A REVIEW ON KNOWLEDGE MANAGEMENT DISCIPLINE

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ABSTRACT:

This paper aims to provide the organizational roles to implement knowledge management. The focus is on how to devise and implement knowledge management where it is required and provides a common understanding about KM in implementation area. This paper also provides a general review on KM systems, KM architecture, KM process, KM strategy and KM critical success factors.

Keywords: *Knowledge management, Knowledge strategy, Knowledge architecture*

1. Introduction

In 1597, Francis Bacon wrote that knowledge is power (Barclay, 2000). A Knowledge- based perspective of the firm has emerged in the strategic management literature (Nonaka & Takeuchi 1995).This perspective builds upon and extends the resource based theory of the firm .

Business and economic theory is increasingly concerned with the role of organizational knowledge. As a source of economic success, knowledge is increasingly seen as having displaced traditional factors of production in the post-Fordist economy (Drucker,1995) . Knowledge management (KM) is arguably the strategic concern for many firms (Nonaka & Takeuchi 1995). Those who fail to understand this may not survive at all (Fappaolo and Koulopoulos, 2000) .

Despite such warnings KM has so far been little studied in the context of facilities despite a theoretical proposition that it is one future (Nutt,2000) or perhaps the future (Price, 2000) .of the discipline. Indeed the management of physical space may be the most under – utilized tool in contemporary KM (Ward and Holtham, 2000)and a knowledge perspective may supply the conceptual framework with which occupiers of property can understand and measure the business benefit they derive from occupation (Haynes, 2000).

Knowledge management is one such management approach, and is portrayed in the popular business literature as an innovation with the potential to affect the whole of an organisation's business, especially its processes and information systems (Coates, 2001).

The implementation of knowledge management (KM) in an organization involves the integration of knowledge from the domains of strategy, structure, processes, and technology. These domains are generally underpinned—when assimilating roadmaps for holistic KM implementation with standard KM models in the literature. This paper outlines ongoing research in the area of knowledge management implementation.

2. Definition

2.1. What is Knowledge?

Webster (1961) defines knowledge as a clear and certain perception of something – the act, the fact, or the state of understanding(Ward and Holtham, 2000) Knowledge involves both knowing how, which is generally more tacit knowledge, and knowing about, which is more explicit knowledge (Grant, 1996). To put it in other words, knowledge is basically an understanding of information and their associated patterns (Bierly et al., 2000). Therefore, the author believes that knowledge and information are different entities and these two constructs should not be equated in both letter as well as spirit. Equating information and knowledge oversimplifies and even confounds the already contentious division among biologists, cognitive psychologists, sociologists, and organizational researchers regarding data, information and knowledge (Miller, 1978). But at the same time, information should be considered as building blocks of knowledge which in turn is used for creation of wisdom in the organizational lives.

Sanchez et al. (1996) defined knowledge as the ability to maintain the synchronized exploitation of assets and capabilities in a mode that assures the achievement of the goals. O'Dell and Grayson (1998) define knowledge to be information in action. As an alternative, Davenport and Prusak defined knowledge as a fluid mix of framed experience, values, contextual information and expert insight that offers a framework for evaluating and integrating new experience and information.

2.1.1. Knowledge Layers

Seven knowledge layers are possible in organizations as described in Table 1.

Level Key	Activities
Customer Knowledge	Developing deep, knowledge-sharing relationships. Understanding the needs of your customers' customers. Articulating unmet needs. Identifying new opportunities.
Stakeholder Relationships	Improving knowledge flows between suppliers, employees, shareholders, Community etc., using this knowledge to inform key strategies.

Business Environment Insights	Systematic environmental scanning including political, economic, technology, social and environmental trends. Competitor analysis. Market intelligence systems.
Organizational Memory	Knowledge sharing. Best practice databases. Directories of expertise. Online documents, procedures and discussion forums. Intranets.
Knowledge in Processes	Embedding knowledge into business processes and management. Decision-making.
Knowledge in Products and Services	Knowledge embedded in products. Surround products with knowledge, e.g., in user guides, and enhanced knowledge-intensive services.
Knowledge in People	Knowledge-sharing fairs. Innovation workshops. Expert and learning networks. Communities of knowledge practice.

Table 1: Knowledge Layers (Skyrme, 2001)

2.1.2. Sources Of Knowledge

Davenport and Prusak (1998) suggest five types of knowledge that correspond to the source of each:

- Acquired knowledge comes from outside the organization.
- Dedicated resources are those in which an organization sets aside some staff members or an entire department (usually research and development) to develop within the institution for a specific purpose.
- Fusion is knowledge created by bringing together people with different perspectives to work on the same project.
- Adaptation is knowledge that results from responding to new processes or technologies in the market place.
- Knowledge networking is knowledge in which people share information with one another formally or informally.

2.2. What Is Knowledge Management?

In terms of knowledge management we rely on the knowledge management models introduced by Romhardt (1998). We synthesize these models to a knowledge management cycle model. This model with its different knowledge cycle activities (identify, acquire, structure, combine, share, distribute, use, preserve, eliminate .

Robbins (2003) defines knowledge management (KM) as a ‘‘process of organizing and distributing an organization’s collective wisdom so the right information gets to the right people at the right time.’’ Van Beveren (2002) further defines knowledge management as ‘‘a practice that finds valuable information and transforms it into necessary knowledgecritical to decision making and action.’’ Laudon and Laudon (2003) goes a step further by introducing ‘‘knowledge-level decision making based on the evaluation of new ideas for products, services, ways to communicate new knowledge, and ways to distribute information throughout the organization.’’ This suggests that firms can only sustain a competitive advantage when valuing its customers input and employee interaction. This interaction sometimes requires an employee to use innovation in order to ‘‘devise problems, define them, and develop new knowledge from them’’ (Van Beveren, 2002) .Anumber of studies Defining knowledge management by Choi, 2000, Barclay and Murray, 2000, American Productivity Quality Center(1999), Liss(1999), Murray(1998), Corrall(1998) ,Mayo(1998), Martinez(1998) , Chait, (1998), Beckman(1997) ,Stewart(1997) ,Pascarella(1997), Bassie,(1997), O’Dell, (1996), Manasco, (1996), Garvin, 1993).

2.3. Knowledge Management Processes

Anumber of studies have addressed knowledge management processes; they divide knowledge management into several processes (Alavi & Leidner, 2001; Bhat, 2002; DeLong,1997; Gold et al., 2001; Lee & Choi, 2003; Lee &Yang, 2000; Nonaka & Takeuchi, 1995;Ruggles, 1998; Shin et al., 2001; Skyrme &Amidon, 1998; Spender, 1996; Teece, 1998).They have identified many key aspects to this knowledge management process: capture,transfer, and use (DeLong, 1997); acquire, collaborate, integrate, and experiment (Leonard-Barton, 1995); create, transfer, assemble, integrate, and exploit (Teece, 1998); create, transfer, and use (Skyrme & Amidon, 1998; Spender, 1996).

For example, Alavi and Leidner (2001) considered four processes including creation, storage, transfer, and application. Gold et al. (2001) clustered various capabilities intofour broad dimensions of process capability—acquiring knowledge, converting it into a useful form, applying or using it, and protecting it. Lee and Choi (2003) focused on the knowledge creation process, and they adopt the SECI (socialization, externalization, combination, internalization) process model by Nonaka and Takeuchi (1995) to explore knowledge creation. Ruggles (1998) divided company’s knowledge management processes by four categories including generating and accessing, facilitating and representing, embedding and usage, and transferring and measuring.

3. Implementation Of Knowledge Management

Many KM models with different approaches and mindsets have been proposed in literature. McAdam and McCreedy (1999) have identified three broad categories of KM models, namely knowledge category models, intellectual capital models, and socially constructed models.These models are important in enriching our understandings on the essentials of KM activities; yet do not provide an integrative perspective for actual KM implementation.

Another type of KM framework includes those that have been developed by researchers to serve as a basis for examining how KM has been performed in industry. These frameworks provide a reference to facilitate the structuring, analysis and evaluation of the KM initiatives undertaken in various case companies. The frameworks developed by Apostolou and Mentzas (1998) and Lai and Chu (2002) fall into this category. The literature review has highlighted a further type of high-level KM framework. These are the ones that provide more detailed directions on the implementation of KM.

For implementation of KM there has been presented many different models and frameworks, but not all of these models and frame works are in a same level and are not focus on the KM fields itself and each other are focused on some other fields.

For example some of the models and frameworks that have been presented are like Newman & Conard , Boisot , Nonaka , Steve Hals , Hicks, Marc al roie, Kasvi, and Liebowitz, foucesed on the Knowledge Process in Organizations.

The models and frameworks that has been presented are talk about the knowledge and not about the KM. In other word ,the focus in these models and frameworks is on the Knowledge management Process and some of them are Ron Johnston , O' Dell and Grayson ,Davenport. and Prusak and Tiwana. In table2 noticed on some of the models and frameworks.

Researcher	Framework and Model
Rubenstein. (2001)	perform strategic plan, perform business need analysis, conduct cultural assessment and establish, performance conceptual modeling, perform physical modeling, capture and secure knowledge, represent knowledge, organize and store knowledge in the knowledge management system , combine knowledge, create knowledge and share knowledge
McCampbell et al. (1999)	Form powerful coalition, Communicate vision of KM, Establish teams for needs assessment, Analyse the needs of KM, Identify and collect knowledge, Design a technological structure to warehouse knowledge, Test the technology, Maintenance of the technology, Retest the technology, Training of knowledge workers, Roll out the use of KM practices, Track usage, Make systems go live, Measure quality and productivity, measure the performance of KM practices, conduct a need assessment review .
Wiig (1998)	Build management understanding and commitment to pursue KM, Map perspectives of the knowledge landscape, Plan the organisation KM priorities, focus and strategy, Identify sought KM benefits, Adjust KM priorities and Create KM-related incentive programmes.
Wiig (1999)	Obtain management buy-in, Survey and map the knowledge landscape, Plan the knowledge strategy, Create and define knowledge-related alternatives and potential initiatives, Portray benefit expectations for knowledge management initiatives, Set knowledge management priorities, Determine key knowledge requirements, Acquire key knowledge, Create integrated knowledge transfer programmes, Transform, distribute and apply knowledge assets, Establish and update a KM infrastructure, Manage knowledge assets, Construct incentive programmes, Coordinate KM activities and functions enterprise- wide, Facilitate knowledge-focused management and Monitor knowledge management.
Chase,R.L.(2000) [	success in establishing an enterprise knowledge culture, top management support for managing knowledge, ability to develop and deliver knowledge based goods/services, success in maximizing the value of the enterprise is intellectual capital , effectiveness in creating an environment of knowledge sharing, success in establishing a culture of continuous learning, effectiveness of managing customer knowledge to increase loyalty/ value and ability to manage knowledge to generate shareholder value
Junnarkar,B.(1999)	Connecting people with other knowledgeable people, Connecting people with information, Enabling the conversion of information to knowledge, Encapsulating knowledge, to make it easier to transfer and Disseminating knowledge around the firm
Dataware Technologies,Inc.(1998)	Identify the business problem, Prepare for change – obtain executive support and make the shift to a sharing culture, Create the team, Perform a knowledge audit – identify , Define key features required for the technological infrastructure, Phase in knowledge management and Link people to knowledge- knowledge directory and content management
Xerox Corporation (1999)	Discovery – identify business goals, challenges and opportunities, Definition – determine key requirements and scope of the project, Start - up – detailed project plan is developed, Delivery – implement the plan, Evaluation – ensure results meet expectations and facilitate knowledge transfer
CIBIT[17]	Focus, Organize, Implement and Monitor
APQC(1996) (American Productivity & Quality Center)	Getting Started, Explore and Experiment, Pilots and KM Initiatives , Expand and Support and Institutionalize KM
Organizational Knowledge Management	Processes(create, acquire, identify, adapt, organize, distribute, apply) and Empower(leadership, Technology, Culture & Assessment)
Suh	Knowledge Management strategy , Knowledge Management Performance, knowledge processes, Sources of Knowledge, Human resources and Knowledge Management impellents
KM architecture Model	Corporate strategy , Organizational Culture, processes Knowledge Management and ICT &IT
Tiwana	Analyze the existing infrastructure, Align knowledge management and business strategy, Design the knowledge management infrastructure, Audit existing knowledge assets and systems, Design the knowledge management team, Create the knowledge management blueprint, Develop the knowledge management system, Deploy, using the results-driven incremental methodology, Manage change, culture and reward structures, Evaluate performance, measure ROI, and incrementally and refine the KMS
McElroy 2007	knowledge management , knowledge processes and Business processes
Liebowitz (2000)	Identify and verify knowledge, Capture and secure knowledge, Organize knowledge, Retrieve and apply knowledge, Combine knowledge, Learn knowledge and Distribute/sell knowledge.
Building blocks of knowledge management(2002)	knowledge goals and knowledge assessment

Liebowitz & Backman (1998)	Identify knowledge, Capture knowledge, Select knowledge, Store knowledge, Share knowledge, Apply knowledge, Create knowledge and Sell knowledge
Frid (2002)	A pragmatic guide to building a knowledge management program
Frid (2003)	A common KM framework for the Government of Canada: Frid framework for enterprise knowledge management
Stankosky (2005)	Creating the discipline of knowledge management: the latest in university research: This model appears to be a developing methodological framework, rather than a single model, and is the subject of continuing doctoral research at the George Washington University.
KM step by step	Free KM Assessment Survey, Knowledge Management Education , Knowledge Management Consulting ,Knowledge Management Roles and Responsibilities, Knowledge Management Processes, Methods and Tools, 6.Knowledge Competencies, Knowledge Networks, Knowledge Management Technologies and Knowledge Management Measures

Table 2: Frameworks & Models For Knowledge Management Implementation

The KM frameworks that have been presented in the literature tend to focus on different aspects of KM and have different purposes. Among them, the most notable includes the knowledge creation framework developed by Nonaka (1991, 1994) and Nonaka and Takeuchi (1995), which describes how the evolution and conversion between explicit knowledge (characterized by its ability to be codified or put in writing) and tacit knowledge (which is mostly people bounded and hard to articulate) can lead to a knowledge creation spiral in an organization. Arguably, this is not a KM framework per se, as it only deals with the creation of knowledge, which is only a portion of what constitutes KM.

4. Critical Success Factors (CSF) In Knowledge Management Implementation

Several research models in the literature suggest how knowledge is created and transferred in organizations (Grover & Davenport, 2001; Gold, Malhotra & Segars, 2001; Karlsen & Gottschalk, 2004; Davenport & Prusak, 1998). In a review of KM critical success factors identified in recent research, Alazmi and Zairi (2003) found that many factors have been suggested as important to implementing a successful KM program. These factors include culture, training, top-management support, technology infrastructure, knowledge infrastructure, knowledge sharing, and knowledge transfer, etc. Additional studies suggest the importance of culture, technology, systems and procedures, structure, tasks, and incentives (Grover & Davenport, 2001; Gold, et. al., 2001; Karlsen & Gottschalk, 2004; Davenport & Prusak, 1998).Table 3provides a comparative summary of some of the main issues of these studies.

Table 3. KMS Success Factor Summary

Critical Success Factors \ Researcher	Alavi and Leidner (1999)	Ackerman (1994)	Barna (2002)	Cross and Baird (2000)	Davenport et al. (1998)	Holsapple and Joshi (2000)	Ginsberg and Kambil (1999)	Koskinen (2001)	Jennex and Olfman (2000)	Jennex, Olfman, and Addo (2003)	Malhotra and Galletta (2003)	Mandviwalla et al. (1998)	Sage and Rouse (1999)
Integrated Technical Infrastructure including networks, databases/repositories, computers, software, KMS experts	✓		✓	✓	✓		✓		✓			✓	✓
A Knowledge Strategy that identifies users, user experience level needs, sources, processes, storage strategy, knowledge and links to knowledge for the KMS.			✓			✓	✓	✓		✓		✓	✓
A common enterprise wide knowledge structure that is clearly articulated and easily understood			✓	✓	✓		✓		✓			✓	✓
Motivation and Commitment of users including incentives and training	✓		✓	✓	✓		✓		✓		✓		
An organizational culture that supports learning and the sharing and use of knowledge	✓		✓		✓				✓				✓
Senior Management support including allocation of resources, leadership, and providing training			✓		✓	✓			✓				
Measures are established to assess the impacts of the KMS and the use of knowledge as well as verifying that the right knowledge is being captured	✓				✓				✓				✓
There is a clear goal and purpose for the KMS		✓	✓	✓	✓								
Learning Organization			✓	✓									✓
The search, retrieval, and visualization functions of the KMS support easy knowledge use	✓						✓					✓	
Work processes are designed that incorporate knowledge capture and use			✓	✓					✓				
Security/protection of knowledge									✓				✓

Summary of literature review identifying critical factors influencing KM Implementation [Davenport (1998), Trussler(1998), Liebowitz(199), Holsapple & Joshi(2000), Zairi& Jarrar(2000), Rayn & Prybutok(2001), Skyrme & Amidon(2000), Soliman & Spooner (2000), Armbrecht (2001), Goh(2002), Alazmi, & Zairi (2003), Chourides(2003), Egbu(2004), Hunge (2005), Wong and Aspinwall (2005), Akhavan Jafari, & d Fathian (2006)]:

- Top management competent:Support and commitment, Providing necessary resources and budget and Linking KM strategy to business objectives
- Championship and evangelization:KM champions and leaders, Communication, Buildinge a business case, Effective use of consultants, KM strategy and vision and Startinge with a pilot project.
- Culture:Trust, Openness, Collaboration, Free time and Acceptance of knowledge sharinge and reuse.
- Oranisational infrastructure: Establishing KM roles and teams, Having a flat or network structure, Physical configuration and Community of practice.
- HRM: Employee empowerment, Employee involvement, Employee learning and development, Employee recruitment and selection , Employee retention and Reward systems.
- Continuous improvement: KM performance measurement and Benchmarking.
- KM Process: Process-based view to KM and Linking KM activities to business process.
- Content and structure: Knowledge structure and map and Current and relevant content.
- Technical infrastructure: Buiding effect ict infrastructure, Integration with current systems and Effective use of software tools.

4.1. Roles Of Implementation Knowledge Management

The implementation of knowledge management in an organization involves the integration of knowledge from the domains of strategy, structure, processes, and technology as shown in Figure 1..

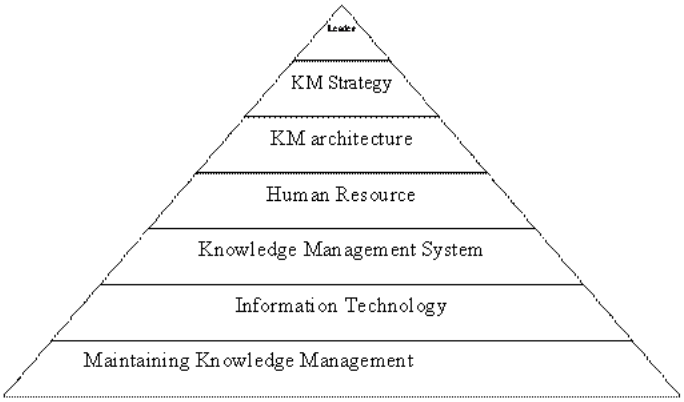

Figure 1: Knowledge Management Layers

4.2. Role Of Leadership In Knowledge Management

It is true in every organization that leaders set the examples for others, therefore it is assumed that leaders have direct impact on how the companies should approach and deal with knowledge management processes as well as practices. Moreover, if knowledge management does not permeate to all levels in the organization, beginning at the top, it is unlikely that knowledge management programs will ever catch on or be effective (DeTienne et al., 2004). In the same way, Kluge et al. (2001) point out that while leaders across all the levels of organization have unique and important role to play in managing knowledge, it is particularly important for the CEO to be involved in knowledge-sharing processes. Further, they state that if the boss takes knowledge seriously, the rest of the company will follow automatically. Stewart (1997) also asserts that even companies with promising cultures and highly effective incentive programs will not succeed without having dedicated and responsible managers.To quote Beckman (1999), the sole responsibility of top echelons of the company in knowledge management process is to motivate all its employees, provide them with equal opportunities and developmental avenues, and scientifically measure and reward those performances, behaviors and attitudes that are required for effective knowledge management. Therefore, the author notes that the management thinkers in the area of knowledge management should give importance to leaders and especially to their leadership styles in making things happen for knowledge management processes and practices to flourish. It seems as if that leadership is a cardinal thread that runs through whole gamut of the knowledge management initiatives in an organization.

4.3. Role Of Knowledge Management Strategy

4.3.1. Quo & Benchmarking

The knowledge set includes theoretical knowledge (necessary to understand a phenomenon, an object, a situation, an organisation or a process), environmental knowledge (related to the context, comprises knowledge regarding systems, processes, materials and products, strategies, organisational structure and culture, etc.) and procedural knowledge (describes how an action must be conducted, involves procedures, methods, adequate operational modes; involves a set of actions performed in an established order).

4.3.2. Organizational Knowledge Assets

Organizational knowledge assets The organizational segregation proposed in the previous section suggests the following component assets of organizational knowledge(Chung , Haney and Mark 2008):

- knowledge in the form of experiences, expertise of individuals and groups;
- knowledge of organization that pervades its production architectures involving knowledge gathered from suppliers and collaborators; knowledge embedded in the IT systems and pertinent data warehouses and knowledge bases;
- knowledge regarding customers; and,
- knowledge shared in a global enterprise.

4.3.3. Assessment Of Knowledge Capital And Intellectual Assets.

Measurement of institutional or organizational value in the current business environment using traditional accounting methods is increasingly inadequate and often irrelevant to real value in today's economy. For instance, while traditional accounting practices often treat brand as depreciable entity over time, in today's economy, intangible assets like brands and trademarks often increase in

value over time, often longer than the time periods accounted for their depreciation. Even, specific kinds of valuations of intellectual capital, such as patents, copyrights and trademarks are not valued according to their potential value in use, but recorded at registration cost.

4.3.4. KM Strategy

Knowledge management is a set of activities that helps a firm to acquire knowledge from both inside and outside of the company. Organizations expect to utilize the information provided through KM to help them accomplish their missions. The above perspectives endow KM with a strategic attribute, i.e. KM is a set of organizational arrangements aimed at achieving specific organizational purposes. Through multiple case studies, Drew discovered that companies interviewed combine KM with organizational objectives and form a set of operating arrangements to implement KM activities (Lustri, Miura and Takahashi, 2007) .Zack found that when conducting KM, companies adopt different administrative procedures according to their different strategic missions(Malhotra ,2000). These findings indicate that it is appropriate to view KM as a company strategic tool. Although we have not yet seen many scholars explicitly classify KM strategy and link KM strategy with the existing literature of corporate strategies, we think it is fair to infer KM strategy from observing the KM activities a company conducts (Zack,1999).

4.3.5. Corporate Strategy And KM Strategy

An organization managing knowledge well has the potential to create significant value, but only if it is linked to its overall strategy and strategic decisions. Knowledge management (KM) is the latest strategy in increasing organizational competitiveness (Bell and Jackson, 2001) .

Based on the above argument, it is reasonable to expect that, in order to facilitate the implementation of KM and achieve corporate objectives, KM strategy should comply with company strategy. While KM is regarded as useful tool in implementing company strategy, we have not found many theoretical studies linking KM strategy with our present understandings concerning company strategies.From the concept of "fit" and the classification of KM strategy as "personalization" versus "codification, as discussed in the previous section, we think such classification corresponds well with a well-known business strategy category purported by Porter (1980). Under Porter's famous taxonomy as "cost leadership" and "differentiation" strategies, the former refers to an organization pursuing production efficiency and economy of scale.

Fahey (1996) stated that both strategy and knowledge are dynamic, multifaceted concepts. A company's strategy might involve its existing strategic position, or where its executives want its strategy to take it in the future. Furthermore, it is possible to perceive the strategy knowledge relationship in terms of how knowledge and its effective management can create strategic or competitive advantage for a firm[60].

4.4. KM Architecture

4.4.1. Centralistic Architecture

Many KMS solutions implemented in organizations and offered on the market are centralistic client-/ server solutions. Figure 2 shows an ideal layered architecture for KMS that represents an malgamation of theory-driven, market-oriented and several vendor-specific architectures .The comparison of these architectures reveals that each architecture suggests the establishment of a number of services organized on a number of layers. The architectures suggest between three and five layers that basically all follow the same pattern in that a number of sources has to be integrated so that advanced services can be built ontop(Robbins,2003).

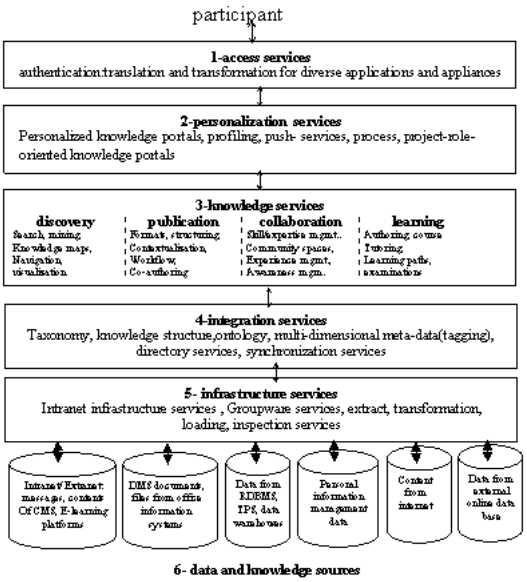

Figure 2: Architecture Of A Centralized KMS

The KM architecture and KM process model that could be used for knowledge capture, creation, distribution and sharing (Johnston, 2000).

4.4.2. Standardize

Organizations also standardize platforms across the enterprise to improve information and knowledge resource management. These use simple sharing and communications methods in order to integrate information across the enterprise. The outcome is easier information sharing to leverage knowledge to achieve a competitive advantage. Also ‘‘standardizing document formats make exchanging important business documents simple and fast’’ (Trepper, 2000) .

4.5. Role Of Human And Social Capital

4.5.1. Human And Social Capital

Knowledge management is central to the sustainability debate, and its importance is reflected through the role of human and social capital in the Sigma Guidelines (2003) for putting sustainability development into practice. Knowledge management promotes continuous improvement, facilitates innovation in business processes and products, embraces people as architects at the centre of the knowledge creation process, and enhances stakeholder relationship management(Shankar and Gupta, 2005).

4.5.2. Chief Knowledge Officers And Knowledge Management Teams.

The emergence and evolution of knowledge management as a needed organizational conceptual and practical operating framework in the business environment has led to the recognition that organizations could more effectively achieve it if they had a chief knowledge officer. As early as 1994, Davenport stated: “Some companies are creating room for a chief knowledge officer to manage unstructured information. Many of the companies I work with are starting to seriously address the issue of information and knowledge management. One major step they are taking is to create the post of chief knowledge officer (CKO) or an equivalent role to manage the processes of capturing, distributing, and effectively using knowledge (Stuller, 1998).

4.5.3. KM And The Links To HRM

In an era where competitive advantage is perceived to be linked to knowledge, considerable interest in KM continues to be the trend. Given the broad scope and interdisciplinary nature of KM, this interest spans traditional functional and professional boundaries ranging from information technology professionals, to accountants, marketers, organisational development and change management professionals. A notable common feature of this widely divergent activity is an emphasis upon knowledge work, knowledge workers and the nature of knowledge within organisations. While this debate at times results in professional turf battles, it may also lead to new opportunities for collaboration across traditional, professional and functional boundaries. One potentially rich area for collaboration is that between that emerging group of professionals, who irrespective of training or title, have as their number one priority a focus on management of the knowledge resource in organisations and the more established and functionally embedded group of HRM professionals. Indeed, interest in the relationship between KM and HRM has increased over recent years as both KM and HRM have grown more sophisticated and complex(Rubenstein and Liebowitz, 2001).

The rise of the knowledge economy has seen a proliferation of information and communication technologies, coupled with greater organisational complexity, the growth of virtual and global organisations and rapid change. This in turn requires drastic change within HRM to respond to changing demands of the knowledge economy. Traditional HRM functioned under narrow operational boundaries; in the knowledge economy the role of HRM needs to expand, looking both within and outside the organisation. The traditional focus on managing people has been broadened to managing organisational capabilities, managing relationships and managing learning and knowledge (Choi, 2000)The emphasis on discrete HRM practices is also broadening to a focus on developing themes and creating environments conducive to learning, as well as to the acquisition, sharing and dissemination of knowledge within organisations.

4.5.4. Organizational Culture

The political and cultural surroundings are known from the analysis of knowledge culture because effective KM cannot take place without extensive behavioral, cultural, and organizational change (Davenport and Prusak, 1998).

A common element in many KM research frameworks and models (included in the models discussed above) is organizational culture. For the most part, it is assumed that technology plays a key role in the processes involved in KM. A broader view looks at KM requirements from three perspectives: a) Information-based; b) technology-based; and c) culture-based (Alavi and Leidner, 2001; Karlsen & Gottschalk, 2004). The last of these perspectives highlights the importance of organizational culture in the KM process. Not all KM processes require high investment in technology. More importantly, successful use of the technology is often dependent on the incorporation of KM behavior into the organizational culture.

4.6. Characteristics of KMS

The KMS is visualized by the triangle(Figure 3). Goals stated by a KM initiative define the KM instruments that should be supported by the KMS’s functions and control their deployment. the strategy, scope, organizational design, type of contents and cultural aspects. Participants and communities or knowledge networks are the targeted user groups that interact with the KMS in order to carry out knowledge tasks. The knowledge tasks are organized in acquisition and deployment processes required for the management of knowledge.

A definition of the term KMS and a subsequent development of architectures for KMS have to stress these characteristics. Consequently, a KMS is defined as a comprehensive ICT platform for collaboration and knowledge sharing with advanced services built on top that are contextualized, integrated on the basis of a shared ontology and personalized for participants networked in communities.

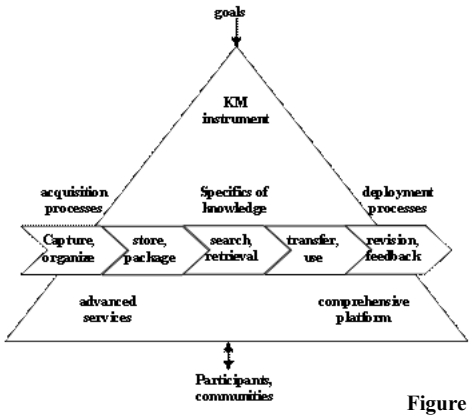

Figure 3: Characteristice Of KMS

4.7. Role Of Information Technology

A business needs to develop its own requirements for KM before engaging IT for assistance.Another aspect of gathering business needs is developing a partnership with the IT organization. To accomplish this involves defining the role of IT in developing a KM system.Duffy (2000) sees ITas managing the storage and access of documents. IT usually maintains the databases, hardware and software access points, survivability of information. However, any KM project can fail when IT techies see only the technical side. They must be aware and educated in knowledge management processes to gain a better appreciation. Once this is accomplished, IT will be a major player in the companies' ongoing KM efforts (Maier and Ha¨drich, 2006).

The process of creation, acquirement, and utilization of knowledge is posited to improve organizational performance(Laudon and Laudon, 2003). In order to achieve the desired outcome, organizations not only have to build appropriate IT infrastructures but also have to integrate human, computer systems, network technologies, and other corresponding organizational arrangements to effectively obtain, store, and utilize knowledge (Mayo, 1998).

4.8. Maintaining Knowledge Management

We firmly believe this must be made a strategic agenda in the near future because without it, the future of knowledge management systems may very well be in jeopardy. For the last few years, we have focused on the idea of attracting users to the knowledge management system; now, we must ensure that we maintain the system so that they will continue to use them and not runaway.

The Knowledge Management Performance Scorecard adapts the balanced scorecard approach (Kaplan and Norton, 1996) in which an organisation measures its performance in four key result areas:

- financial performance;
- internal business processes;
- customers; and
- growth.

Eight metrics for KM analysis(Garvin, 1993):

- Motivation (how well the employees are motivated to work productively).
- Knowledge capture (the ability to capture important knowledge).
- Stored knowledge (the usefulness of captured knowledge in solving new problems).
- Personnel training (the effectiveness of employee learning mechanisms).
- Knowledge transfer (the effectiveness of sharing important knowledge).
- Creative thinking (the ability of employees to create new solutions).
- Knowledge identification (the effectiveness of identifying knowledge).
- Knowledge access (the effectiveness of accessing important knowledge).

Performance of KM can also be measured by the level of improvement in organizational efficiency or effectiveness (Detert and Schroeder, 2000; Ostroff and Schmitt, 1993). This approach measures improved ability to innovate, advanced coordination of efforts, rapid commercialization of new products, responsiveness to market change or exceptional surprise, effective organizational development, and so forth.

5. Discussion And Conclusion

Knowledge-focused activities permeate any knowledge-enabled organization; in other words, implementing KM involves, among other aspects, setting up processes and systems to enable these activities.

From an implementation view of process design managers, the knowledge processes are individually too unstructured to be simulated by KM implementing infrastructure. However, applying a cyclic approach of knowledge processes, the individuals and groups may be considered in one domain of organizational segregation to suit KM implementation.

The success of a KM initiative depends on many factors, some within our control, some not. Typically, critical success factors can be categorized into five primary categories:

- leadership;
- culture;
- structure, roles, and responsibilities;
- information technology infrastructure; and
- measurement.

In addition, the review of the existing KM implementation frameworks and models in this paper reveals that they are fragmented since the elements and constructions that characterize them tend to vary. There are little common ground and guidelines to provide a direction on what should be included in an implementation framework. Therefore, this paper develops a set of guidelines that should be considered when a KM implementation framework is to be settled. These guidelines are the results of the synthesis and analysis carried out on existing KM implementation frameworks and related KM literature. The guidelines proposed in this paper for developing a KM implementation framework are as follows:

- Leadership
- KM Strategy
- KM architecture
- Human Resource
- KM System
- Information Technology
- Maintaining KM

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