



# Collaborative Knowledge Sharing: A Case Study for an Academic Portal (University Knowledge Cluster)

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## ABSTRACT

*The higher education institution, like others organisations, receive some pressure to change your organisational and management methods, to answer to the new demands by society - life long learning, elearning, distance learning, quality of learning process, etc. The information communication technologies create news opportunities and facilitate the global communication process, the creation of new knowledge and the global access to information. So, news forms of sharing and access information and knowledge are needed. The goal of this communication is present the development of particular website. The mission of the website is sharing knowledge on university management and others subject on university field, and promote the scientific and technical interchange about Portuguese higher education system. The main issue is the creation the university knowledge cluster.*

## 1 INTRODUCTION

The challenge derived from the “new economy”, which models are oriented to the services, demands a new re-orientation of the Organizational Information Model. This new model is essential to the future viability of organization and to define a new process of conception and implementing service.

The recent trends of information and communication technology and the constant change at the economic and social activities induce new framework reference of the society, in general, and in academic society.

The higher education institution (HEI), are complexes social organization, and they having some pressures to re-think her role. This new role has some consequences: building new strategies, the activities development, news products and services, and news training and learning process.

New solution to the Information Management and, in specially, to the Knowledge Management needs to be developed. This new solution and management structure is important to maintain I degree of quality, good learning process and adequately research management to capture and manager the collective knowledge.

The great challenges to the academic community and to the institution are the competency informal networks management, which should be efficient. To be efficient they needs to have a sharing environment culture between all actors, intra and inter organization and between the higher education institutions.

This means, management and the sharing of know-how, skills, knowledge and information are the key factor to develop and execute new projects and research program.

The position of the HEI on society, face to the actual relational context, should be open to the exterior. This position is the best place to answer to the demand of market and society.

The cultural and science space are so closed to society and in most time surprisingly closed inside of the institution. We need to open the doors of culture and science to the community to attract the actors and partners.

This new partner and actor are essential to promote and develop new ideas, new innovative process and sharing knowledge and resources.

The aims of this new relational culture should humanize and socialize the old and the new skills and abilities, should have find a new equilibrium between creation and research with learning and training process. This new equilibrium is important, not only to the traditional learning process, to the professional’s qualification competencies and to the civic and social learning [UTL 2002].

This papers is to present an university portal that have the aims of sharing knowledge between researchers on field of management, information and knowledge applied to the university and college institution.

## 2 THE INFORMATION AND COMMUNICATION TECHNOLOGY TO THE SERVICE OF KNOWLEDGE MANAGEMENT

Technology supported strongest the diffusion of knowledge because they can diffuse and disseminate in organisation all kind of information in real time or just very near in real time to people, however the local, space and distance where they are.

The knowledge is tacit or explicit [Nonaka and Takeuchi, 1995]. Tacit knowledge are thinks, values and others or capacities, this means knowledge not separated from individual, stored in human brain of each us, including conviction, competencies, talents, abilities, etc.; technically “*wetware*“ is the word associated to this kind of knowledge. For other hands, explicit knowledge, from this authors are experiences stored in documents, electronic mail message, etc.; or ideas, this means codified knowledge stored in external support – outside from human brain, is the software knowledge. [Nonaka and Takeuchi, 1995; Nelson e Romer, 1996 in Conceição e Heitor, p. 78]

To Davenport and Prusak knowledge management in organisation should attend some aims [Davenport e Prusak 1998]: create a repository of knowledge (internally or externally), improve the access to knowledge (network links and personal contact) and develop an environment and organisational culture that stimulate the creation, transfers and uses of knowledge.

The technology evolution occurred in recent years directed the computer science and the informatics to a high capacity of processing and storage information and knowledge.

The HEI while institution of knowledge creation is one the privileged actors in conception and user of informational portals that support her activities, creating, diffusing, supporting, maintaining and actualising information, documents and dates.

The appearing of the communication networks the capacity to linked organisation inside and between them, for one side, and the capacity to create networks (more or less) informally between HEI, permit the development of news partners research teams, projects and the development of common strategies.

When people collaborate between them the sharing of knowledge is more efficient, making the collaborative technology supported by web essential to

promote the organisation competitiveness and to create a competitive organisation. The knowledge not shared is loosely knowledge.

In this way, the web technology is the single and friendly form to support the business process and the work of all actors that have a connection with the process. This improvement is possible because web technology promote the access to different source of information and knowledge.

The web services are systems software, with distinction to object oriented architecture, which commended new service-oriented architecture (SOA - Service Oriented Application). This architecture is based in interaction between two principles intervenient. One of them is the client, who asks for the service. The other is the suppliers, who offer the service. In this architecture is possible to exist a third intervenient, the broker or mediator, which have the role of promoter in interaction links between the intervenient.

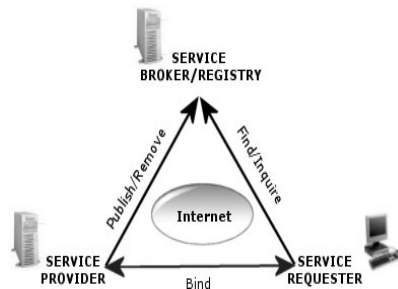
In figure 1 are identified the components of the service-oriented application:

- Service provider: who have the responsibility to furnish the service through the net and publish the service in a broker;
- Service requester: are entities that request a service in a broker, intermediate, and connected between him to a service provider;
- Service broker or/and service registry: have the responsibility to make the connection between service provider and service requester.

### 3 AN APPLICATION TO HIGHER EDUCATION INSTITUTIONS – CLUSTER OF KNOWLEDGE

The development and adoption of web service systems by HEI will be a value to these institutions. This conviction defines the intention of the promoters of this paper to develop a portal to support knowledge sharing and some services for the institutions and university researchers applied to HEI context.

Figure 1 – Web services Architecture (adapt from Gunzer, 2002)



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The access portals to information sources permitting translate the empirical conceptualisation in application realities.

Facing to new roles and the appeal of new models that explain the organisational reality, the HEI needs to develop new strategies that consolidate and development your activities, products/services and your training and learning offer, and also your creativity and innovative capacity.

The introduction of information and communication technology and the marriage between the two technologies (information and communication) accelerating the development of electronic communication process to planetary scale, in creation new knowledge and in the accessing to this knowledge.

In study of HEI this reality is also present, i.e., the creation of known and new knowledge or applied to this institutions, permitting the publicity of research works and innovation in the educational field (learning, management of learning, university management, organisational model that explain the university systems), and others type of work.

The exponential increase in master of science, master business administration (master thesis in general) and doctoral thesis in the HEI area, create some difficulty to access this kind of sources.

This reality create an opportunity, derived from new needs, to build some kind of way that facilitate the access to this works and sources. Another possibility is communicate the different initiatives, knowledge and information between discussion groups, researchers partnership, sharing experiences, knowledge and information with others kind of association.

The portal UniversitasOnline have some objectives, but the most important are: facilitating and create a culture of sharing knowledge. Our proposal is create the architecture that facilitate the process sharing and been a web bro-

Figure 2 - UniversitasOnline Portal



ker between higher education institution, in some HEI or researchers publicity yours works and document (best practice and benchmarking) or some service provider they have, and others institution, research and others person are “clients”, service request (document, works, etc.).

In this way, we try to build a university knowledge cluster [Porter, 1990] to support the Knowledge Sharing Society. The building of this architecture of sharing try to concentrate in a single gateway researchers and institutions, in different spatial-geography, connected in a virtual net.

To build an efficient portal we need define the

technological structure plan, the information access requisites, the application integration and reengineering the explicit business process to share ideas, thinks and opinions.

### 4 CONCLUSION

The uses of information and communication technologies are today a key factor in knowledge society. They are useful to knowledge management in way that facilitate the integration of people, facilitate in eliminating of boundaries redundancy between organisation, helps in prevention of information fragmentation and permitting the creation of global networks to share knowledge.

The management and the sharing of knowledge and information are a determinant factor to execute and develop actions and projects in all areas of knowledge.

Seeking the Knowledge Sharing Society through the conception of the Cluster of University knowledge, about the reality of the HEI organisational and management, we need implement and development two specific slopes: this knowledge information systems and a portal.

This project (portal universitasonline) are in your primary objective the promotion of scientific and technical interchange about the Portuguese higher education across the divulgation of information and knowledge in your different fields (scientific, pedagogical, organisational and informational).

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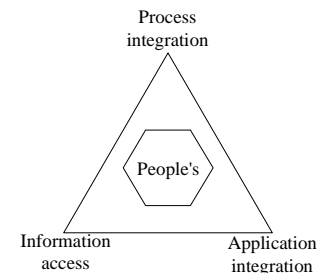
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Figure 3 - Portal development



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