CHAPTER 2

A LITERATURE REVIEW OF KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION

2.1 INTRODUCTION

This chapter attempts to highlight the scores of works on the various existing knowledge management techniques.

2.2 REVIEWS OF KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION

‘Applying Corporate Knowledge Management Practices in Higher Education’ an article by authors Jillinda et al (2000), outlines the basic concepts of knowledge management applied in the corporate sector, and considers various trends and explores how they might be applied in higher education, and whether higher education is ready to embrace them.

KM techniques in higher education can lead to improved academic and administrative services, and reduced cost. The authors also compare explicit and implicit knowledge. This helps to better understand implicit knowledge, and also gives the difference between Knowledge Management and e-Business. Colleges and universities have significant opportunities to apply knowledge management practices to support every part of their mission, from education to public service to research. The authors also listed out the application and benefits of Knowledge Management for the Research process,
Curriculum development process, Student and alumni services, administrative services and Strategic Planning.

The article, ‘Is Higher Education Ready for Knowledge Management?’ by Jennifer Rowley (2000), suggests that Universities do have a significant level of knowledge management activities, and it is important to recognize these, and use them as foundations for further development, rather than to invent a whole new paradigm. A series of unrelated knowledge based activities is not sufficient. Universities and their staff must recognize and respond to their changing role in a knowledge based society. Universities need to be consciously and explicitly managing the processes associated with the creation of their knowledge assets, and to recognize the value of their intellectual capital to their continuing role in society, and in a wider global marketplace for higher education.

The author also suggests that although knowledge based organizations might seem to have the most to gain through knowledge management, effective knowledge management may require a significant change in culture and values, organizational structures and reward systems. The management of the relationship between knowledge and power is crucial. Finally, knowledge management for higher education in a global economy requires strategic alliances on an international arena, and the creation of global knowledge repositories, which are used to the competitive advantage of the partner in the alliance.

‘The quality concept in higher education’ by Birgitta Giertz (2000), suggests that Higher education is required to demonstrate and develop its quality. To be able to work systematically to develop something one must know - and agree upon - what it is that should be developed. Quality in higher education is no longer of interest only to the academics. There are many different stakeholders, with varying interests and perspectives. There is no
guarantee that methods based on one kind of perception can be used in situations where quality is perceived in another way. This has implications for the possibilities to implement TQM in higher education institutions.

The traditional view is that, as academics, everyone works within the same framework and shares the same values and even though one might not be able to explain to outsiders what quality in higher education is, it constitutes no problem. Perceptions of quality in higher education focus on content. Higher education has always been very content-oriented. What a teacher knows about a subject has always been seen as more important than how he can help students learn. The total quality management often necessitates a change in the conception of quality held by academics. This means a culture change, since quality is a concept deeply embedded in the academic culture.

In “Knowledge Management issues for Higher Education”, the authors Rachelle et al (2004), suggest that the concept of Knowledge Management has been around for decades, but most organizations accept it only as theory and have not put it into practice. It has been difficult for many organizations to evolve their organizational thinking from an information focus to a knowledge focus. Knowledge, in this context, is information that is further refined to connect, compare, evaluate and act on information. It also involves the experience and judgement of the individuals within the higher education organization. The question is: "How can faculty and administrators in higher education are motivated to share the knowledge gained from their experience?" The typical culture in colleges and universities is not one that rewards the sharing of ideas and wisdom.

Promotion and job security are functions of a faculty member’s ability to generate original ideas, and apply them in unique ways. In such a case, knowledge can be thought of as a belief that is justified and then
internalized. Therefore, it can be lost, shared, or hoarded. Faculty members fear the theft of their research ideas. Advances in technology make shared research ideas vulnerable to capture and unethical reproduction. When job security depends on the demonstration of originality and vision, there is little or no incentive for those with knowledge insights to share with those who are struggling. The authors having gained an insight into the study of Knowledge Management hope to extend this survey by proposing a reward structure in colleges and universities that would make knowledge sharing an enhancement to promotion policies and job security.

The article ‘Improvement in higher education through Knowledge Management’ by Mamta Malik (2005), suggests that Universities have traditionally had two main roles: creating knowledge, and disseminating knowledge. Research has been the main vehicle for creating knowledge and teaching has been the main vehicle for disseminating knowledge. In today’s rapidly-changing economic environment, the traditional role of universities as providers of knowledge is greatly challenged. KM can create an innovative relationship and link between work and education, help students to more closely match their talents with the current workplace demands, contribute to the adaptation and assimilation of new knowledge with the existing one, contribute to the re-connection of learning with experience, so that a curriculum reflects the “real time, real place and real problems”; work can no longer be seen as something that happens at a later stage in life.

The author also suggests that a learning organization, based on KM principles, facilitates the learning of all its members (students and researchers) and continuously transforms it. Due to its specific features, a learning organization is in the position to develop students who are inquisitive, have exible thought processes, are open to new ideas and have self-motivated creativity and extraordinary thinking capacity. The author
suggests how learning can be assessed and controlled, and gives appropriate ways to monitor the increases and decreases in the knowledge assets embedded in the organization as part of future research.

‘Designing Knowledge Management Systems for Teaching and Learning with Wiki Technology’, Murali Raman et al (2005), in the Journal of Information Systems Education suggest that wiki is a group collaboration software tool based on the Web server technology. This paper examines the use of a wiki to facilitate knowledge management in an academic setting. The authors’ findings suggest that wikis can support collaborative knowledge creation and sharing in an academic environment. Success in attempts to provide such support may depend on: familiarity with wiki technology, careful planning for implementation and use, appropriate class size, and motivation of students to engage in discovery learning.

The authors Lugkana Worasinchai et al (2006) in ‘An innovative Knowledge Management approach in higher education: a case study of Bangkok University’ suggest developing a generic Knowledge Management framework specifically adapted for higher education. Many academic institutions have been involved in the development and the use of computer supported cooperative work systems or e-learning systems. However the sudden increase of available teaching and learning material at the campus has raised other type of requirements. Those are related to the methods and technologies on how to acquire, store, organize, disseminate, search, index and retrieve efficiently and successfully the available knowledge. Another identified challenge is how to make sure that end-user will use effectively the systems in their daily routines.

A framework mapping existing initiatives or systems with knowledge management processes have been delineated. The author presents an innovative knowledge management for higher education. The empirical
investigation aimed at understanding how the knowledge management was perceived and encouraged by academic stakeholder. In this article there is no discussion about the involvement of new Knowledge Management systems for future needs. Only existing systems are involved and there is no discussion about sharing of the knowledge between the universities.

Bahar Baran (2006), ‘Knowledge Management and online communities of practice in Teacher Education’ appearing on the Turkish Online Journal of Educational Technology – TOJET, examines the relationship among three important topics: teachers’ professional development, knowledge management and online communities of practice. All over the world establishing settings for communities of practice has become an important focus within teachers’ professional development projects, and it seems to be an effective solution to provide lifelong learning opportunities for teachers. A community of practice can provide both implicit and explicit knowledge sharing opportunities among teachers. In this vein, teachers can produce useful documentation, tools, and procedures and share these documents with other novel teachers.

With developing information technologies, online environments allow user to communicate in an interactive environment, synchronously or asynchronously. Therefore, online environments have been popular knowledge management places with portals including interactivity. The author also suggests that since establishing a community is not as easy as the blink of an eye, it requires patience and a variety of strategies to be used in different times. In sum, communities of practice needs more research and in the following years, one may learn more about it. The author only focused in teacher’s education and there are no points about the student’s and administrative person’s participation in the Knowledge Management.
In ‘E-Governance of Universities: A Proposal of Benchmarking Methodology’, by Mário Raposo et al (2006), aims to reveal the importance of benchmarking for universities through its contribution both to carry out more effective evaluations and to detect organizational problems that should be subsequently improved and surpassed and also aims at developing a framework about e-governance systems in order to propose some benchmarks that can be implemented by the universities. This paper aims to provide a benchmarking proposal related to the area of e-governance of universities. An e-governance tool is proposed in order to combine both the mission and the institutional culture of each University into a formal scheme of benchmarking tools.

These benchmarking tools help the universities to identify both their strengths and weaknesses at an internal level, and also to face threats and avail opportunities at the external level. The example of benchmark that is included in the present article belongs to the area (E) Governance of the University for Sustainability. It considers the participation of the University in the creation of e-governance systems. This area assumes a great importance since the long term institutional development strategy should be based on processes that aim to reach the sustainability. These benchmarking tools help the University to identify both their strengths and weaknesses at an internal level, and to face threats and avail opportunities at the external level in order to improve the global quality of services and the efficiency. This will contribute to the improvement of the global performance of the institution, through the adoption of the best practices. This bench mark selects only the best among the existing systems.

Ban Gisebers et al (2007), in their article ‘Towards a methodology for educational modeling: a case in educational assessment’, suggests that a new modeling technology to increase the knowledge of the teachers and
learners. Educational modelling refers to the modelling of educational systems or sub-systems, such as instructional design or assessment. Such a model is a framework that contains important concepts, processes and relations. Educational modelling can be seen as the building of an ontology – an interrelated collection of entities and their relationships.

The current practice in educational modelling combines knowledge elicitation techniques with UML modelling and is performed more or less ad lib depending upon the context in which the modelling takes place. This does not automatically lead to efficient modelling. A set of guidelines that structure the modelling process will greatly enhance the modelling. It was assumed that experts could read basic UML models, that they could translate their knowledge to the UML models and test the presented models on their knowledge. The model for assessment that was ultimately produced by the project was welcomed in a positive way by several independent reviewers and experts in assessment.

The authors Miguel Rombert Trigo et al (2007) in their article ‘Using competitive intelligence as a strategic tool in Higher Education context’ suggests that information gathered is among one of the more important organization resources. The institutions that was able to organize and take advantage of their own operations concerning information as gathering, processing, and dissemination systems are more able to inform their own strategy. Creating an information system that fulfils the organizational information needs must take into consideration a setting that supports competitive intelligence. The system must provide a growing awareness of the actions that promote better results and help the organization to choose the best strategies and innovative processes.

The authors define Competitive Intelligence (CI) as a systematic process of information gathering, processing, analysis and decomposition.
The process is conducted within the context of the external environment of the organization activities, with the major goal of supplying the right information, at the right moment, in the correct structure, to the right person, in order to support the best decision possible. The authors believe that the system can only have success if a number of requirements are met. Such requirements are considered critical success factors as they need to be fulfilled in order to achieve the initial goals for the project. As a result, a number of Critical Success Factors were identified. The authors conclude that the institution that can put into practice a CI system in its organization can get a more closed and friendly community, more informed and with a strong sense of the skills setting that may enhance its own success.

‘Intellectual Capital Management as Part of Knowledge Management Initiatives at Institutions of Higher Learning’, by Andrew Kok (2007), suggests that aspects such as human capital, structural capital and customer capital are important variables of the whole intellectual capital management programme, which forms part of the knowledge management initiatives of institutes of higher learning. The skills and expertise of university staff as part of its human capital are discussed. Structural capital will encompass aspects such as the role of innovation and intellectual property rights. Customer capital of the university and the knowledge of stakeholders in the field of tertiary education are becoming more important. Bringing intellectual capital, knowledge management and enabling technologies together is an exciting challenge to leaders wishing to create an information age institution.

It may be said that intellectual capital deals with articular, reasonable, knowledgeable and substantial fruits of the mind. It claims intangible (tacit) and tangible (explicit) dimensions, which do not mutually exclude, but actually complement each other. The conversion of knowledge
into a valuable asset has come to be known as an intellectual asset or intellectual capital. The management of intellectual capital by institutions of higher learning is becoming more important day by day. In the study on existing intellectual capital management and measurement frameworks, it has become clear that specific models are needed to be developed for these institutions. As a result, a framework was developed which was used to manage and measure Intellectual capital at an institutions of higher education.

The article ‘Weblog as a learning tool in higher education’ from the authors Yousef Namwar and Azam Rastgoo (2008) suggests that Weblogs are one of the popular technologies that have been developed in these years. Using weblog in higher education will also change the roles of teacher and in these environments teachers anymore are not represent of texts and materials but they have to guide students in this environment and help them to do works themselves. Weblogs can be used by professors to follow students learning process and it can be used by students themselves. One possibility is the use of weblog as a learning journal, where students reflect about what they are learning, what they are reading, what they are working on with colleagues, etc. Students can share this space and learn from each other, and this tool lets professors know how they are doing, what are the problems of students, where they have difficulty to understand, what the learning rhythm of the class, etc is.

Students in higher education are not dependant to classroom, they have to work themselves and with their classmate cooperatively but in the conventional classroom doing this is very hard but in new age and by using new technologies such as weblog doing this is easy and everybody could do this. Weblogs could have a main role in university students learning by providing them opportunity to engage with course materials and supplementary materials. Weblogs offer a significant potential benefit to
learners, by accelerating the learning processes and by providing opportunity to work and activity as a group and out of conventional classroom.

‘What Makes Higher Education Knowledge - Compatible?’ by Ferenc Farkas and Ágnes Király (2009), suggest that the main goal of knowledge management is to raise the value of the organization with the application of the existing knowledge and intellectual capital within the organization. One basic assumption of knowledge management is that the enhancement of knowledge base can support the organization in achieving a better position in competition. The authors examine the knowledge transfer between the higher education institutions (as knowledge intensive service providers) and the students (as clients). Students represent such networks the elements of which are capable of knowledge sharing and knowledge distribution among each other.

To be able to investigate on knowledge processes in higher education institutions, the authors suggest that one should have a look at the determining success factors of knowledge processes at first. Considering the discussion on knowledge processes in universities, the authors have found that characteristics of the organizations should have been considered. For this, the authors find it appropriate to view those features of universities, producing and delivering service to the public, which can have an impact on successful implementation of knowledge management programs.

Gholamreza Shams et al (2009) in their article ‘Knowledge Management practices in higher education institutes: a different approach’ suggest a categorization system for knowledge management practices in higher education based on two dimensions: the practices’ role in the problem-solving process, and the type of problem they address. The two most widespread types of categorization systems for knowledge management practices are grounded in organizational strategy and characteristics of
knowledge, respectively. By developing an understanding of the changes occurring in the organization’s environment, employees improve their knowledge; this is commonly thought of as learning. Organizations that operate in rapidly evolving environments therefore stand to benefit most from learning, and suffer most from a lack thereof.

The authors suggest the following Knowledge management practice descriptions: Formal training, Knowledge repositories, Knowledge fairs, Communities of practice, Talk rooms. In this article the authors first discusses existing frameworks for categorizing knowledge management practices based on organizational strategy and knowledge characteristics to explain why a problem-solving approach is likely to have value, describes the underlying theoretical constructs and integrates them into the research framework and concludes with a summary of the outcomes, limitations and contributions of this research to a new way of understanding knowledge management practices.

The authors of ‘UML analysis for quality assurance management system for higher education’, Mahmud Kandel et al (2010) suggests that without a guarantee of quality within the educational institution there is no education and therefore there is no recognition of the institution and its graduates. In higher education, quality assurance refers to the procedures, processes and systems used by higher education institutions to manage and improve the quality of their education and other activities. The quality of higher education delivered is a major concern for students, institutions and government departments, particularly as the "unit of resource" continues to decline.

A Quality assurance Management system (QAMS) consists of the policies, attitudes, actions and procedures necessary to ensure that quality is being maintained and enhanced. The different modules will interact with each
other in some specified tasks. The student will evaluate his staff through the student evaluation process. The student evaluation process contains the evaluation of the staff itself and the student feedback. The student evaluation process is a task for the course evaluation module. Performance management is a continuous process that involves supervisors and employees in the identification and evaluation of key job performance objectives and competencies that contribute to the achievement of organizational goals. Quality Assurance is the new challenge for higher education institutions. There are important needs to construct a system that manage the quality assurance for higher education.

‘Using ICT to enhance Knowledge Management in higher education: A conceptual framework and research agenda’ by Walter Omona et al (2010), suggest that effective KM is an increasingly important source of competitive advantage, and a key to the success of contemporary organizations, bolstering the collective expertise of its employees and partners. The application and use of ICT to support KM in higher education is currently an emerging challenge and requires a new conceptual approach and research agenda to address new challenges. To be able to effectively manage their knowledge resources, higher education institutions need to have appropriate KM framework in place.

The authors propose a conceptual framework for using ICT to enhance KM in higher education and identify a research agenda to bridge the requirements of theory building and testing to address the different emerging challenges. To succeed in KM, it is important that assessment and defining of ICT capabilities are done properly as it supports and facilitates KM processes such as knowledge capture, storage, retrieval, sharing and collaboration, dissemination, and updates in organizations in higher education. The authors in this paper conceptualizes organization in the proposed framework as a
knowledge space where the required ICTs and agents, individuals and collectives who use them in the conduct of their knowledge work are embedded.

‘Knowledge Management in higher education’ by More (2010), suggests that Knowledge is a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experience and information. It originates and is applied in the minds of knower. In organizations it often becomes embedded not only in documents or repositories but also in organizational processes, practices and norms. Knowledge management is a new field, and experiments are just beginning in higher education. The author believes that there is tremendous value to higher education institutions that develop initiatives to share knowledge to achieve business objectives. Colleges and universities have significant opportunities to apply knowledge management practices to support every part of their mission KM in education is a strategy to enable people to develop a set of practices to create, capture, share & use knowledge to advance.

Corporate portals allow users to customize their desktops to show information from a variety of sources within the organization. Knowledge management has been about breaking down barriers within the organization, and e-business has been about breaking down barriers between the organization and its customers. With the progression in use of Electronic Based methods this teaching cum training has become easier. A few techniques can be utilized to make learning more participative, goal-oriented, interesting and driving towards making innovative bent of mind. Education whose basic underlying purpose is to make people aware of concepts , skills and competencies when KM strategy is properly applies it helps in enhancing
the in build competitiveness and transforming the budding managers into effective leaders.

Rebecca McNeil (2011), the author of the article, ‘Application of Knowledge Management for Sustainable Development in Institutions of Higher Education’ suggests that sustainability in Higher Education (SHE) is a fast growing topic that has sprouted up at campuses around the world in recent years. Universities and colleges are inspired for a number of reasons to strive for a more sustainable campus, from altruistic goals set by keen campus leaders, to implementing greater efficiency for fiscal purposes, to simply cashing in on the popularity of the term "SHE". Institutions of higher education are unique in the vast amounts of knowledge they accumulate through staff, faculty, administration, and the student body. From purchasing to housing, accounting to academics, and a plethora of different positions in between, the sharing of knowledge throughout each unique aspect of campus life could help transition our academic institutions into leaders of sustainable development.

There is growing recognition of the complexity of environmental management, and in some cases practitioners are learning to bust out of their silos and draw from other areas of expertise. Perhaps one of the most obvious places to start would be from management, particularly the management of knowledge. Convincing staff and faculty to attend the sessions, complete the follow-up work required, and continually provide input on a project may be difficult and present itself as a major roadblock for applying KM to SHE. As with most things, it is hard to implement any project or management system without integrating one’s own biases and KM is no exception. To stay true to the integrity of the framework, SHE managers may have to identify and
shelve their own conceptions or perceived understanding of the barriers to achieving campus sustainability and be open to an honest dialogue.

‘Methodology for assessment of knowledge management in higher education institutions’ by Jasmina Arsenijević (2011), suggests that the introduction of knowledge management in higher education is inevitable due to current social and economic changes in the knowledge economy, research of its presence in higher education institutions is important not only for establishing its current state or for following the progress of its implementation, but also for establishing strong and weak points, predispositions and obstacles of HEIs for its implementation. The methodology presented in this paper is based on KM framework which equally addresses KM processes and KM culture. There are plenty of theories on KM processes in the literature, but the one which unites all of them is taken as the basis for this methodology.

In addition, examining these processes will also involve examining technological aspects, since this KM framework includes the process of storing and organization of knowledge and at the same time analyzes if these processes are in progress and if organizations are using an adequate technology. The methodology was designed to provide several advantages. It begins with the inseparability of organizational aspects of KM in educational aspects and application of KM in educational process, so it examines both KM levels, as opposed to other similar studies. Furthermore, it encompasses perspectives of two most important groups within HEIs, teachers and students, and thus provides a clearer picture which is not affected by a subjective point of view of a specific and consistent group of respondents.
2.3 REVIEWS ON EXTRACTION OF IMPLICIT KNOWLEDGE

‘Do we really understand tacit knowledge?’ by Haridimos Tsoukas (2002), suggests that the idea of focusing on a set of tacitly known particulars and “converting” them into explicit knowledge is unsustainable. The significance of “tacit knowledge” for the functioning of organizations has not escaped the attention of management theorists. By and large, tacit knowledge has been conceived in opposition to explicit knowledge, whereas it is simply its other side. As a result of such a misunderstanding, the nature of organizational knowledge and its relation to individual skills and social contexts has been inadequately understood.

Tacit knowledge forms a triangle, at the three corners of which are the subsidiary particulars, the focal target, and the knower who links the two. It should be clear from the above that the linking of the particulars to the focal target does not happen automatically but is a result of the act of the knower. The structure of tacit knowing has three aspects: the functional, the phenomenal and the semantic. The functional aspect consists in the from-to relation of particulars (or subsidiaries) to the focal target. Tacit knowing is a from-to knowing: one knows the particulars by relying on our awareness of them for attending to something else. Tacit knowledge has been greatly misunderstood in management studies. Tacit knowledge cannot be “captured”, “translated”, or “converted” but only displayed, manifested.

‘Capturing Tacit Knowledge in P2P Networks’, by Paul Fergus et al (2003), suggests that Encapsulating explicit knowledge within large scale organisations is well understood and several commercial off the shelf applications exist that enable the implementation of efficient knowledge base management systems. This provides the organisation with added value and enables knowledge components to be re-used and freely transferred throughout the organisational enterprise; however a large amount of implicit
knowledge is directly unobtainable and often lost when employees leave the organisation. This is known as tacit knowledge and is generally deep routed within the employee’s memory and communicated through face-to-face human interactions.

Tacit knowledge is inherently communicated via face-to-face interactions. Merging the social with the technical allows us to develop knowledge extraction algorithms that attempt to gain a conceptual understanding of these interactions in order to extract tacit knowledge and codify it in a knowledge management system. The challenge must be to devise indirect mechanisms to extract and represent tacit knowledge using distributed peer-to-peer networks, further enhancing the intellectual capital within the organisation. This paper describes the socio-technical requirements paramount to capturing tacit knowledge using peer-to-peer enabled technologies. The authors describe the Conceptual Query (ConQue) algorithm and the Knowledge Source Extraction (KeSEn) algorithm and illustrate the functionality of our working model.

‘Tacit Knowledge and Public Accounts’, by Stella Gonza’lez Arnal and Stephen Burwood (2003), suggest that The current quality assurance culture demands the explicit articulation, by means of publication, of what have been hitherto tacit norms and conventions underlying disciplinary genres. The justification is that publication aids student performance and guarantees transparency and accountability. This requirement makes a number of questionable assumptions predicated upon what one will argue is an erroneous epistemology. An emphasis on publication also ignores the transformative nature of learning. In higher education the process through which this is achieved is by means of a gradual, and largely tacit, acculturation or initiation of a student into a discipline.
The information supposedly contained in published maxims is not available to those as yet uninitiated into the relevant practices. Acculturation is an active process that necessarily begins with a submission to authority; mainly because the neophyte is not able to judge the appropriateness or inappropriateness of behaviours within practices until she has became able to see its coherence. It is a process that therefore requires a degree of trust from the student and consists in participation in anticipation of understanding. It is not always possible to articulate in a publishable form a detailed description of disciplinary practices such as assessment. As a result publication cannot achieve its stated goals. There are always elements of our knowledge that cannot be linguistically articulated.

The article ‘An Enquiry into extraction of the implicit knowledge’ by the author Ben Tagger (2005) aims to provide a brief enquiry into the nature of implicit knowledge and what is implicit knowledge as well as some of the aspects of the extraction of implicit knowledge. It describes some of the difficulties in extracting implicit knowledge and indeed, provides a brief non-exhaustive survey of some methods currently used in the extraction of implicit knowledge.

Tacit knowledge (or embodied knowledge) is a prime characteristic of an expert who can act, work and make judgements without having to directly reference the declarative knowledge behind the decisions. The expert works without any explicit theory as to why they work in that particular way, they just perform skillfully without any serious deliberation or hesitation. Many organisations are experiencing the departure of experienced and highly knowledgeable people. These people who are leaving take with them a substantial amount of knowledge, not only business-specific information, but also knowledge that has been instructed to them in order for them to do their job correctly. It is this knowledge that, preferably, the organisation would like
to retain hold. The overall aim of extracting tacit knowledge in this case is to mitigate the negative consequences observed by the removal, moving on or retiring of experienced personnel. One of the problems with the extraction of tacit knowledge within a knowledge management context is identifying the people who possess the worthwhile knowledge.

The author Haryani Haron and Rose Alinda Alias (2005) in the article ‘Conceptualization of Implicit Knowledge Dimension’ describes the attributes of the implicit knowledge. In this article there is no clear separation between implicit knowledge and explicit knowledge. More so, it is very difficult to find the boundaries between one types of implicit knowledge with the others. This paper acknowledges the thin line dividing each category of knowledge. Nevertheless, the effort of trying to find a clear construct of knowledge, especially implicit knowledge, provides potential wider application for further study.

Nine concepts, personal, context bounded, informal, experientially acquired, practical, action oriented, goal attainment values, individual and collective, are extracted. The concept of informal and practical/action-oriented can be incorporated in the concept of experientially acquired. Therefore, the only contradiction is whether tacit knowledge is personal/individual or is it collective.

‘Sharing Tacit Knowledge among Expert Teaching Professors and Mentees: Considerations for Career and Technical Education Teacher Educators’ by Han Sik Shim and Gene (2008), provides viewpoints of knowledge sharing by expert teaching professors and their mentees. Little is known about how expert teaching professors share tacit knowledge about teaching with mentees. Without systemic ways to access expert teaching knowledge, professors and mentees can be left with trial and error attempts at surfacing this tacit knowledge, codifying it, and sharing it. Gaining insights
about how expert teaching professors share tacit knowledge with mentees
may help faculty members, faculty developers, administrators and others
enhance opportunities for and remove barriers to sharing knowledge about
excellent teaching.

The art of teaching, situational teaching, habitual teaching, and
unconscious or subconscious teaching practices were tacit knowledge of
PTPs’ teaching expertise. These processes were difficult to be articulated in
words, even though they were transformed into explicit knowledge to some
degree. The PTPs had difficulty sharing their expertise with colleagues or
mentees. Sharing tacit knowledge was often recognized as an impossible task
because the nature of tacit knowledge prevented it from being articulated.
However, methods of sharing tacit knowledge were categorized in two ways:
observation and BIS. Observation was more frequently mentioned by
interviewees than BIS. Sometimes, both methods were mixed to share tacit
knowledge. Sharing tacit knowledge through observation was a lengthy
process. Observation had merit in that it allowed observers to absorb the
teaching situation holistically.

‘Explication of Tacit Knowledge in Higher Education Institutional
Research through the Criteria of Professional Practice Action Research
Approach: A Focus Group Case Study at an Australian University’, by
Edward Sek Wong (2008), suggests that that reflective practice involves the
mental process of reflecting, which may or may not be characterized by what
is called ‘being reflective.’ A reflective practitioner is a person who has a self-
image as a facilitator, where there is an important recognition of the
uncertainties within a profession. A person with a self-image as a facilitator,
recognizing the uncertainty within a profession, has the knowledge base of a
member of his/her profession and is aware of the problems that need to be
resolved in any professional practice.
To succeed the reflective practitioner deals with this uncertainty by putting client relationships at the centre of his/her professional practices with attempts to develop negotiated shared meanings and understandings as a joint process, all of which require reflection. The methodology section outlines the process taken by this work to translate and interpret the transcripts of the study participants. In the reflexive practitioner's perspective the researcher describes his development journey towards the evaluative criteria for judging the merit of the research by addressing his understanding of knowledge management and compares it with the literature. This study then highlights the dilemma the researcher faced in translating theory into practice and relates this to the organizational knowledge sharing culture. In the action-researcher's perspective, this study discusses the influence of the philosophical framework with the provision of other authenticating point of views.

‘Exploiting Implicit Knowledge through Knowledge Management Technologies’ by Frank Nyame-Asiamah (2009) examines the contributions and suitability of the available knowledge management (KM) technologies, including the Web 2.0 for exploiting implicit knowledge. It proposes an integrated framework for extracting implicit knowledge in organizations, which includes Web 2.0 technologies, KM tools, organizational learning (OL) and Community of Practice (CoP). It reviews a comprehensive literature covering overview of KM theories, KM technologies and OL and identifies the current state of knowledge relating to implicit knowledge exploitation. The outcomes of the paper indicate that Internet and Web 2.0 technologies have stunning prospects for creating learning communities where implicit knowledge can be extracted from people. The author recommends that organizations should design procedures and embed them in their Web 2.0 collaborative platforms persuading employees to record their ideas and share them with other members.
One key point of noting is that the above KM technologies provide enormous support for creating knowledge not previously known to a ‘learning community’. Once the hidden knowledge is reified and shared, organizations can further explore it for knowledge diffusion and management innovation. The overall knowledge powerhouse begins to expand. In this case, departure or retirement of knowledge workers will not have a huge negative impact on business processes.

‘The capabilities of the educational organizations in making use of tacit knowledge’ by Fatma Ozmen (2010), suggests that Knowledge management is the core subject of organizations in today’s challenging world and a major focus of knowledge management is on transforming tacit knowledge into explicit one. Since knowledge is constituted in individuals and depends on individual experiences, intuitions, insights and personal judgment, is difficult to capture. If it is extracting, it may be codified and becomes tangible form of knowledge. Otherwise it is called as tacit knowledge. Since codified knowledge is easy to be shared and used, it is emphasized that the knowledge which provide competitive advantage is tacit one and tacit knowledge is seen as a strategic asset for competitive advantage and sustainability of the organizations.

Establishing an organizational culture that enhances organizational learning is seen crucial for achieving effectiveness of educational institutions. The principle way of capturing tacit knowledge is sharing it through various vehicles. However, it is not easy to share knowledge due to various factors. The electronic infrastructure of the organization should become appropriate for effective management of knowledge in general. Tele-communication tools (internet, portals etc.), data storage mechanism (databases, document management systems), and some expert systems facilitating knowledge management should be maintained. The technology should be provided and
effective use of it should be assured. The use of internet for E-learning, virtual conferences, and the like should be enhanced.

### 2.4 REVIEWS ON DESIGN OF KNOWLEDGE PORTAL

Mirza and Timothy (2002), in their article ‘Enhancing Knowledge Management with XML’ discuss issues involved in designing an information Portal using XML-based tools. As compared to traditional HTML-based portals, use of XML offers several benefits - it provides a great way of efficiently aggregating, classifying, and presenting both structured and unstructured content over the Internet or similar networks.

There are new technologies that would enable the development, implementation and utilization of knowledge management within an organization. Enterprise portals facilitate, create, and allow an easier flow of knowledge within the organization. The enterprise portal utilizes XML-based tools to present, disseminate, and store documents. XML is preferred over HTML due to its data handling capabilities. XML structures the data as well as conveys meaning about the data, whereas HTML is only concerned with the presentation of the data. There are various areas of research that can be pursued in order to better understand the use of portals for knowledge management in organizations.

The article ‘Design and development of an academic portal’ by Heila Pienaar (2003), suggests about the factors that must be considered during the design and development of an academic portal. A Web portal can be defined as a Web site that aggregates an array of content and provides a variety of services including search engines, directories, news, e-mail and chat rooms. Portals have evolved to provide a customised gateway to Web information. In the academic community, this move to the Web includes internal administrative business functions and increasingly the core functions
of teaching and learning. Similarly, in the research library environment, integrated systems and digital library experiments have migrated to Web based functions almost totally. The scholar’s portal would promote the development of and provide access to the highest quality content on the Web. Guidelines for the design and development of a Web portal for academics are formulated against the background of the theoretical study and the empirical research results. The results give an indication of the different academic practices that should be supported by an academic portal. Although the Internet and the Web have the potential to make a huge impact on academics’ task performance, in practice the impact has been limited and these academics’ Web literacy was actually quite low. These aspects have to be taken into account during the design and development of the academic portal.

The article ‘Building a scientific knowledge web portal: The Nanoport experience’ by Michael Chau et al (2004), describes that there has been a tremendous growth in the amount of information and resources on the World Wide Web that are useful to researchers and practitioners in science domains. This paper reviews existing information retrieval techniques and related literature, and proposes a framework for developing integrated Web portals that support information searching and analysis for scientific knowledge. To validate the approach, the authors implemented a prototype Web portal system in the NSE domain called NanoPort. The framework provides an integrated approach to building Web-based information retrieval and analysis systems that incorporate various techniques and functionalities including collection building, meta-searching, keyword suggestion, and content analysis techniques such as document summarization, document clustering, topic map visualization, and patent analysis. The Disadvantage is that components require different servers in order to speed up.