Knowledge Management Discipline: Test for an Undergraduate Program in Turkey

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Abstract: This study aims to explain the theoretical aspect of KM in order to construct a new undergraduate program. Knowledge management as a discipline plays a crucial role at the undergraduate level in universities. Firstly, it is needed to create a common terminology from which the scholars can establish programs. Secondly, a set of sciences are needed. These two stages will allow us to redefine the knowledge management discipline from an interdisciplinary perspective that is based on four fundamental paradigms: (1) technological, (2) socio technical, (3) inter / intra organizational and (4) humanist paradigm. This will allow us to have an opportunity to improve the common terms, which we can establish the knowledge management undergraduate programs from. In addition, the practical perspective of this study will be tested in Turkish universities, which have knowledge management undergraduate programs, which will enable us to suggest a new sample for how knowledge management undergraduate degree programs should successfully be constructed in Turkey.

Keywords: Knowledge Management, paradigm, discipline, academic education, undergraduate degree program in Turkey

1. Introduction

The purpose of this paper is to determine the elements of knowledge management as a discipline and to put forward the paradigms of knowledge management on epistemological dimension. Kuhn has used the term "paradigm" (1970) instead of alternative realities of sciences. Again, the term paradigm as Kuhn (1977) represents a belief system that encompasses those concepts, models, assumptions, and metaphysical principles that are shared within each community. According to Kuhn (1970), sciences are competing with each other and paradigm emerges from this competition, which contains beliefs, rules, values and conceptual tools. Paradigm can also be defined as 'common values that are shared by scientific community'. In addition to Kuhn's definitions about the term paradigm, Ritzer (1975) indicates that consensus among a community of practitioners is reinforced through a paradigm's exemplars, images of its subject matter, and its distinctive practices. Briefly, for Ritzer a paradigm is the broadest unit of consensus within a designated field of study.

In this study, instead of focusing on "the reality of construction as normal or progressive sciences" with paradigm concept and discussing the theory in praxis, I emphasize the term of paradigm here is different perspectives on scientific works about any discipline; topic map from scholars' point of view; collectivity of thought patterns; or consensus among a community of practitioners.

The study aims to put forward a comprehensive understanding about knowledge management discipline or education at the undergraduate level. It is well known that there are some of academic knowledge management graduate and postgraduate degree programs (Capar, 2003; Sutton, 2002) or some of knowledge management courses (Chaudhry and Higgins, 2001) related to the information studies departments but only few knowledge management programs are directly related to the knowledge studies, which is based on the knowledge hierarchy: data, information and knowledge. At this point, *the basic research question of this study is which paradigms can contribute to design a comprehensive new knowledge management undergraduate degree program based on the knowledge hierarchy*. In order to design such an undergraduate program, it should not only focus on data and information but also the concept of 'knowledge' in terms of k-hierarchy should be taken into account. In addition, we should transfer our understanding related to knowledge from objectivist perspective to the subjectivist one, because of the nature of knowledge. Both of these perspectives can be associated with paradigms that include some fundamental sciences.

2. Knowledge management paradigm

Only few studies have directly focused on the discipline or education of knowledge management in terms of paradigm in the literature (Ives and Torrey, 1998, Koenig, 1999; Sattar and Higgins, 2001; Dalkir, 2005, Stankosky, 2005, Sagsan, 2007, Hazlett, McAdam and Gallagher, 2005, Gloet and Berrell, 2003) but emerging knowledge as a discipline or science with regard to different epistemological dimensions reviews (Boer, Van Baalen and Kumar, 2002; Dueck, 2001; Martensson,

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2000) the processes of knowledge especially knowledge creation in organizations (Gioa and Pitre, 1990; Nonaka, 1994 & 1995; Levinthal and March, 1993; Crossan, Lane and White, 1999;). These epistemological dimensions which are based on creating knowledge can be grouped into three perspectives: (a) knowledge as a residing in individuals' minds means cognitive perspective, (b) knowledge, as a social constructed perspective, (c) knowledge, as an object perspective.

Most of the scientific research on knowledge management practices has analyzed the processes of knowledge at the individual, organizational or inter-organizational level or combined knowledge management with another field. The knowledge management academic discipline has progressed through the knowledge management life cycle models or epistemological dimensions of knowledge management (Awad ve Ghaziri, 2004: 24; Fernandez, Gonzalez ve Sabherwal, 2004:32-36; O'Dell, Grayson ve Essaides, 2003: 25; Alavi ve Leidner, 2001; Meyer and Zack, 1996; Nickols, 1999; Wiig, 1993; McElroy, 1999; Rollet, 2003; Bukowitz and Williams, 2003, Sagsan, 2006) in the literature. Dalkir argues that the nature of knowledge management discipline can be seen as interdisciplinary and these related disciplines are database technologies, collaborative technologies, organizational science, electronic performance support systems, document and information management, decision support systems, library and information sciences, web technologies, artificial intelligence, technical writing, cognitive science and help desk systems.

Jennex and Croasdell (2007) are investigated the knowledge management by considering Kuhn's criteria in terms of being a discipline. According to them, knowledge management is completely supported by these criteria. For example, knowledge management has its own specialized journals, professional societies, and academic curricula, accepted body of knowledge for group members as well as promulgation of scholarly articles.

Gloet and Berrell (2003) stated that two main paradigms should consider for managing knowledge in organizations. These are information technology paradigm and humanist paradigm. Information technology paradigm emphasizes on technology, systems and applications one hand, humanist paradigm focuses on people and process on the other. The authors have integrated these paradigms in terms of human resources management applications in organizations.

There are four layers that help in establishing and advancing the discipline of knowledge management (Schwarts, 2007: 26) as considering the Encyclopedia of Knowledge Management. The central core layer (1st) includes the philosophers that must inform our choice of practical knowledge management processes. It presents one view of the different stages activities and cycles that comprise knowledge management (2nd). These processes must be implemented and adapted in order to address organizational, social and managerial needs (3rd). Finally, the implementation of knowledge management process to meet our organizational needs must be supported by and implemented through a set of relevant information technologies (4th). The Schwartz's () argument or layers shows us that there are four fundamental sciences that comprise the discipline of knowledge management: technology science, organization & management science, social science and philosophy.

Sveiby (1996, 2001) indicates that two important tracks should be considered at two levels of managing knowledge: organizational and individual. The first track is based on information technology. According to this model, knowledge can be matched as an object; re-engineers play a crucial role at organizational level, and specialists are important at the individual level. The second track is based on people, and knowledge can be evaluated as a process. In this model, organization theorists are playing a specific role at the organizational level and psychologists are important for processing knowledge at the individual level.

Sagsan (2007) argues that knowledge management discipline should be evaluated from interdisciplinary perspectives, which are based on communication science, library and information science, business and administration sciences and technology science. Stankosky (2005) details these sciences as multi-discipline branch or theory such as communication theories, system theory, organizational psychology, strategic planning, decision support systems, data mining, system analysis, total quality management, database design and management and theories of management and organization.

Peachey, Hall and Cegielski (2007) are summarized the topics of knowledge management by giving the top-tiers journals from 2000 to 2005 as focusing on the processes of knowledge such as the construct of transfer, creation, storage/retrieval, application and roles/skills. The conclusion of their study shows us that the construct of knowledge transfer is more frequently used than the others and the studies about knowledge management should be transformed from Information Systems discipline to knowledge management systems discipline. Also, knowledge management is more than regeneration or integration of other more mature topics such as expert systems, or decision support systems.

For Koenig (1999:26-28), some important topics such as information technologies and applications, common culture and change agent, business and economy should be included in a program which is based on knowledge management discipline. These topics are given in some universities' undergraduate and graduate program as courses, especially in information science, computer technology and business administration departments (Sattar, Higgins, 2001: 3). Finally, some scholars (Ives, Torrey and Gordon; 1998: 273; Sagsan, 2007) state that the foundation for the discipline of knowledge management were laid by experiences acquired from practices and particularly thanks to the training and on-the-job practices provided by consulting firms abroad. According to Hazlett, McAdam and Gallagher (2005) knowledge management has revealed two paradigms: information systems and management but there is little evidence of synergy and convergence due to dichotomy. Therefore, knowledge management is currently in a state of pre-science. In contrast to Hazlett et all, Lee and Chris (2005) describe knowledge management as an interdisciplinary area that encapsulates processes and techniques for the creation, collection, classification, distribution, evaluation and reuse of instructional knowledge before designing master and postgraduate program based on both discipline, not a technology and sciences such as management, information technology, engineering, social work, health care and libraries. Lastly, Grossman (2007) current study summarizes the statistics about knowledge management undergraduate, graduate and postgraduate degree programs by giving some universities name and the doctoral dissertations, which were written of the last decades.

Knowledge management subtopics in terms of discipline or education can be grouped as four paradigms: organizational, humanist, socio-technical and technological. Each of these paradigms reflects its own school of thought about managing information objectively and managing knowledge as subjectively. In addition, these paradigms allow us to assess knowledge management as discipline or science and to put forward misunderstandings about the argument of knowledge management is pre-science. Like Burrell and Morgan's sociological paradigms (1980) in the field of organizational theories (Burrell and Morgan, 1979, Morgan, 1980), Figure-1 enable us to determine which paradigms can obviously based on which theories about managing knowledge in organizations.

As considering the Figure 1, knowledge management discipline can obviously be seen as interdisciplinary perspectives. The paradigms include basic sciences, which created knowledge management discipline and reflect a network of school of thought, differentiated approach and perspective but sharing common fundamental assumptions about the nature of information and knowledge with different scholars.

Technological paradigm is based on the important assumptions related to technological advancements which have crucial role concerning with providing, sharing and disseminating 'structured information' in the system. Thus technology science, computer science, system theory can be grouped into technological paradigms. These sciences indicate the dimension of the knowledge management technologies and they process only structured information. Technology is a tool or an object for establishing information systems and it enables us to produce new information orderly. These systems for example are involved in information management, information engineering, system engineering, management information systems, decision support systems, web technology systems, database management systems, etc.

Socio–technical paradigm is based upon unstructured or semi structured information. The fundamental sciences such as communication, library and information, and sociology are taken place in this paradigm and they can be assessed subjectively because information is processed at the individual level. The paradigm attempt to combine social and technical systems for manipulating information in the system that can occur as unstructured or semi structured forms. The sciences such

as communication studies, inter personal communication, librarianship, information resources documentation, archiving, information management, etc can be grouped in this paradigm.

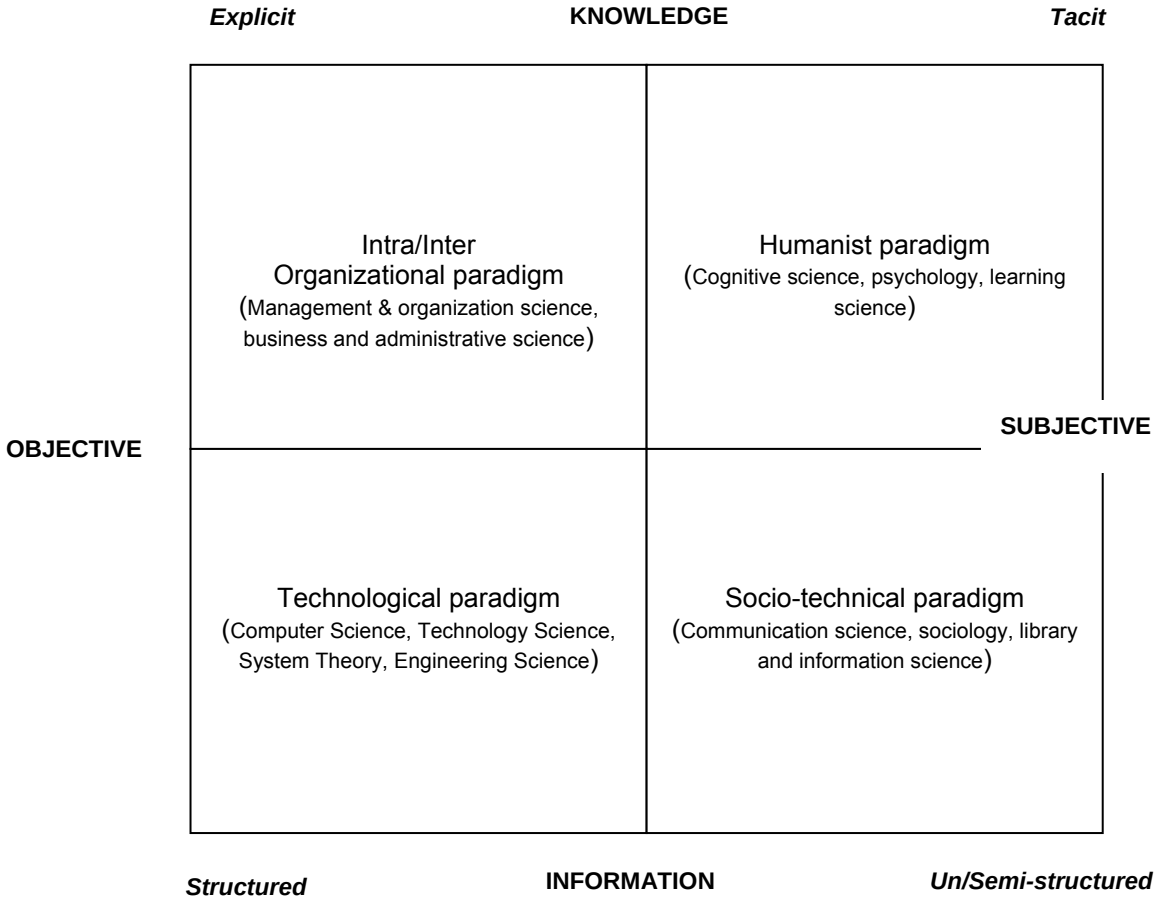

Figure 1: Knowledge management paradigms from interdisciplinary perspective

Inter / Intra organizational paradigm emphasizes how explicit knowledge is socially created by workers and collaboratively diffused in/inters organizations. These organizations should be understood here, as 'knowledge creating companies' which is firstly used by Nonaka (1991) and the paradigm should focus on both explicit and tacit knowledge. Knowledge is processed by many activities such as creating, sharing, structuring, using and auditing in organizations objectively. As we consider k-hierarchy here, information is transformed into knowledge and objectivity is stated instead of subjectivity. The topics of organizational learning, organizational culture, structure and change, organization theories, strategic management, process management, leadership theories, human resources management, production management, accounting management, supply chain management, marketing management, macro and micro economy, etc are covered by this paradigm.

Humanist paradigm is predicated upon a view of humanity as a potentially dominating force. It is tied to a cognitive process of human being, which is defined by soft sciences and level of abstraction. Thus, the paradigm is certainly subjective and focused on the tacit form of knowledge. The knowledge here is created individually and appears through human information processing that emphasizes the cognitive models. It includes topics such as individual learning, learning theories, motivation theories, human capacity, personalities, etc.

As a result, each of these paradigms defines the grounds of knowledge management discipline or education, highlights to develop a *comprehensive* (includes data, information and knowledge) undergraduate academic program and gives us different implications for the study of knowledge management in theory and practice at universities.

2.1 Inter-paradigms connectivity

These four paradigms have tightly coupled relations that enable us to assess it in interdisciplinary perspective. The sciences, which belong to the knowledge management discipline or education based on these four paradigms, are not limited here. One paradigm's tenets may be influenced from the others' thought patterns. Thus, it is possible to say that, the transitions between the paradigms reveal interdisciplinary fields which can be named as 'shared values in the same ideology'. The term ideology here means 'knowledge management paradigm'. In other words, connectivity within these four paradigms is caused to create new interdisciplinary fields such as management information systems, decision support systems, organizational or social learning, etc. In summary, the characteristic of knowledge management discipline or education based on k-hierarchy is introduced some of '*intersection fields*' between the paradigms from interdisciplinary perspective. The term field is used in this study as "subject activity" and referred to the common branch of knowledge. The concept of paradigm is a broader term than the concept of field, because according to Figure 2, any paradigm can contain many fields.

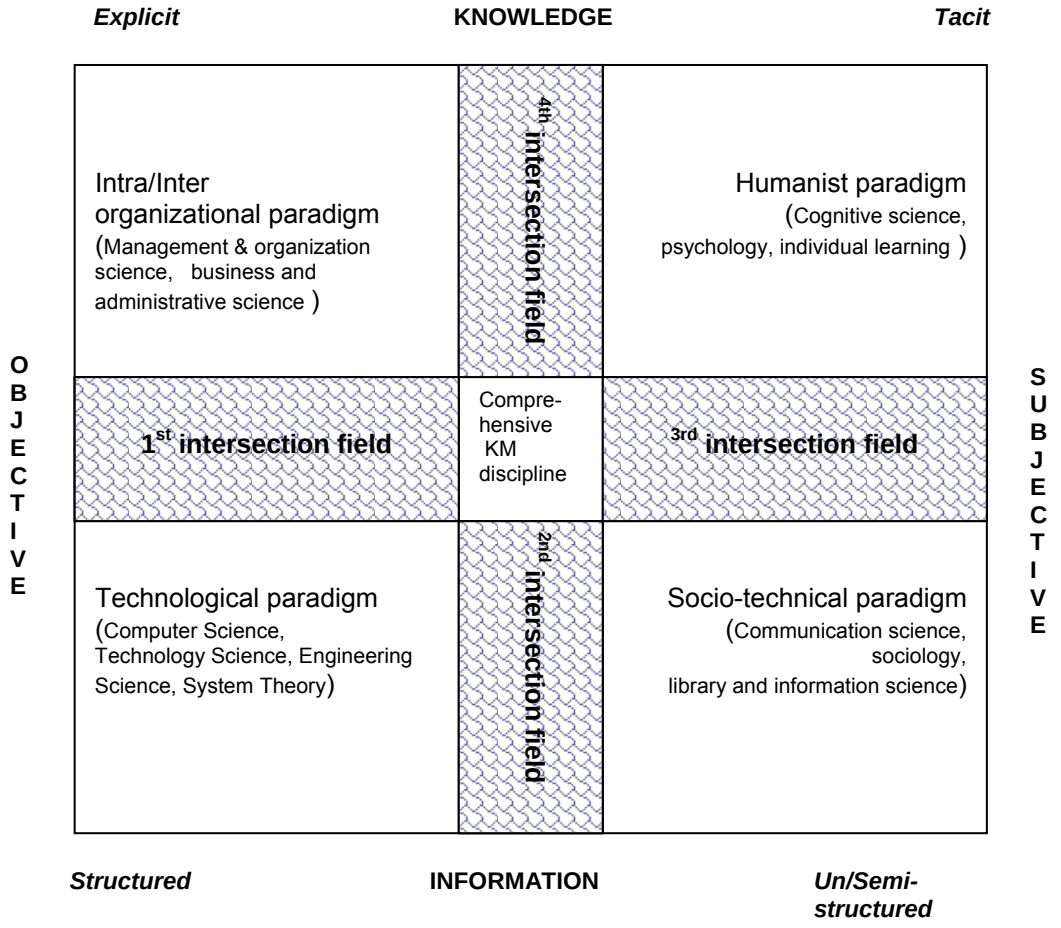

Figure 2: Four-intersection fields based on four-knowledge management paradigms

1st intersection field addressed technological and organizational paradigms that essentially produce structured information and create explicit knowledge as an object. 1st intersection field is embedded in the technological and organizational system. New interdisciplinary fields are produced by integrating organizational and technological paradigms. Management information systems, information management, knowledge management systems can be given in the field.

2nd intersection field is associated with technological and socio technical paradigm which are focused on structured and semi structured information. Decision support system, expert system, artificial system can be given as examples in this field.

3rd intersection field includes humanist and socio-technical paradigms, which produce both unstructured and semi structured information, and creates tacit knowledge. These two paradigms attempt to combine human activities and technical system in terms of socially constructed environment. Despite the fact that, information is an object, it can be easily structured by the technical system. In addition, information is formed in unstructured or semi structured, because it is a subject and ready for interpretation or structuring. Social and individual learning theories, cognitive science, social psychology ore related sciences can be considered in this filed.

Knowledge should be realized at the *4th intersection field*. It contains explicit knowledge as an object, which is created by organizations in the organizational paradigm; and the tacit dimension of knowledge purely creates by individuals to perform tasks through their experiences in the humanist paradigm. Specific knowledge management courses are occurred by this intersection field. Organizational learning theories, knowledge theories, communities of practice, human and organizational intellectual capital, innovation theories, can be exampled here.

3. Knowledge management undergraduate program in Turkey

According to k-hierarchy, these four paradigms include data, information and knowledge in terms of objectivity and subjectivity. In 1980's many academic programs at undergraduate level related to information studies, indicate only data and information. Unfortunately, these programs' curriculums are based on technological, organizational and socio-technical paradigms. The departments or schools are about management information system, information studies, library and information studies, business and information management, etc. Especially in Turkey, the undergraduate programs based on information studies have different names such as Information and Document Management, Management Information Systems, Business Informatics, Information Systems Engineering, Computer Technologies, Business Information Management, Information Systems, Archives Management, Librarianship at different universities. Most of these programs emphasize the importance of information, rather than knowledge. Therefore, a gap between information and knowledge studies occurs. Başkent University designed the first and a new comprehensive undergraduate degree program for filling this gap, titled by "*Department of Knowledge Management*" in 2002 in Turkey. The Department's curriculum are involved in multidisciplinary perspectives and based on four paradigms, which are mentioned above at the level of courses. In addition, courses can be grouped at four fundamental studies such as library and information, information technologies, communication and business. In the light of these explanations, these four intersection fields also lead to form specific knowledge management courses (See Figure 2) in the program. Briefly, these fundamental studies can be matched the four paradigms as we mentioned before. For instance, library and information studies can be equalized to socio-technical paradigm; information technologies studies can be balanced to technological paradigm; communication studies can be grouped in humanist paradigm and business management can be categorized in the intra-inter organizational paradigm. The undergraduate level program's courses can be also given below in the four paradigms.

The courses based on technological paradigm: Introduction Computer and Technology, Programming, Information and Communication Technologies, Information Networks and Internet, Database Design and Management, System Analysis, Web Design, Electronic Commerce, Electronic Government, Information Systems Design, Content Management.

The courses based on socio technical paradigm: Introduction to Communication, Mass Communication Tools, Communication and Ethics, Information and Communication Law, Publicity, Media and Democracy, Media Management, Introduction to Information Science, Information Retrieval, Organization of Information I-II, Sociology, Epistemology, Document and Record Management, Management of Information Centers, Information Policy and Society, Electronic Publishing, Project management.

The courses based on inter-intra organizational paradigm: Introduction to Economy, Introduction to Businesses, Organization Theory and Design, Contemporary Management Techniques, Organizational Behavior, Socio economic Structure of Turkey, Human Resources Management, Customer Relationship Management and Electronic Marketing.

The courses based on humanist paradigm: The paradigm heavily not only relies on the soft dimension of knowledge management courses but also includes partially all four intersections fields. Social Psychology of Organizing, Introduction to Knowledge Management, Knowledge Management

Applications I-II, Knowledge Management Case Studies, Knowledge Management and Public Relations, Intellectual Capital, Knowledge Mapping, Final Project related to knowledge management.

The Department of Knowledge Management undergraduate degree program in Baskent University aims to provide a new position in public and private organizations in the name of "knowledge manager" or "chief knowledge officers". In addition, the program can be evaluated as a sample model for designing a new comprehensive undergraduate degree knowledge management program at international level.

4. Discussions and conclusion

When focusing on the discipline of knowledge management, based on four paradigms or interdisciplinary / multi-disciplinary perspectives with respect to k-hierarchy, information is evaluated as a process and object at the organizational level relied on organizational technology; knowledge is directly related to people and analyzing subjectively at the individual level based on people's mind, behaviors, practices, and experiences. One of the most important thing here is to transform information to the knowledge, both individual and organizational level. The last item allows us (I mean knowledge) to conceive a new discipline or education in the title of "knowledge management" which differentiates from "information management", and covers, according to k-hierarchy both data and information. For this reason, it should be well known that the differentiations between information management and knowledge management fields based on theoretical and practical level. Both of them certainly have crucial roles in organizations, but if we focus knowledge management discipline or education at the undergraduate level, we are also manage and process information based on these four paradigms. In addition, it is possible to say that knowledge management as a discipline can be redefined interdisciplinary perspectives and it newly emerged as a separate discipline in the field of social sciences in 1990's. Each paradigm feeds its own science, which comes from theory and goes to the practice or vice versa. The most important benefit of knowledge management interdisciplinary perspectives for professionals or practitioners is based on education that includes k-hierarchy. Through these four paradigms, knowledge management education comprehensively can be given at undergraduate level. Many practical opportunities can be given for managing knowledge through these four paradigms in organizations for the graduates. For instance, these paradigms' sciences and intersection fields allow us to:

- draw a new roadmap about managing data, information, and knowledge, depends on organizational structure, culture and environments,
- perform knowledge management life cycle models, based on the knowledge processes such as creating, sharing, structuring, using and auditing,
- design a knowledge management team in organizations, which include information manager, web designer, communication specialist, graphic artist, information analyst, content manager, human resources manager, public relations specialist, financier and knowledge missioner and champion,
- codify knowledge based on computer programming and document management systems,
- transform information into knowledge through technological networks based on intranets and extranets,
- establish knowledge management systems architecture through web-based technologies,
- design database management systems to store and retrieve data and information,
- organize data and information by the web content management systems,
- align organizational strategies with knowledge management ones,
- build social communication networks for sharing explicit knowledge,
- motivate people by creating new knowledge to use organization's products, services and workflows,
- exploit tacit knowledge and transform it for organizational benefit,
- capture knowledge by designing knowledge maps benefit from conceptual maps and cognitive maps,
- adapt organizations with their environments based on supply chain management, customer relations management, markets and industrial relations,

- maximize organizations' intangible assets through organizational members,
- enhance incrementally organizational knowing and innovative capacity,
- integrate people culturally with technological systems,
- encourage white colored and senior workers to manage their own knowledge,
- generalize collectively learning systems from individual to organizational level and finally create collective mind,
- contribute organization's intellectual capital through intangible assets,
- develop communities of practice for sharing knowledge effectively in organizations,
- structure reward systems based on sharing and creating knowledge,
- collaborate other departments, which are directly related to creating and sharing knowledge,
- determine strategic priorities for managing knowledge with top management… etc.

In summary, the tasks that belong to knowledge managers could not be performed without education of discipline of knowledge management based on these four paradigms, which draw us a new road map to design a comprehensive knowledge management undergraduate degree program at national and international level. In addition, the intersection fields among the paradigms underline the multidisciplinary aspect of knowledge management discipline. The development of this new interdisciplinary field depends on the designing of new undergraduate degree programs, and the determining of positions of the graduates of these programs in the organizations they are going to work. It is obvious that the scientific studies about knowledge management on the job descriptions of these positions increase in the future. Nowadays this new job titles can be differently named as "chief knowledge officers, knowledge managers, intellectual capital managers"…etc in the literature but of course both knowledge management discipline and job titles are going to institutionalize in the nearest future as a separate field/area or department or position in the organizations.

References

Alavi, M.; Leidner, D. E. (2001), "Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues", *MIS Quarterly*, Vol.25, No:1: 107-136.

Awad, M. A. ve Ghaziri, H. M. (2004), *Knowledge Management*. Pearson Education, Prentice Hall, Upper Saddle River, New Jersey.

Becerra-Fernandez, I.- Gonzalez, A. ve Sabherwal, R. (2004). *Knowledge Management: challenges, solutions and technologies*. Pearson, Printice Hall, New Jersey.

Boer, N., Van Baalen, P.J. and Kumar, K. (2002). "An activity theory approach for studying the situatedness of knowledge sharing", *Proceedings of the 35th Annual Hawaii International Conference on System Sciences*, USA.

Bukowitz, W., and William, R. (2000). *The knowledge management fieldbook. London*: Prentice Hall.

Burrell, G., & Morgan, G. Sociological Paradigms and Organizational Analysis, Heinemann, 1979, 1-37.

Capar, B. (2003), "Bilgi Yönetimi: Nasıl Bir İnsangücü?", 2nd National Knowledge, Economy and Management Congress Published Papers In 421-432.ss., Kocaeli University, Faculty of Economic and Administrative Sciences, İzmit, Turkey.

Chaudhry, A.S. and Higgins, S.E. (2001). "Perspectives on education for knowledge management", *Proceedings of the 67th IFLA Council and General Conference*, Boston: MA, August 16-25, pp. 1-9.

Chris, D. and Lee, W. (2005). "A discipline, not a technology; knowledge management can help a company gain insight and understanding", South China Morning Post. Hong Kong, Apr. 9, 2005. pg. 8.

Crossan, M. M. ; Lane, H.W. & White, R.E. (1999). "An organizational learning framework: from intuition to institution" *Academy of Management Review*, 24(3): 522-537.

Dalkir, K. (2005). *Knowledge management in theory and practice*. Amsterdam: Elsevier.

Dueck, G. (2001). "Views of knowledge are human views", *IBM Systems Journal*, 40(4): 885-888.

Gioa, D. A. and Pitre, E. (1990). "Multi paradigm perspectives on theory building", *Academy of Management Review*, 15 (1): 584-602.

Gloet, M. and Berrell, M. (2003). "The dual paradigm nature of knowledge management: implications for achieving quality outcomes in human resource management", *Journal of Knowledge Management*, 7(1): 78-89.

Grossman, M. (2007). "The emergining academic discipline of knowledge management", *Journal of Information Systems Education*, 18 (1): 31-38.

Ives, W. Torrey, B. ve Gordon, C. (1998), "Knowledge Management: an emerging discipline with a long history", *Journal of Knowledge Management*, Vol.1, No:4: 269–274.

Jennex, M.E. and Croasdell, D. (2007). "Knowledge management as a discipline", (Ed. Murray E. Jennex), in *Knowledge Management in Modern Organization*, in 10-17pp., Hershey, London: Idea Group publishing.

Koenig, M. E. D. (1999), "Education Knowledge Management", *Information Services and Use*, Vol.19: 17-31.

Kuhn, T.S. (1970, 1996). *The structure of scientific revolutions*. Chicago: The University of Chicago press.
Kuhn, T.S. (1977). Second thought on paradigms. In T.S. Kuhn (Ed.), *The essential tension* (293-319), Chicago: The University of Chicago press.
Levinthal, D. A. & March, J. G. (1993). "The myopia of learning", *Strategic Management Journal*, 14, 95-112.
Martensson, M. (2000). "A critical review of knowledge management as a management tool", *Journal of Knowledge Management*, 4(3): 204-216.
McElroy, M. (2003). *The new knowledge management: complexity, learning and sustainable innovation*. Boston, MA: Butterworth-Heinemann.
Meyer, M. and Zack, M. (1996). "The design and implementation of information products", *Sloan Management Review*, 37(3): 43-59.
Morgan, G. (1980). "Paradigms, metaphors, and puzzle solving in organization theory", *Administrative Science Quarterly*, 605-622.
Nichols, F. (1996). Cooperative development of a classification of knowledge management functions. In P. Murray, *Knowledge praxis*.
Nonaka, I. & Takeuchi, H. (1995). *The knowledge creating company: how Japanese companies create the dynamics of innovation*, New York, Oxford: Oxford University press.
Nonaka, I. (1991). "Knowledge creating company", *Harvard Business Review*, November-December, 96-104.
Nonaka, I. (1994). "A dynamic theory of organizational knowledge creation", *Organization Science*, 5(1): 14-37.
O'dell, C.; Grayson, C. J. and Essaides, N. (2003), *Ne Bildiğimizi Bir Bilseydik*, Dışbank, Rota, İstanbul.
Peachey, T; Hall, D. and Cegielski, C. (2007). "Knowledge management research: Are we seeing the whole picture", (Ed. Murray E. Jennex), in *Knowledge Management in Modern Organization*, in 30-49 pp., Hershey, London: Idea Group publishing.
Ritzer, G. (1975). *Sociology, a multiple paradigm science*, Allyn and Bacon, Boston, MA.
Sagsan, M. (2006). "A New Life Cycle Model for Processing of Knowledge Management", *2nd International Congress of Business, Management and Economics*, 15-18th June 2006, Globalization and the Global Knowledge Economy (Edited by) Coskun Can Aktan, Selected Published Proceedings in 187-199pp., Yaşar University, İzmir. [Online access]: http://www.knowledgeboard.com/download/3562/A-NEW-LIFE-CYCLE-MODEL-FOR-PROCESSING-OF-KNOWLEDGE-MANAGEMENT.pdf
Sagsan, M. (2007). "Knowledge management from application to discipline: a field study", *Amme İdaresi Dergisi,*, 40 (4): 103-131.
Sattar, A. ve Higgins, S. E. (2001), "Perspectives on education for knowledge management", *67th IFLA Council and General Conference*, 16-25 August, 1-9.
Schwartz, D.G. (2007). "A Birds-Eye View of Knowledge management: Creating a disciplined whole from many interdisciplinary parts", (Ed. Murray E. Jennex), in *Knowledge Management in Modern Organization*, in 18-29pp., Hershey, London: Idea Group publishing.
Stankosky, M.A. (Ed.) (2005). "Advance in knowledge management: university research toward a discipline", *Creating the discipline of knowledge management: the latest in university research*, in 1-14pp., Oxford: Elsevier.
Sutton, M.J.D. (2002). "A topical review of knowledge management curriculum programs in university graduate school: library and information science, cognitive science, information systems and computer systems schools", *Proceedings of the first Annual Knowledge Summit Doctoral Consortium*, Queen's University, Kingston, Ontario, 1-37.
Sveiby, K.E. (1996, 2001). What is knowledge management? http://www.sveiby.com/articles/KnowledgeManagement.html.
Wiig, K. (1993). *Knowledge management foundations*. Arlington, TX: Schema press.

