

# Fulfilling organizational learning on concurrent enterprises: The Multidimensional Dynamic Learning model for knowledge management exploitation

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## Abstract

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## Keywords

Knowledge management, E-learning, Enterprise Application Integration

## 1 Introduction

The organizations in the beginning of the new millennium face a challenging dilemma. To expand further their competencies by integrating co-operation technologies that expand further their value chains or to continue pursue business intelligence through solid closed data warehouses that manage effectively knowledge sources. Our approach promotes a new methodology for the integration of cooperation technologies for inter-organizational purposes according to knowledge management utilization. In this sense our paper is setting a framework for e-cooperation adoption in the context of the new strategic objectives of modern business units. The focus of our analysis is concentrated on business process level knowledge management and our contribution justifies e-cooperation technologies as value adding knowledge management components necessary for organizational learning realization.

The marketplace of cooperation technologies has face a tremendous development in the last decade. The underlying idea was the requirement to support communication and team synergy. Nevertheless the requirements of modern business units seem to diversify from data exchange to corporate learning portals with advanced cooperation mechanism through extranets implying a desired reinforcement of capacities for effective actions.

In parallel Knowledge Management has been one of the most frequently mentioned terms. The objective to formulate, evaluate and exploit theories and tools in order to set effective processes in business units seems to be in the leading priorities for the digital economy's enterprises. Besides that the management of knowledge assets in business units, incorporates the discovery of knowledge in many levels of the organizational. Products, people and processes define a triptych of analysis. The market of the knowledge management tools comprises a massive range of

solutions that help the capture, the organization, the management and the use of knowledge resources.

The core competencies in the modern organizations are constructed through vital business processes that in general provide a web of interconnections among people, knowledge resources, customers, tasks and evaluation standards. The concurrent enterprising is realized through the common understanding of such processes and the establishments of common processes with horizontal or vertical inter - organizational integration. . The major observed problem in the current situation is the absence of knowledge management systems that increase the re-usability of knowledge for cooperation purposes. The executives training is mainly accomplished using executives' seminars and various workshops with reliance on not clearly defined quality standards. In other words we have an exponential increase for the cost of training or learning when the subject of the training is more value creating and when the objective of the training expands further than the closed circuit of an enterprise.

## 2 Research Approach

The development of a tool that would be able to manage effectively the required knowledge for the comprehension of knowledge processes is the objective of our research effort. The major research questions derived from our intention include:

- The knowledge delivered on executives training programs is something taken for granted or it incorporates synthesis of well-defined value components?
- Is there a simple learning scenario that best fits to the business process training?
- Can we distinguish learning processes that enhance and facilitate the knowledge delivery on an advanced system for executives training?
- Can we categorize these learning processes on a hierarchical way using a value metric? For example, can we distinguish learning processes on a value delivery basis allowing building learning scenarios of different difficulty and value?
- Can we analyze the logic of such a system and distinguish technological components? And is there any direct relation between the implementation of each component to the learning process that supports?
- Can we embed dynamic characteristics to the whole system based on the nature of the knowledge components and the diversity of learning processes?
- On a more abstract way can we create theoretical concepts e.g. conceptual maps or grids that could directly link business processes types with learning scenarios?

The cornerstone in our analysis is that every cooperation system irrelevant if it is present on a business environment or on academic institutions has to concentrate on business process training. Its process can be break down in several tasks, which represent a meaningful whole. The training for the accomplishment of each task requires the employment of specific learning processes. For each learning process a learning template provides the layout where various learning products or learning objects can be accessed in parallel with a number of knowledge management mechanisms. The Figure 1 summarizes the logic of the e-learning knowledge management approach.

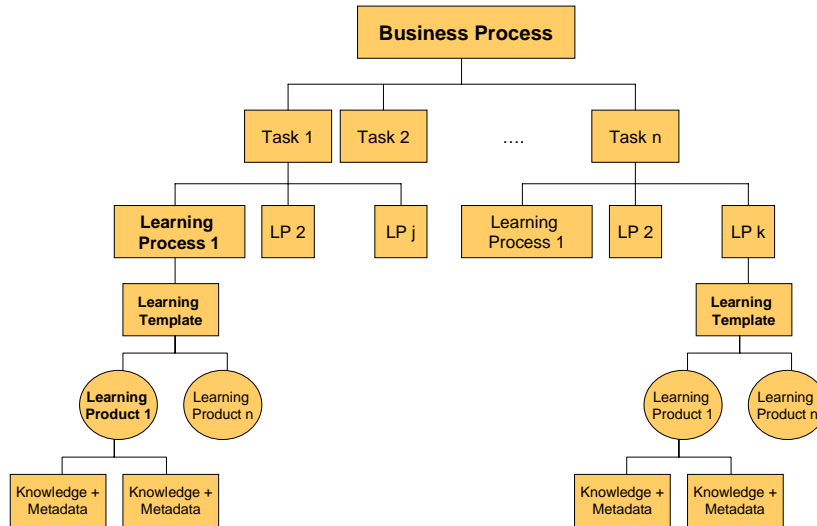


Figure 1: The conceptual taxonomy

### 3 The Multidimensional Dynamic e-Learning Model (MDL CUBE)

Our approach is setting or is currently researching the ability of a three-dimensional model to expand the traditional considerations for cooperation through knowledge management. The **Multidimensional Dynamic e-Learning (MDL) Model** is based on three complementary dimensions:

- The Knowledge Management dimension
- The e-Learning dimension
- The application integration dimension

Each of these describe in synopsis detailed considerations that confront the e-cooperation platforms such as knowledge management systems with embedded e-learning pedagogy and capacity of dynamic integration with other crucial business applications. To be more specific we will use three explanations for the three dimensions of MDL model.

The **Knowledge Management Sophistication** summarizes the ability of the e-learning platform to manage learning content in various formats, to re-use learning modules and to support knowledge management processes such as knowledge creation, knowledge codification, knowledge transformation and knowledge diffusion.

The **E-Learning Dimension** stands for the ability of an e-cooperation system to construct effective learning mechanisms and learning processes that support the achievement of different educational goals. With no doubt this dimension incorporates issues like learning styles, learning needs, learning templates as well as learning specification settings.

The **Application Integration Dimension** summarizes for the e-cooperation platforms the capacity of collaboration with other business applications in order to obtain learning content from real business operations. This dimension seems to be the less detected on the common platforms and this causes a number of gaps for the effective implementation of cooperation systems. The critical issue of insufficient content in many situations is due to the inability of the organizations to establish a knowledge generation mechanism through the operation of information systems that support the most important business processes.

## 4. Findings

The Multidimensional Dynamic Learning Model provides an analytical tool that can be used in order to position every knowledge management system designed to support concurrent enterprising. The three dimensions of the model imply different degrees of delivered value. So from this point of view the MDL cube represents the whole knowledge management utilization value.

The specific position for every cooperation platform has to be justified very clearly. Our research effort in this stage is concentrated on the limitation and the specification of the scale on every dimension. The establishment of such a system will allow the specification of e-learning modes. For example the three coordinates for every valid position on this cube will imply specific technological capabilities as well as learning scenarios. The selection of each mode and its implementation will of course require different levels of budget and effort. The most advanced e-learning systems positioned on the upper right corner of the cube will realize full e-learning solutions in terms of integration, knowledge management capabilities and effective learning. Of course the most advanced e-learning cubes need advanced capabilities of information processing.

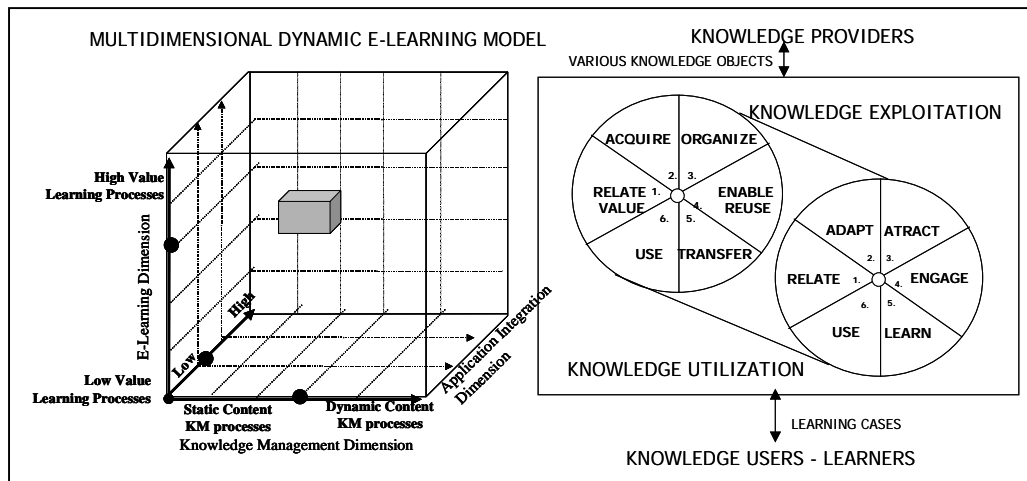


Figure 2: The conceptual framework

## 5. Conclusion

The MDL model approach sets a method for the evaluation of any cooperation platform. Of course the presentation of the method on this paper was limited due to the length limitation. The whole approach of MDL cube MODEL is supported by a number of accompanying frameworks and theoretical concepts, which in collaboration enhance the scientific justification.

The development of a system that will realize the upper right layers of the cube is currently our research priority. Of course the required modules need extensive justification and creative work. We believe that in one's year time we will be able to launch international an integrated e-learning knowledge management system with the characteristics that we mentioned on this paper. The refinement of our approach is a continuing process and will be supported by a number of new projects that we are going to propose in Greek and European Commission programs (especially under the forthcoming IST call for Knowledge management). We are looking forward in collaboration, as we understand that this ambitious system has to be based on teamwork covering a wide range of multidisciplinary contributions.

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