages and interests). In this way, learning resources that are most relevant for the learner are presented first [3,4,7](Fig. 7).
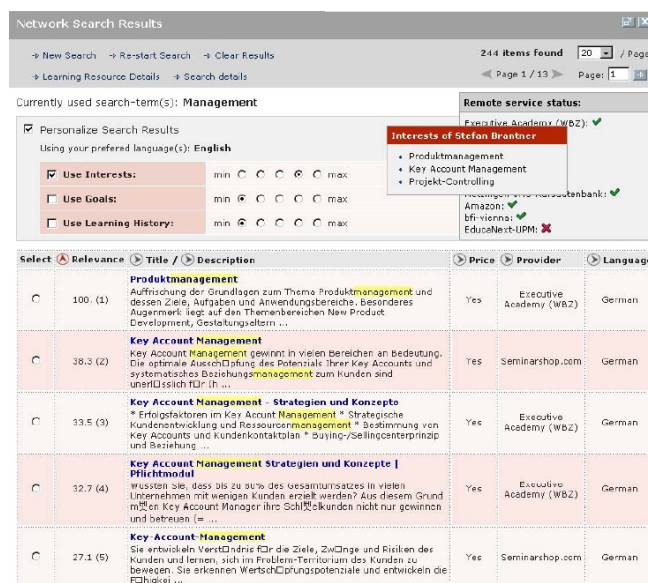

Fig. 7: Ranking of query results by taking the learner's preferred language(s), interests, personal goals and learning history into account.

Especially, pedagogical issues such as cognitive abilities of the learners, the qualification of the trainers, or appropriateness of the learning delivery format (e.g. e-learning vs. classroom-based learning) are also important influence factors on the selection decision. Financial restrictions determined by a department's/individual's training budget constitute another influence at this stage.

Once a decision concerning the learning resource or

learning resource provider has been made additional aspects such as, how shall employees be grouped for certain training measures or what kind of training methods and material should be used, have to be considered. In this planning phase again synchronization with the learners and group managers are required.

2.1.3 Learning Resource Delivery & Evaluation

At this stage of the process learners register to the course and plan their attendance. Stakeholders in the learning process, such as the HR development department or a learner's manager, gather the learner's expectations and create awareness with respect to the expected value of the training measure. The learner undertakes all organizational and technical measures in order to be able to get the learning resource delivered. Immediately or shortly after the consumption of the learning resource, evaluation takes place. At this stage evaluation is mainly concerned with measuring the perceived quality of the learning resources and the effects it had on the learner (Did the learn something? Is it relevant for their job?) [8].

2.1.4 Transfer & Outcome Analysis

After the completion of a training measure, *transfer analysis* is concerned with the application of new knowledge. At this stage of the HCD Life Cycle also an *outcome analysis* (Fig. 8,9) can be carried out, in order to determine whether the training measures have had an positive impact on a company's or department's performance (typical indicators are: throughput, failure percentage, customer satisfaction, etc.). While evaluating transfer and outcome of consumed learning resources, future learning resources need to be planned. Benchmarking the outcome of one department with related departments (within the same company or with an external one) can emphasize the requirement of improving in specific areas through additional training measures. As a result, the HCD Life Cycle is re-entered again.
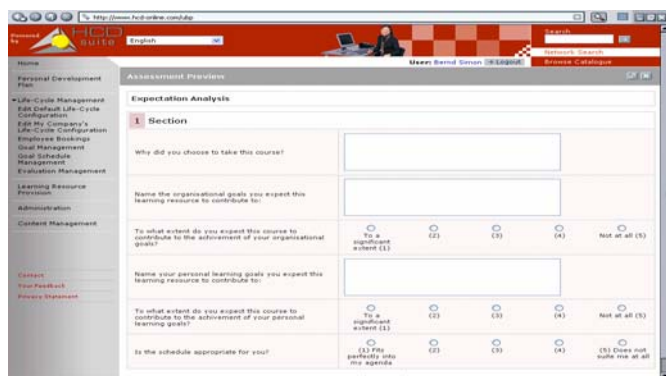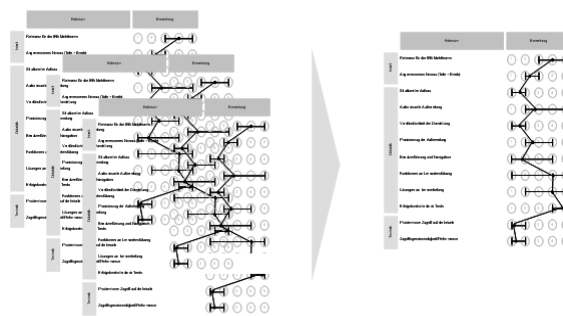

Fig. 8: Electronic evaluation form

Fig. 9: Analysis of a completed training course

E-evaluation tools reduce costs and serve as a support tool for ROI (Return on Investment) assessment. Evaluation is made independently in time and space, data is directly accessible, thus the manual data entry in not needed, which considerably reduces administrative costs. Every training course is fully documented and data can be exported to be used in other processes [2].

3   Conclusion

Company wishing to compete successfully in an ever more competitive global environment, must monitor change and respond to it rapidly and adequately. Advanced technology is not the only major advantage of successful companies and organisations, their key competitive advantage is above all an adequate level of employee competence.

Nowadays most companies are aware of this fact and more and more money is invested each year into employee training. Unfortunately, further training courses are often not in line with the goals of a company, department or an individual. Consequently, the added value does not meet the expectations. The HCD Suite system addresses these shortcomings, enabling the company's training course management to be target-oriented and transparent.

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