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Knowledge management and learning environments in higher education

Abstract
Knowledge management involves organizational processes that require the ability of synergistic combination of data and information processing, closely associated with the creativity and innovativeness of people, with the structures and cultures of the organizations and with appropriate and relevant ways to use information and communication technologies (ICTs). For universities, and in the context of knowledge economy, knowledge management is essential, because its vision and mission leads to harmonize the creation, collection, preservation and dissemination of knowledge in a context of social responsibility and contribution to the comprehensive local and national development, on the one hand, and consistent with global changes, on the other. Thus, the challenge for universities involves analyzing new appropriate institutional environment in harmony with the policies and instruments of the Ministry of Education set for higher education.

Keywords
Management, knowledge organization, information, higher education, ICT.

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Gestión del conocimiento y ambientes de aprendizajes en la educación superior

Resumen
La gestión del conocimiento involucra procesos organizacionales que requieren la capacidad de combinación sinérgica de procesar datos e información, estrechamente asociada con la creatividad y capacidad de innovación de las personas, con las estructuras y culturas de las organizaciones y con las formas adecuadas y pertinentes de utilizar las tecnologías de la información y la comunicación (TIC). Para las universidades, y en el contexto de la economía del conocimiento, la gestión del conocimiento es fundamental, pues su visión y misión conllevan a armonizar la creación, recolección, preservación y difusión del conocimiento, en un contexto de responsabilidad social y de contribución al desarrollo integral local y nacional, por un lado, y de congruencia con los cambios a nivel global, por el otro. De este modo, el desafío para las universidades involucra analizar nuevas institucionalidades pertinentes y en armonía con las políticas e instrumentos del Ministerio de Educación definidas para la educación superior.

Palabras clave
Gestión, conocimiento, organización, información, educación superior, TIC.

Gestion des connaissances et d’atmosphères d’apprentissage dans l’éducation supérieure

Résumé
La gestion des connaissances implique des processus d’organisation qui requièrent la capacité de combinaison synergie de traitement des données et une information étroitement associée à la créativité et à la capacité d’innovation des personnes avec les structures et cultures des organisations et avec les formes adéquates et pertinentes d’utiliser les technologies de l’information et la communication (TIC). Pour les universités, et dans le contexte de l’économie de la connaissance, la gestion de la connaissance est fondamentale sa mission et vision supportent à harmoniser la création, la récolte, la préservation et la diffusion de la connaissance, dans un contexte de responsabilité sociale et de contribution au développement intégral local et national d’un côté, et d’une congruence avec les changements à un niveau global par l’autre. De cette façon, le défi pour les institutions d’éducation supérieure (IES), implique analyser de nouvelles structures, adaptées et dans une harmonie avec les politiques et instruments du Ministère d’Éducation définies pour l’éducation supérieure.

Mots-clés
Gestion, connaissance, organisation, information, éducation supérieure, TIC.
Knowledge management

Knowledge management is an effective tool to achieve organizational goals at the University. Hansen, Nohria and Tierney (1999), say that knowledge management is nothing new, because man, whatever his field, has always sought to transfer knowledge. This quality, which over time has manifested itself more or less intensely, now takes on special significance because economy is based on knowledge (Wenger & Snyder, 2000). In environments increasingly dynamic and competitive, knowledge management is seen as the funding source from which institutions can have competitive advantage are considered successful institutions (Chen, 2004; Matusik & Hill, 1998; Spender & Grant, 1996).

The ones which can use, integrate and incorporate knowledge into the activities that are part of the objectives defined in their missions are considered successful institutions (Droge, Claycomb, & Germain, 2003; Teece, 1998). In this sense, the success of Japanese companies, for example, is largely due to the importance given to organizational knowledge that enables knowledge creation and intelligent distribution and inclusion in both the organization and the products and services (Nonaka & Takeuchi, 1995). Other authors believe that the key is the knowledge of the functioning of the institution with respect to the identification of routines, processes and components that lead to products and services, including the experience provided with attributes such as shared values (Davenport & Prusak, 2001).

Organizational knowledge defined in terms of structured experience, processes, values, contextual information internalization and databases is dependent on the members of the organization and therefore highly flexible. In this regard Nonaka and Takeuchi (1995), define knowledge as a dynamic human process, created by a large flow of information that is fed back by the people's expectations and organizational culture. Thus, active behavior tends to make cycles of knowledge creation, and the organization should place special emphasis on its generation, conversion, transfer and dissemination of to maximize the obtaining of products that are a consequence of these cycles.

In literature it is possible to identify conceptions of different authors related to how organizations should manage knowledge. For Nonaka (1991 and 1994), and Spender (1989), the primary focus rests on the creation of processes, in contrast to Alavi and Leidner (2001), the creation and codification of knowledge does not necessarily favor the improvement of the value of its creation. As Grant (1996), Spender (1996), and Teece (2000), argue that value is created only when knowledge is shared in the organization and implemented where required, Droge, Claycomb and Germain (2003), Grant (1996), and Spender (1996), consider that the advantages of organizations depend not only on the creation of knowledge, but also on the dissemination and implementation as key elements.

The problem of dissemination and application of knowledge in an organization has not been sufficiently studied, except for those analyses from very specific dimensions. In this sense Chen and Huang (2007), have studied it in the role played by social interactions and their degree of influence in the organizational climate in the management of information, and in their own structures.

There is little scientific information on the role of organizational structure on the processes involved in knowledge management and, in particular, it is unknown how it affects variables such as social interaction and activities to share and apply knowledge. Druker (1999), states that the characteristics of the organization are the critical elements that affect its productivity and innovation and thus determine the performance and relationship with the ones governing (Hunter, 2002).

Therefore it appears that: a) it is of vital importance that culture is shared, understood as the one where the organization takes on a style or organizational culture, the strategic objectives that correspond to each one are met with efficiency and timely, in addition to the responsibility that lies with each member to create organizational environments conducive to effective development of actions; b) that the organizations have structures in order to know the flow of information, otherwise it will affect the processes of creation, coding, transfer, control and dissemination of knowledge (Ouchi, 1979; Robbiens & Decenzo, 2001; Schulz, 2001).

In Chile the immersion of the economic system in the knowledge economy has determined that the organizations tend to adopt efficient forms of development, based on proper management of knowledge. This extends not only to institutions but to private organizations, governments, corporate and state agencies as it is, in particular, the Ministry of Education.

International insertion of higher education is an objective of the Chilean Ministry of Education, in addition to tending to locally achieve better linkages between this level of education, research and national development to become a decisive contribution in the international arena. In this process planning is crucial for institutions to respond timely and efficiently to a job of recognition, which requires an awareness and responsibility of being immersed in a global society. Therefore, going deep into the disposition to facilitate the provision of tools to improve the indicators associated with research, development and innovation is a key challenge in the higher education and university systems.

One of the main challenges for Chilean society is to modernize the State and its component institutions. This is where one of the main challenges for universities, public or private, lies because their role is not only linked to actions to create awareness, conduct research, and help generate innovations that add value to national development, but the methods and instruments that the State has made available to universities with the purpose of funding affects the way in which their corporate governments should be developed.

Higher education in Chile —with the growing consolidation of the private institutions system and the implementation of tools and programs from the Ministry of Education aimed to regulate and ensure the quality of education— shows a system with broader access to the different socio-
Heroes, this is not to say that the learning processes that are present when people learn to handle the local conditions, when the resources are extracted from their own environment, or when they extract and combine knowledge from peer adjacent units. For this author, it is natural to distinguish three types of domain of knowledge: knowledge about technology, knowledge about teaching and learning processes and emotional intelligence, and knowledge about development policies of the organization. At a hierarchical level, following the reasoning of Schulz, it is also possible to think of three types of domain of knowledge: knowledge about government policies and instruments, knowledge of international policies on higher education, and knowledge about the organization’s emotional intelligence.

Such domains of knowledge provide a local context for learning, in the sense that some may have more problems, provide more rapid development of new solutions and others will have more resources to be engaged in the expansion of knowledge. Therefore, learning processes in subunits are specific domains and knowledge flows normally differ between domains. Hence, it is essential that the internal networks of knowledge are powered according to the organizational mission and shared values, because from these platforms knowledge will be generated and there is confidence to apply and spread it through the proper training; features that are characteristic of an intelligent organization, based on knowledge, learning and common interest.

At university level, it still makes sense to use what was described by Schulz (2001), who analyzes at least two types of flows: the horizontal one, originated between peer subunits, i.e., linked to the same hierarchical unit and the vertical one, understood as the knowledge which flows from a subunit to its hierarchical unit. According to this author, both types of flows produce significant benefits by facilitating that the knowledge developed by the subunits is known and absorbed by the institution as a whole. It also indicates that horizontal and vertical flows are fundamentally different: while the horizontal ones contribute to the combination and exploitation of knowledge from the subunits located at the same hierarchical level and involve the knowledge of two or more related subunits, the vertical ones combine knowledge from lower hierarchical levels to higher levels (Schulz, 2001).

Indeed, we must analyze the dynamics of vertical flows—considering the different sources of generation of information and knowledge in a university setting—to determine ways of improvement in their respective lines. As a result of the existence and importance of these types of flow it is mandatory its independent study, to determine the learning processes that maximize the end-value chain associated with bidirectionality.

**Learning environments**

Since the breakthrough of knowledge economy takes place in a society increasingly dependent on continuous economic sectors. This growth has brought, by the way, major strategic challenges that are related to knowledge creation. In this context, universities must ensure compliance with quality standards to create and disseminate knowledge, train professionals and build graduate programs for advanced human capital training.

To the aforementioned—and as a result of the inclusion of the country in the major international markets—new demands are taken on in the organizations in the training of human capital, in the creation, transmission and application of knowledge. Thus the traditional structure that defines universities should be analyzed in terms of a precise administrative professionalization, needed for knowledge management to be placed at the disposal of the country’s productive activities. For this to happen the modification of the spaces and structures of the Higher Education Institutions (HEIs), must be emphasized, promote the chain of internationalization and define policies that aim to foster a closer link with the scientific and technological development domestically and internationally.

Then, investigate on the way in which knowledge is generated and transferred in order to deliver a source of strategic information to the university organization that will tend to minimize the organizational problem associated with information related to the existing difference between the information required to perform the tasks versus the information that the organization really has.

Except for the study performed by Schulz, there are no studies on knowledge management in educational organizations that are committed to investigate the flows of generation and transfer. It is unknown how to transform local and individual knowledge into organizational knowledge, and the processes and organizational capabilities to manage large flows of information to recombine and distribute knowledge are also unknown.

The creation, use and dissemination of knowledge flow is an important activity in any structure, whatever its topology of knowledge management is, which must be equipped with mechanisms to recognize how it flows, preserving or improving good practices (Simmens, 2006). The definition of knowledge flow has variants: for some authors it involves the transfer of skills and technology between subunits of an organization; others understand it as the transfer of business practices or as a multistage process involving initiation, implementation and integration. However, it can further complicate, if defined as part of a knowledge network, a situation that can become chaotic if there is no internal loyalty and a strong culture of knowledge and organizational order.

The definition of information flow more relevant with respect to the universities is the one used by Schulz, who defines it as the aggregate volume of know-how and information transmitted per unit of time. With this definition Schulz tries to capture a significant amount of know-how and information transmitted between subunits, between subunits and their hierarchical units and vice versa, captured by all means, whether technological or otherwise.

Schulz says the focus of learning may be limited to three levels, the subunit, the domain of knowledge—with each
and permanent learning, it makes sense to refer to it as learning society, whose initial condition is to provide lifelong learning, where some agents have the responsibility to promote it and others to create the conditions for its existence in environments conducive to individual growth and development of its members.

Both knowledge economy and information society are changing the way institutions relate, therefore, it is common to observe how traditional sources of competitive advantage become weaker. HEIs are not unaware of this phenomenon, so that while they estimate that it is fundamental to associate, what they are trying to do in conjunction is to search, define and achieve the components that make them look different, but also competitively accepted. Several factors contribute to this situation, emphasizing the processes of national and international accreditation, the sophistication of the demands of students, competing institutions, instruments and policies of the state, growing requirements of technological capabilities and shortened majors.

Universities are embedded in a highly competitive environment which from the economic point of view, forces them to consider all or parts of the variables that are characteristic of a highly connected economy. By virtue of which, it is of fundamental importance the relations that the HEIs has developed with their students and alumni, competing institutions, strategic alliance partners, state administrations, to name a few. In sum, the relational capital of the university will be the result of the capacity that internally in terms of processes it is able to create and optimize.

Another important factor is human resources, expressed as the source of individual knowledge held by the institution and represented in their faculty members, students and administrative staff. These people showcase the investment made via development, training and achievement of skills and competencies. This becomes important as it is the source of innovation and strategic renewal of the HEIs.

Finally, structural capital refers to those knowledge-based resources that remain in the institution regardless of the temporary existence of faculty members, administrative staff and students, such as: databases, routines and organizational strategies, culture of teaching, collaboration and relationship with the environment. This is why intellectual capital is a strategic resource which will make the difference insofar as the HEIs maximize the value originated from it.

Emotional intelligence of individuals, and therefore the importance of being able to develop such skills, may be a good indicator that the learning society responds to an overload of responsibilities, thereby achieving more fraternal and friendly environments for the emotional development of all its members. If emotional intelligence is characterized by personal skills, it is noticeable that the ability to be self-motivated, persist in spite of frustrations, control fears, manage stress, think, empathize and keep the faith are sufficient to control their lives, to learn faster and be socially more capable.

Learning and acquiring competencies and abilities are vital tools of the learning society. Progress in learning is a social key, an economic and political objective, a major force not only from the standpoint of individual and group empowerment, but the enrichment of society.

As well as the production of knowledge has come to spread through society, there have been considerable changes in the way that learning opportunities are created and accessed. There is not an institution or group that has a monopoly over knowledge any more. While it remains available in educational institutions—such as schools, institutes, centers and universities—also and in an increasing way it will be located in workplaces, in the daily life of people through technology and communication. Open access to knowledge creates new requirements for learners and learning research; but there is growing concern that has to do with equity, i.e., interest in knowing who actually achieve the goodness of empowerment.

It seems to respond to a dilemma between the ideals of building competencies and the reality of people’s lives. At the same time, when the capacity of building is emphasized, voices are heard warning that there are people at risk of exclusion (Young, 1999). There is a growing polarization between those who have achieved rich learning environments with the ability to learn new competencies, and those without access to it, therefore, lacking these skills. It is a challenge to find a balance between learning and empowerment at the universities from the perspective that they should be for life, and through individual and group performances these capabilities are transferred to society.

Worell and Remer (1992), explain that empowerment means to have personal power over oneself, developing self-esteem and appraisal skills. The message behind this concept is that the person should be able to manage their own circumstances and to participate and influence the social community as well (Fetterman, 2001). It also has a social function, a collaborative activity, and not just an individual purpose.

For other authors it is the ability of people to attain understanding and control over personal affairs, in the social, economic, and political forces scope in order to take action to improve their life situations (Israel et al. 1994). Empowerment is a process in continuous development, which contributes to growth, opens better life situations, helps to find personal development purposes and allows the improvement of society through individual performances.

Therefore, when talking about learning processes in an organization, it should be noted that the goal is that its members reach the enough empowerment to develop learning skills that will be useful for their professional and social lives. Thus, to the problem in educational organizations on how to support these processes is added another one: which ones are the strategic learning skills? Individuals, and therefore organizations, need to be able to learn throughout life; it arises then studying the dimensions of learning as a way of understanding its process in HEIs.

Such as a design of a course of life, which means learning at different stages of human development, the concept of learning may be associated with a vertical dimension of a process that includes two dimensions. Complementarity
is needed to explain what happens horizontally. So a horizontal dimension associated with learning in different situations and areas of life—such as school, college or another kind of organization which are essentially true learning spaces—are essential to fully understand the concept. Information technology, the Internet, traditional and electronic media, daily and organizational work create a strong culture and opportunities for learning in both formal and informal aspects of education, which are part of the empowerment process.

The bidimensionality of learning is associated with vertical and horizontal continuous processes that respond to the holistic nature of the concept and, from this integrating point of view, provides open doors to build new skills and processes of individual and community growth, understood within a culture of participation and collaboration, where individual growth must meet regulations of learning (Winne, 1995). In an educational organization it is vital that human capital has collaborative and self-regulated learning skills as it would be an indicator of how the organization may face processes of change.

Numerous studies (Schunk, 1994; Pintrick & García, 1991; Winne, 1995), argue that those with self-regulated learning skills are generally characterized as active people who manage efficiently their own experiences in different ways, have a wide arsenal of cognitive and metacognitive strategies, are quick to exploit their capabilities when they are demanded by the academic requirements, have adaptive learning objectives, are persistent in their efforts to achieve their goals (Schunk, 1994), are motivators, independent and metacognitive active participants in their own learning (Zimmerman, 2002; Pintrick, 2000).

Usually in the HEIs little is known about the composition of their staff, since the only requirement requested at the time of application for a vacancy is usually the demonstrated ability in some area. However, it is increasingly important to consider other variables when selecting human resources, and be aware of the type of personnel already working in these organizations. It is therefore essential to understand their processes and cognitive states, as well as their ability to control or modify these states (Corkill, 1996; El-Hindi, 1997). In this regard Borkowski (1992), introduces a three-dimensional concept of metacognition: 1) metacognitive knowledge about the person, tasks, strategic variables and interactions; 2) metacognitive analysis and monitoring, reflect activities in development and processes that the staff assume while performing a task; this category consists of the analysis of learning, feelings about what is being known and comprehension monitoring; 3) self-regulatory representation at the highest level of metacognitive activity, which means changing cognitive skills and strategies in response to new demands or tasks.

At the student level HEIs have to worry about developing skills, competencies and knowledge, so that they are partakers of the changes in their environment, in a context of social responsibility. Pintrick (2004), for example, believe that it is possible to control learning through metacognition and also through cognitive strategies and management resources, for this purpose strategies are classified into three categories: cognitive, metacognitive and resources of management. In particular, resource management strategies play a key role because they help to control and shape the resources available to students and, ultimately, influence the quality and effort to carry out a given task.

Consequently, it is crucial for universities to explore how learning and knowledge production in administrative and academic units—which include the student resource—affect the flow of knowledge from other units; thereby analyze the effects on their learning processes and the quality of the knowledge produced. In general, in the HEIs there are no mechanisms or schemes to solve the aforementioned, but, undoubtedly, an implementation through the use of ICT could help discover the kinds of emerging knowledge and information and, consequently, the dynamics followed by the flows.

**ICT in the context of knowledge management**

The power of information technology and communication deliver to the global knowledge economy a technological base, which fundamentally changes the conditions to produce and distribute knowledge (Johnston, 1999, p. 1). Globalization has altered the nature and complexity of the operational environment in which higher education is developed (Clarke, 2001). Consequently, HEIs are beginning to understand that their processes are more complex today than before and that such processes should be assumed from the perspective of complex organizations, i.e., new ways of using ICTs are required and thus capitalize on all their potential.

New ways of understanding knowledge coupled with different modes of collaboration are vital in a knowledge-based economy, where technological change is vertiginous. In addition, there is a clear need to manage the leadership and entrepreneurship so that they can use strategically the potential of ICTs. Institutional coherence should harmonize the vision, mission and shared values with the implementation of strategies which, in turn, are required to respond to flexible and dynamic learning environments that allow the development of competencies to meet the growing demands of the environment. Thus, HEIs have to define permanent policies and procedures for the use and development of ICTs, in order to focalize the integration of learning technologies to respond to the changes in regards to teaching and learning, personal development, institutional efficiency and environmental demands.

In general, universities have failed to recognize and develop their own capacity to generate knowledge and, just recently—as a result of State funding policies with the HEIs—have begun to realize that knowledge management is essential to maintain a competitive character, and it is essential to manage it at an early stage so that the adaptation to continuous changes is the result of an early and adequate response to challenges.

The functions of HEIs to society are varied, transcending and cover several areas or types of knowledge. Its foundational role in society—concerning the management of
knowledge—will be successful if they can remain as relevant actors, that are characterized by the dynamism of their proposals in the path to the training of professionals and individuals with a strong component of value, directed towards scientific research to contribute to the economic and social development of the environment, with cultural sensitivity and continuous training offers.

HEIs move towards knowledge economy, and in this sense, the Organization for Economic Cooperation and Development (OECD, 2004)—which defines knowledge economies as those based on production, distribution, and use of knowledge and information, supported by the rapid advances in science and ICT—shows to universities the area and courses of action to be competitive, efficient and innovative, in addition to the pursuit of quality of goods and services as well as equity.

Kidwell et al. (2000), list numerous challenges that would mark somehow the development of knowledge management: emerging technological solutions, convergence of knowledge management with e-business, from the growing transition of small projects to projects that involve the whole organization, greater emphasis on finding the best practices for managing and implementing knowledge management, and an increasing use of knowledge.

For universities the search of the best practices to manage knowledge is possible from the comparative advantages they have and develop naturally: intellectual capital expressed in the existing capacity in research and development, use of knowledge management to establish, improve and promote cooperation with the productive sector, optimization of intellectual capital through the realization of development centers, in order to create opportunities with industry or state agencies as a whole and, finally, to encourage collaborative networks for sharing knowledge and find solutions to problems of the environment.

The development and increasing use of ICTs combined with the implementation of performance agreements in the academic units, the implementation of educational models, modulation of subjects, major accreditation processes and graduate programs show large volumes of information and knowledge flows from lower units to higher units and vice versa. These flows are not explicit because, in general, it is not clearly understood which of these skills are relevant and the sense of responsibility that lies with each unit to facilitate that the information flows reach the units concerned. The aforementioned is a corollary of the existence of different organizational cultures within universities. It is therefore, necessary to define processes to ensure an adequate traceability of information flows.

The first stage should focus on the definition and discovery of the kinds of knowledge and information for academic decision makers—deans, directors, area managers—as a result of observing the flow dynamics and of the operation of the various academic activities and the use of ICTs. The second stage should include the findings of the groups that are part of the first stage, compared with the analysis of controlled groups who provide data on the dynamics of information flows (Schulz, 2001).

With these data it is possible to analyze and evaluate some variables and understand the perception of the groups involved in the dynamics of these flows, be it faculty with their areas and departments. To do so, it is possible to explore the three learning processes in any organization proposed by Schulz (2001): the production of new knowledge in the institution, the codification of knowledge in a suitable form for its transmission and recombinant of existing organizational knowledge.

For Schulz the encoding process refers to the learning of the organization by coding experiences from the experiences of organizational routines that guide behavior (Schulz, 2001, p. 22), that exploration considers research, variation, experimentation, flexibility, discovery, innovation and risk (p. 22), while exploitation, refinement, choice, production, efficiency, selection, implementation and execution (p. 22). For the aforementioned author, these three types of learning processes describe ways of knowledge production that may have some variations in the level of fluency and subsequent relevance; hence, to influence the stimulation of knowledge flows that are conceived in information generating units, and also in the way that subunits learn, involve or gather new knowledge.

It is possible to add to this situation, the lack of fairness with which certain units and subunits provide their share; in the HEIs—today when everything is measured in terms of result indicators—it is notorious the imbalance between units and subunits in productivity. It is natural to find complex units or units exposed to environments characterized by high rates of production, innovation and change, which encourages the kind of learning through exploration and, therefore, it is common to find high degree of originality in their proposals since they contain sufficient new elements to the improvement of the organization. However, what should be considered as very positive may mean that the relevance of knowledge generated in other units is lower, which will affect the balance and feedback of knowledge between units.

However, as the new knowledge has an uncertain relevance and an unknown potential to affect each and every component of the organization, it is interesting not only to study who are impacted by this new knowledge, but also who should explore whether this new knowledge is relevant to the development of the units (Schulz, 2001).

Thus, the balance in the composition of the academic units in regard to development policies—infrastructure, recruiting policies, and investment—is keenly sensitive, and it is vital to control it to avoid inequities in the institutional contribution that influence later on in the organizational competitiveness. In this regard, the control of superior units over lower units is essential to ensure that recruiting policies, for example, meet institutional criteria.

In terms of generating new knowledge, inequality may be present as a matter of notoriety, as it is likely that not all units show similar developmental stages and this may be due to the existence within the organization of different university cultures that impact negatively on development policies. This is pointed out by Schulz (2001), when he said that interest in new knowledge, and therefore its rele-
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Social demands; as long as society is nurtured and transformed as a result of open communication of experiences that arise in specific locations, which are developed and socialized in the world mediated by ICTs.

Knowledge management and ICTs are part of the pillars on which the scenarios that may carry out the changes required by organizations rest, in particular, the HEIs immersed in a society of knowledge that seek the transfer of knowledge for its own benefit. In these circumstances, the HEIs do not only depend on the dynamics, creation and application of the knowledge originated from within, but from actions arising from other similar institutions. In this sense, the inclusion of universities in global society depends largely on the timing of the processes occurring in the different parts that compose each organization, the degree of involvement and tuning of their human capital with the general policies of the State in regards to higher education.

The shared dream will be that when a person learns something, any other person in the organization must know it.

The arguments stated about the processes of flows of knowledge are relevant to organizations made in the university, where it is analyzed in terms of the different hierarchical levels: in academic units of the same hierarchical level, between units of the same level, and supervisory units. With all this, it is intended to provide the foundation aims to initiate and develop actions that allow the creation of environments for training of people in an integral framework of institutional development, based on the pursuit of flow of knowledge processes within it, in a context where students and scholars are central to sustain and give meaning of value to the existence of the institution.

Conclusions

In the society of learning there are no spatial limits for knowledge, the times and routes for transfer of knowledge are challenges that organizations must optimize to meet social demands; as long as society is nurtured and transformed as a result of open communication of experiences that arise in specific locations, which are developed and socialized in the world mediated by ICTs.

Knowledge management and ICTs are part of the pillars on which the scenarios that may carry out the changes required by organizations rest, in particular, the HEIs immersed in a society of knowledge that seek the transfer of knowledge for its own benefit. In these circumstances, the HEIs do not only depend on the dynamics, creation and application of the knowledge originated from within, but from actions arising from other similar institutions. In this sense, the inclusion of universities in global society depends largely on the timing of the processes occurring in the different parts that compose each organization, the degree of involvement and tuning of their human capital with the general policies of the State in regards to higher education.

The construction of knowledge—mediated by notions, practices and experiences in different contexts and particularities of societies—must be considered indispensable assets to build new communities. So from complexity, proposals that aim to benefit and strengthen initiatives to promote substantial changes in the culture of teachers, students, businessmen and citizens in general can be addressed. However, this culture will not be achieved if there is no emotional support from members of society, whatever their role, in order to maximize the potential of knowledge and the benefit that come from it.

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