

# Applying Knowledge Management Oriented Objectives into Distance E-Learning Process and Strategies

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**Abstract** Every day the technology goes forward, many and many applications are developed to solve any problem that the people face and those technologies applied in various domains. One of these domains is called E-learning as a part of two dominated domains knowledge management and networking. In this paper, we suggest a model to solve some challenges of distance e-learning by applying the appropriate concepts of knowledge management and how can mix the specified and true terms of knowledge management together to make a profit for our market.

**Keywords** Knowledge Management, Distance E-Learning, Integration of Knowledge Management and E-Learning

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## 1. Introduction

Knowledge Management is one of the widest definitions because it goes with all in formation in all branches. There are several viewpoints of the definition of knowledge management because there are intersections with anyone (organization) define this term. Knowledge Management is using in Systems, managing knowledge assets, methods and techniques, A definition of Knowledge Management (KM) concept : “the systematic process of finding, selecting, organizing, distilling, and presenting information in a way that improve an employee’s comprehension in specific area of interest”[1].

E-learning is using computers and networks to transfer text, media, videos, animations and streaming audio. More and more information need to more classification and manage.

This knowledge management is necessary. So, Knowledge management has several phases (Socialization, Externalization, Combination, Internalization and Cognition ) [1]. Knowledge Management aims to fostering and managing processes like knowledge creation, transfer, application, and evolution in order to create value within the organization [2].

## 2. Problem Statement and Scope

In this paper, we will discuss and explore Distance E-learning challenges when applying knowledge management

aspects and objectives. In addition, we will explain if there are any objectives that are contradict with Distance E-learning objectives and border lines or if there are some knowledge management points can’t applied.

According to [3], distance e-learning have several challenges, some of these challenges are:

1. Lack of quality assessment and feedback, which hinders learning.
2. Lack of student motivation
3. Lack of personal community and connection (not blended learning).
4. Some self-directed learners is sometimes too random and has no process ( it’s too loosely joined—sometimes you need a bridge or a path). Also, some is subject to quality issues. The learner has to self-analyze content without requisite knowledge or criteria
5. Focus on memorization over learning core competencies.
6. Underutilized talents and facilities.

In this paper, we will discuss each challenge and explain if there is any contradiction when applying knowledge management with distance e-learning.

In this paper, we aim to enhance the distance e-learning process when applying knowledge management. In addition, minimize the impact and present a contribution to reduce the impact of the challenges as far as possible. We will list some tools for enhancing knowledge management.

According to [12], A taxonomy of knowledge management software tools, some enhancing tools are :

1. Intranet.
2. Web portals.
3. Content management.
4. Document management system.
5. Business process Re-engineering.

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- 6. Data mining.
- 7. Knowledge creation application.
- 8. Customer relationship management.

Moreover, we will suggest a framework for best using of knowledge management aspects associated with distance e-learning process. To show the relationship between the knowledge management and the distance E-learning process and there effects on each other.

### 3. Literature Review

In this section, we present some of previous researches that have been done on applying knowledge management into e-learning process and on the integration of them. Also, we review some of the approaches and models that had been used for integrating knowledge management and e-learning. In addition, we show some articles that discuss the role of knowledge management and e-learning in professional development, and we present some case studies of integration knowledge management and e-learning.

According to[2], the professionalism in the work requires continuous learning and teaching on the part of the knowledge worker, this show that learning and teaching are inherent to knowledge work. Knowledge management considers knowledge as a key asset in any organization and focuses on its role for action within the organization which is

necessary for its success. On the other hand, e-learning focuses on the learning processes of individuals and qualification and development of their skills. The article showed some contributions of this special issue consider knowledge management aspects and their integration with technology-enhanced learning such as: knowledge transfer through synchronous Online-learning, knowledge Sharing instruments and the adaption for learning arrangements, and the work process oriented learning environment as an index to virtual communities of practice networks[2].

As described in[4], the integration of e-learning systems and knowledge management technology should be investigated; in order to improve the capture, organization and delivery of both traditional training courses and large amounts of corporate knowledge. The research answers the question of "how can integrate between knowledge management and e-learning systems? ". The article summarizes the importance of the integration of knowledge management and e-learning in the following points:

- Powerful use of learning materials knowledge management with e-learning system.
- Improvement learning efficiency through knowledge management and learning feedback.
- Using knowledge management activity can cost less time in making teaching materials for teacher.

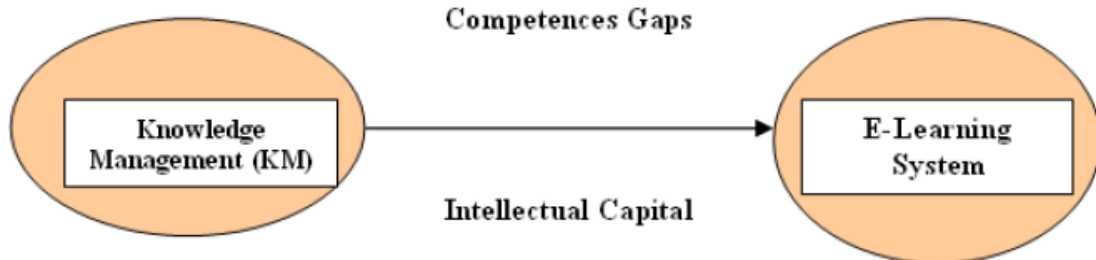


Figure 1. Competence Gaps between Knowledge Management and E-Learning[4]

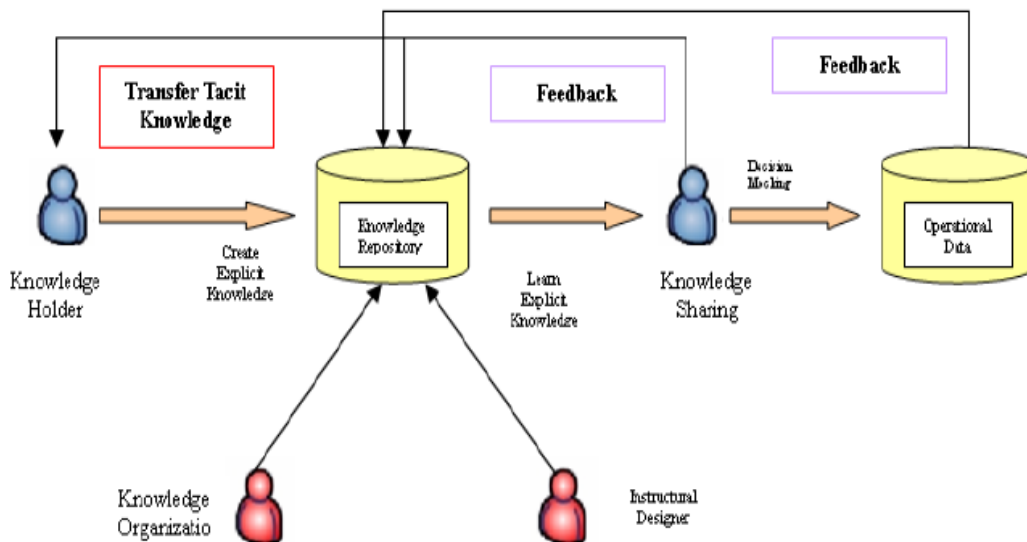


Figure 2. E-Learning System Enhancements to Knowledge Management[4]

Also, a model is proposed for the enhancement of the phases of knowledge management, the model illustrates real world scenarios that add increasing amounts of knowledge management to an e-learning environment. Figure (2) show this enhanced model[4].

Another model is proposed in[5] for the phases of knowledge management. The model is then enhanced with concepts and technology from e-learning. According to[5], that model investigates the integration of e-learning and knowledge management technology to improve the capture, organization and delivery of both traditional training courses and large amounts of corporate knowledge.

The model is used to illustrate four real world scenarios that add increasing amounts of knowledge management to an e-learning environment. In addition, the article compares between the knowledge management phases with and

without e-learning enhancements. Figure (3) & (4) show this comparison.

According to[6], the article summarizes the results and findings of the Workshop on Learner-oriented Knowledge Management and KM-oriented e-Learning (LOKMOL 2005). The main findings discussed are the barriers of integration of knowledge management and e-learning, the contributions of approaches and technologies were presented by LOKMOL, and the issues that should be addressed and handled in the future in order to successfully integrate knowledge management and e-learning. As mentioned in[6], there are several methods and approaches had been proposed at the workshop to address the gap between knowledge management and e-learning and to solve the problems that may stand in the way of integration process, some of these approaches are:

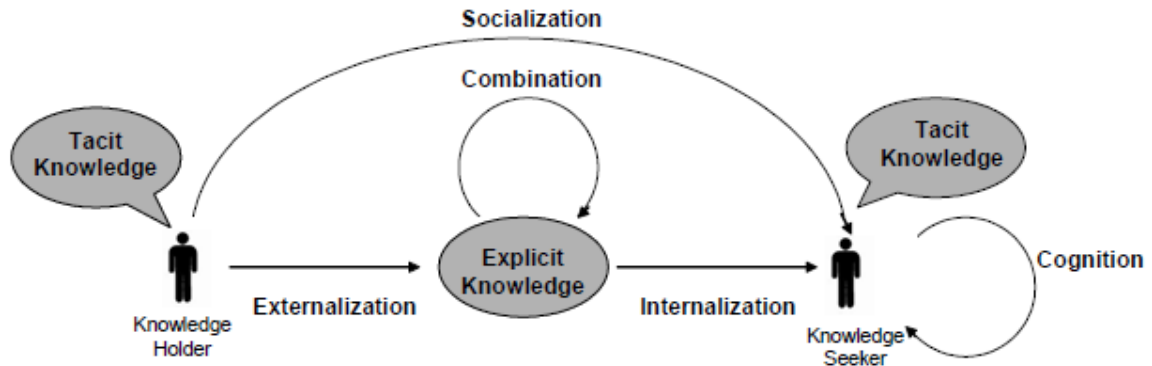


Figure 3. Knowledge Management Phases without E-Learning Enhancements[5]

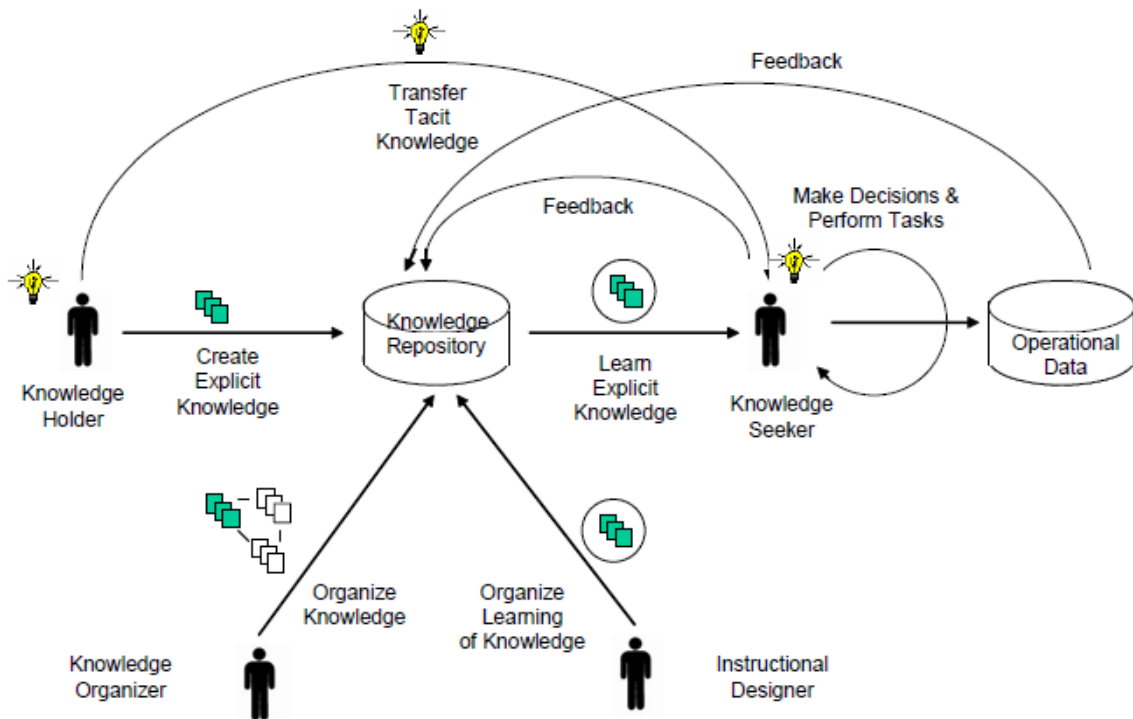


Figure 4. Knowledge Management Phases with E-Learning Enhancements[5]

➤ Conversational Diagnostic Agent (CDA): this approach creates interactive instruction out of static knowledge components as often found in knowledge management systems. Based on this approach, existing material might be augmented and reused for learning purposes.

➤ Minimal Activity Plans (MAPs): this approach discusses the extending learning management systems by exploiting existing knowledge management technologies. The approach aim to encode the meaning of the activity within the organization and enable learning by involving individuals in purposive activities.

➤ Subjunctive Interfaces (SI): this approach supports users in learning experiences that offer opportunities to recognize patterns of knowledge, by offering multiple enquiries to the users in parallel. The feasibility of this approach can be appear in two kinds of domains relevant to e-Learning: dynamic simulation and information retrieval [6].

As described in[7], knowledge management techniques can be used to capture, organize and deliver this knowledge and management systems. The article discusses the basic concepts of knowledge management and e-learning and how knowledge management and e-learning can be integrated and leveraged for effective online education and training. The article illustrates the role of knowledge management and

e-learning in professional development, this role is related to the following issues:

- Knowledge creation and acquisition.
- Knowledge sharing.
- Knowledge capture.
- Knowledge application.
- Knowledge evaluation.

In addition, the article integrated the learning cycle within the knowledge management cycle; figure (5) shows some of the possible events that take place at each process in the cycle within the organization[7].

According to[8], knowledge management systems focus on knowledge acquisition, storage, retrieval and maintenance. The knowledge to be operational needs internalization and learning. The article discusses role of e-learning systems and courseware in facilitating the development and sharing of knowledge through an e-learning system. In addition, the article discusses the problem of knowledge and e-learning interaction by using an e-learning system for major risks management, based on educational knowledge, also it discusses the benefits of true organizational learning that go beyond the traditional "course," whether it is in the real world or in the virtual world.

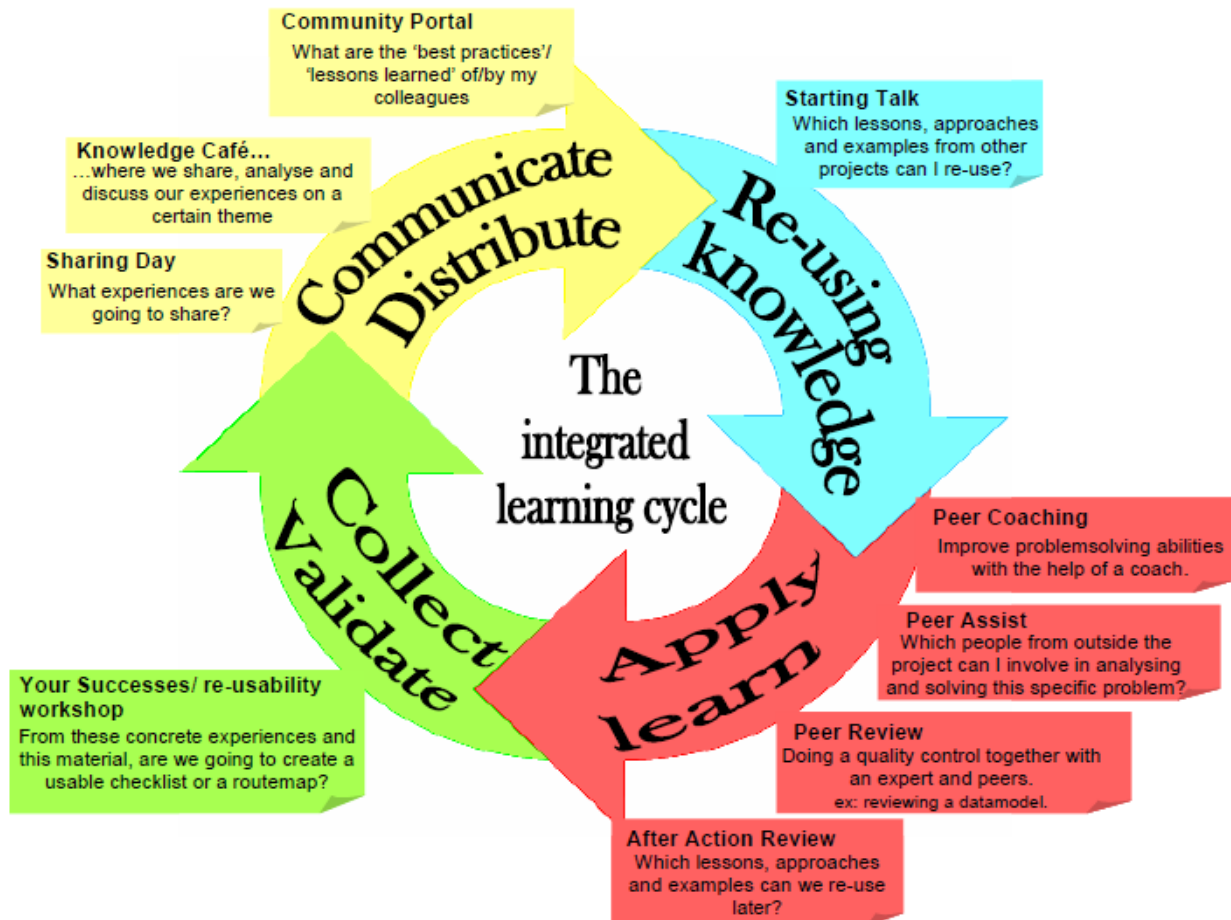


Figure 5. The Integrated Knowledge Management Learning Cycle[7]

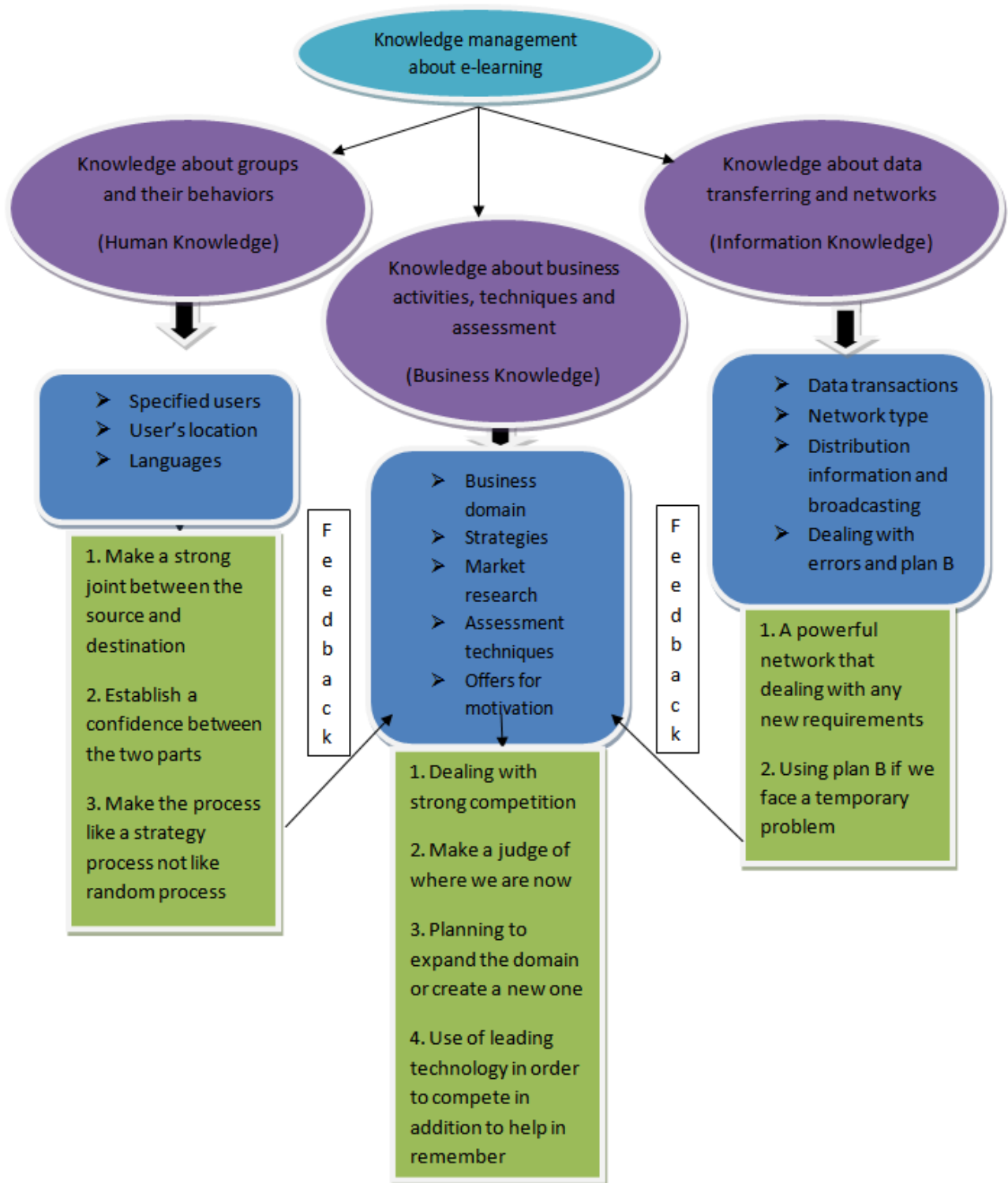


Figure 6. Our framework

In[9], the article explores the role of Blended E-Learning system in knowledge management. Online education has already been accepted as the way of the future, knowledge may be distributed across both time and space. Knowledge management techniques can be used to capture, organize and deliver this knowledge and management systems can be used to quickly identify the most relevant information and

distribute it to meet specific needs. Also, the article focuses on basic characteristics of Blended E-Learning system and knowledge management system and summarizes common features of both domains. On the hand, the article investigates the Basic processes and Blended E-Learning system components and their common features. Also, it describes the transfer between tacit and explicit knowledge

in both directions and its support by Blended E-Learning system and knowledge management system[9].

As described in[10], universities generate extraordinary quantities of knowledge, so the combination of the domains of e-Learning and Knowledge Management offers a great opportunity to address the most difficult challenge in this area; which is the management of a constantly growing pool of knowledge and human expertise in academic institutions. The article shows an initiative integrating both domains in practice integration has, namely, the potential to dramatically change today's understanding of education. Also the article discusses the framework of considerations that may contribute to the success of implementing similar initiatives which was developed by the Idea Exchange at the Centre for Translation Studies University of Vienna[10].

## 4. Framework

In this section, we will make a methodology that connects knowledge management with distance e-learning. As we seen from pervious researchers the knowledge management look like a sky that have many clouds and to make a rain we need to connect all clouds together; in other words, knowledge management have many concepts. So, the idea to make a powerful e-learning is to collect just the concepts for our area and connect those concepts in ideal way to get the benefit.

When applying knowledge management on distance e-learning we must take into account some requirements to solve. Distance e-learning means that we need a network to connect the source (e.g. instructor) with the destination (e.g. student). So, we need to know the specification of the internal and external network. In addition, we need to analyze the requirements to solve challenges that we mentioned in problem statement scope.

Figure 6, show our framework.

As described in our methodology, we deal with the six challenges that we mentioned in the problem statement

section. Knowledge management will dealing with three parts of knowledge:

1. Human knowledge
2. Business Knowledge
3. Information Knowledge

Each of them has different perspectives despite of they have many connections in background.

### 4.1. Human Knowledge

Human knowledge is dealing with people, their behavior, location, languages and goals. In addition, knowledge management must dealing with this and connects all those concepts together to make a maximum benefit as well as that leads to make a strong joint between the source and destination. In addition, establish the confidence and make the process as standard not as random.

### 4.2. Business Knowledge

Business knowledge is dealing with business domain, marketing and planning. In addition if we make another domain in future.

Using business knowledge in e-learning is important to make assessment and judge about company or the real situation.

### 4.3. Information Knowledge

Information Knowledge is dealing with the network type and every transaction that made. In addition, it deals with broadcasting of the information as well as with errors and the point that move to plan B. it's too much important to have a powerful network and information that can recover from any problem.

Knowledge direction shows the direction of knowledge from client side to assessment;

Starting from client environment then automated system to structured information then context and general structure and finally the assessment.

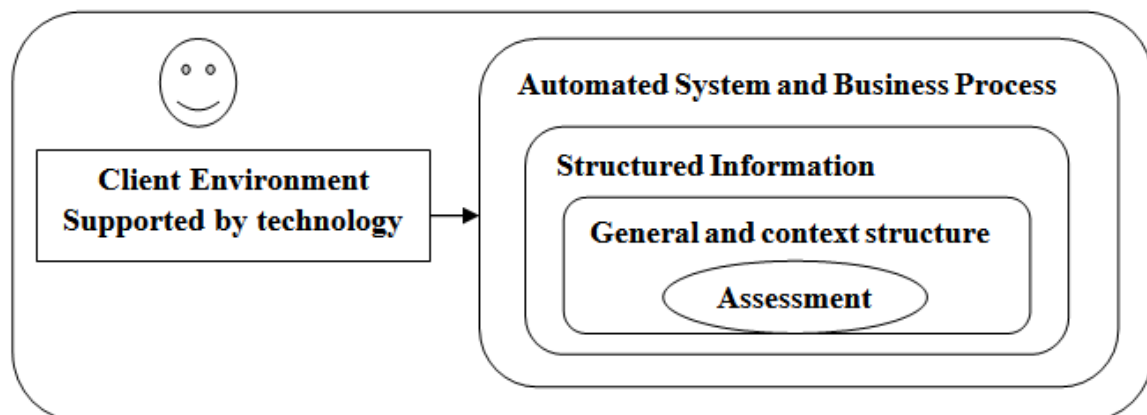


Figure 7. Knowledge Direction

## 5. Conclusions

Knowledge Management is one of the widest definitions because it goes with all information in all branches. E-learning as one of the web-based learning aspects is deeply associated with knowledge management. There are many relationships between those two aspects and when apply the knowledge management concepts we gain a powerful e-learning system. In this paper, we deal with six challenges of e-learning and we suggest a framework to make powerful e-learning with competition advantages. In addition, we present the strength points of applying the knowledge management in distance e-learning. with this framework we can improve the benefits of using knowledge management for enhancing the cycle of E-learning and Distance E-learning system with simple framework, the development of the cycle will be give a competitive advantage for organization and people work in organization. In future work, we will make an example for systemized model that deal with all of these concepts.

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