# DESCRIPTION AND REVIEW EXISTING KNOWLDEGE MANAGEMENT FRAMEWORK, SYSTEM, TECHNOLOGY AND ARCHITECTURE

Riya Widayanti

Computer Science Faculty, Esa unggul University, Jakarta, Indonesia
E-mail : riya.widayanti@esaunggul.ac.id

***ABSTRACT***

*There is a growing recognize in the organizatinon and community about importance of managing knowledge. Some organizations have taken initiatives to improve and manage the resources. The resources need to be managed and protected in order to sustain and grow a business. There are several management perspectives that are being used when designing these knowledge system. Those include people, culture, structure, and technology. Firstly, the authors will present their view regarding knowledge management, which is a framework and technological perspective. Seondly, the authors will analyse the characteristics of knowledge as the object to be managed and will identify, analyse and criticise the most relevant knowledge management approaches, models and methodologies related to their objectives, then outlining the requirements that technological knowledge management .*

***Key words :*** *Knowledge management framework, knowledge management technology and architectur*

## 1. INTRODUCTION

In the last decades, knowledge management (KM) has captured enterprises' attention as one of the most promising ways to reach success in this information era (Malone, 2002). A shorter life cycle of products, globalization, and strategic alliances between companies demand a deeper and more systematic organizational knowledge management (Vizcaíno, 2007). So many knowledge management solution to develop and create s framework. In this paper author want to desriptive existing knowledge management framework and technology approch, and give a summary about these. However, developing KMS is a diffcult task; since knowledge per se is intensively domain dependent whereas KMS often are context specifc applications. Thus, reusability is a complex issue. On the other hand, the lack of sophisticated methodologies or theories for the extraction of reusable knowledge and reusable knowledge patterns has proven to be extremely costly, time consuming, and error prone (Gkotsis, Evangelou, Karacapilidis & Tzagarakis, 2006). Moreover, there are several approaches towards KMS developing. For instance, the process/task based approach focuses on the use of knowledge by participants in a project, or the infrastructure/generic system based approach focuses on building a base system to capture and distribute knowledge for use throughout the organization (Jennex, 2005). The main objective of this paper is to review the evolution and development of KM framework and technology models in terms of focus of each model.

## 2. KNOWLEDGE MANAGEMENT APPROACHES

### 2.1. Knowledge Management Frameworks

#### 2.1.1. Nonaka Model

They propose a model of knowledge creation consisting of three elements: (i) the SECI process, knowledge creation through the conversion of tacit and explicit knowledge; (ii) `ba', the shared context for knowledge creation; and (iii) knowledge assets, the inputs, outputs and moderators of the knowledge-creating process. The knowledge creation process is a spiral that grows out of these three elements; the key to leading it is dialectical thinking. The SECI

process: four modes of knowledge conversion (figure 1).

An organisation creates knowledge through the interactions between explicit knowledge and tacit knowledge. We call the interaction between the two types of knowledge `knowledge conversion"'. Through the conversion process, tacit and explicit knowledge expands in both quality and quantity.There are four modes of knowledge conversion. They are: (1) socialisation (from tacit knowledge to tacit knowledge); (2) externalisation (from tacit knowledge to explicit knowledge); (3) combination (from explicit knowledge to explicit knowledge); and (4) internalisation (from explicit knowledge to tacit knowledge). Nonaka, Toyamam Konno, 2000.

### 2.1.2. The Wiig Model

According to Wiig (1993), knowledge is composed of facts, concepts, judgements, expectations and methodologies, that is, Know-How, figure 2. Said knowledge is accumulated and added and is stored for long periods of time and is available to solve specific situations and problems. Information solely consists of facts and information that is organised and used to describe particular situations or conditions. Using this approach, Knowledge Management focuses on those functions (or activities) that enable organisations: creating, displaying, using and transmitting their knowledge based on the socalled Pillars of Knowledge Management, which we could summarise as identification, evaluation and management.

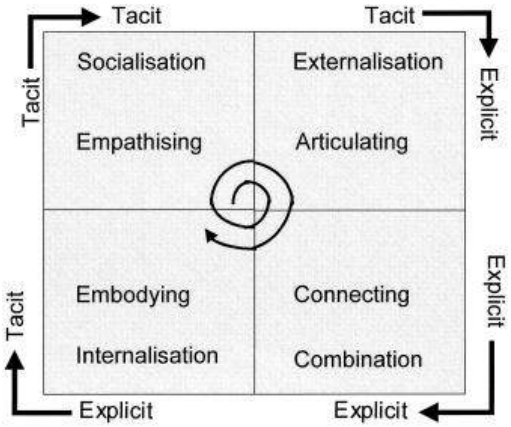


Figure 1. SECI Model, Nonaka

### A. Skandia Model

Knowledge management was not only seen as the transfer of tacit and explicit knowledge but it has also been argued as intellectual capital (Chase, 1997; and Roos and Roos, 1997).

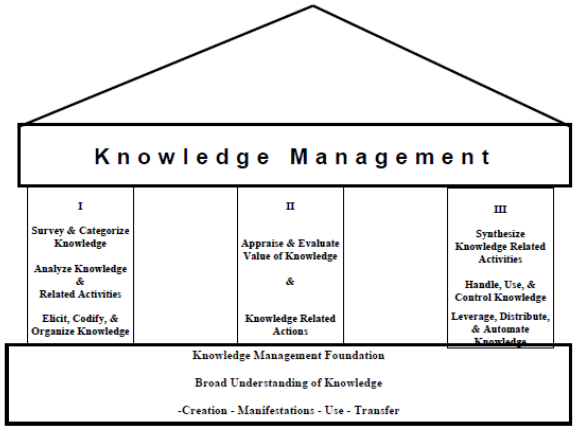


Figure 2. Wiig Model

The intellectual capital model of knowledge management was developed by a Swedish firm called Skandia as an approach for measuring its intellectual capital. The model focuses on the importance of equity, human, customer and innovation in managing the flow of knowledge within and externally across the networks of partners. Lank(1997) suggests that this model assumes a scientific approach to knowledge and assumes that intellectual capital can be transformed into commodity or assets of organizations but unfortunately, this intellectual viewof knowledge management ignores the political and social aspects of knowledge management. Indeed, this is consistent with Nonaka's view of knowledge management. Skandia intellectual capital model of knowledge management gives a strong emphasis to measurement associated with each of the decomposed elements (human, customer and structure) of knowledge management assuming that it can be tightly controlled. However, this approach can result in attempts to fit objective measures to subjective elements. Hence, this mechanistic approach to measurement is more consistent with Nonaka's process of externalization and combination (Lank, 1997), (Haslinda, 2009).

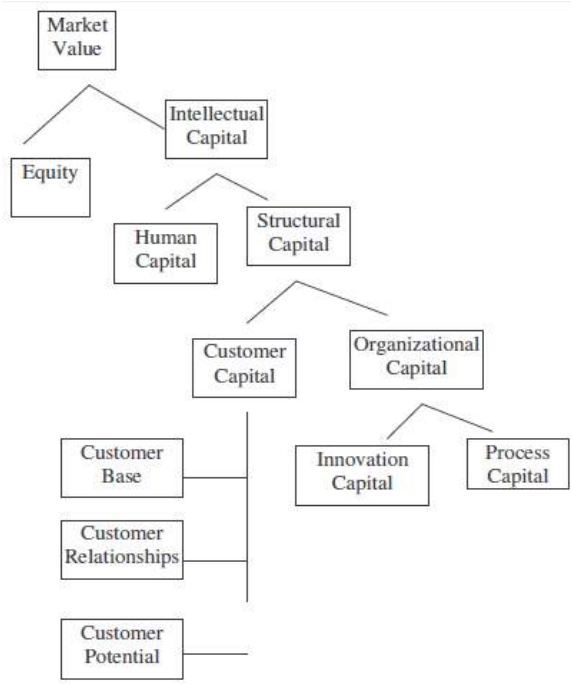


Figure 3. Skandia Model

**B. The Leonard-Barton Model The Knowledge Management**

The Leonard-Barton Model The Knowledge Management model of Leonard-Barton (1995) is based on two basic components: a) the basic capabilities of organisations, and b) their knowledge creation activities.The basic capabilities of organisations are the knowledge management sources and activities that allow organisations to strengthen their knowledge: a) the physical systems and the knowledge and skills of employees; b) the management and regulatory systems. The first two are the sources, and the last two are the management activities.The knowledge creation activities are those, mainly aimed at the development of products that generate new knowledge in organisations. These are divided into four activities: a) problem solving (shared or creative) to produce current products; b) the implementation of new methodologies and techniques (and integration) to optimise current processes; c) experimentation and the creation of prototypes to innovate and create new capabilities in organisations, and d) the acquisition, importing, and absorption of external technology (Ayus, Ayuso:2012)

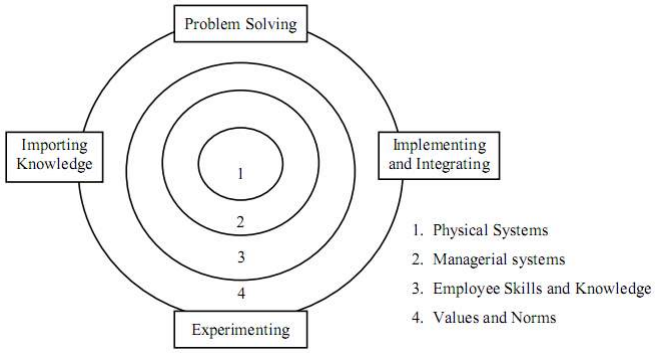


Figure 4. Leonard-Barton Model

**C. Arthur Andersen and APQC Model**

Arthur Andersen and APQC have advanced a model comprised of seven KM processes that can operate on an organization's knowledge. As illustrated in Figure 5, these processes are create, identify, collect, adapt, organize, apply, and share. The nature of organizational knowledge that they process is not characterized in this model. Nor does it characterize the nature of the processes themselves. The model identifies four organizational enablers that facilitate the workings of the KM processes: leadership, measurement, culture, and technology. The model does not detail the nature of the enablers.

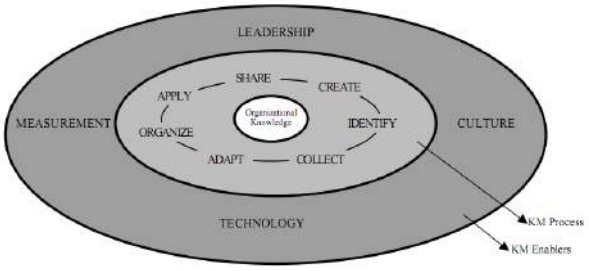


Figure 5. Arthur, APQC Model

**D. The Alavi, KPMG Model**

The Knowledge Management model of KPMG Consulting (Alavi, 1997) focuses on those knowledge management processes aimed at improving customer service in organisations, using the Web as a storage and consultation environment. The knowledge management processes that are carried out as sequences are:

- Acquisition of knowledge: In this process, knowledge related to experiences and lessons learnt from projects executed with clients is created and developed.
- Indexing, Filtering and Linking: In these processes, the typical activities of

library management are carried out, such as the emission, classifcation, addition and interconnection of knowledge from different sources from those from which it has been acquired in the process of Acquisition.
- Distribution: In this process, the grouping and delivery of knowledge is carried out through Web pages (a problem of structure and design).
- Application: In this fnal process, the knowledge that has been acquired, compiled and delivered is used, to produce improvements in the products and services of the organisation.

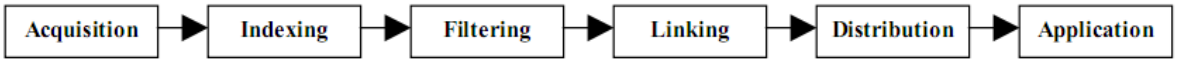


Figure 6. Alavi model

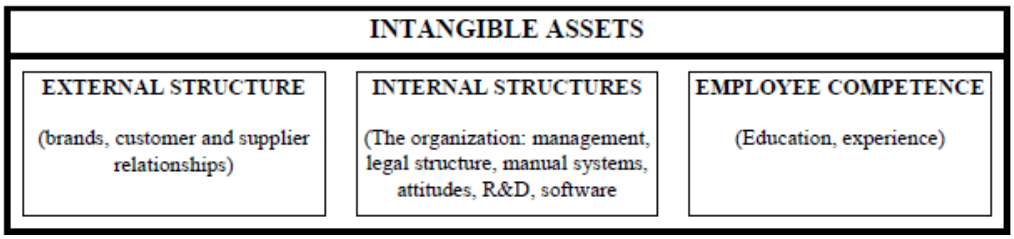


Figure 7. Sveiby Model

**E. The Szulanski Model**

The Knowledge Management model of Szulanski (1996), focuses on the analysis of organisations' internal structures, to evaluate the difficulty in the transfer of internal knowledge. In a similar way to the model of Andersen & APQC, both the knowledge transfer processes and the factors of influence in the organisation on said processes are analysed. The knowledge transfer processes are as follows:

- Beginning: At this stage, a need for knowledge for the organisation is recognised, that requires a search for said knowledge and the transfer of said knowledge to satisfy the need.
- Implementation: At this stage, the transfer of the knowledge is carried out. Said process requires the identifcation of the source of knowledge, and the route that it must follow to the client (or recipient).
- Increase: At this stage, the recipient uses the transferred knowledge, applying it to problems not previously solved, after they have been identifed and classifed.
- Integration: At this fnal stage, the transferred knowledge, after being used successfully, is nstitutionalised and becomes a routine within the organisation. The factors of influence are those negative characteristics (and which must be evaluated and reduced) related to the transfer processes and components of the transfer of knowledge.

**F. The Sveiby Model**

The Knowledge Management model of Sveiby (1997), focuses on identifying and evaluating the intangible assets of organisations. The model is composed of three parts, ilustrated in figure 7:

- External structures: Composed of the relationships with clients, suppliers, brands and reputation.
- Internal structures: Composed of the models, concepts, patents, ICT resources, organisational infrastructure and culture.
- Employee skills: The aptitudes and knowledge bases of the individuals inside organisations.

**G. The Holsapple and Joshi Model**

The Knowledge Management model of Holsapple & Joshi (2002) is an attempt to unify the different approaches that we have seen above. To this end, the authors identify three dimensions that appear to be fundamental in Knowledge Management: a) the knowledge resources; b) the activities of

knowledge management; and c) the factors of influence.

In the study by Hoslapple and Joshi, it is shown that none of the models that we have seen so far include all of the three specified dimensions. What can be seen is that each one of them is interested in a specific dimension, focussing metho-dology towards resources, activities or the factors of influence.

Regarding the knowledge resources, the Leonard-Barton model is the only one that considers them in a special way, classifying them into two types: employee knowledge and knowledge from physical systems. As ilustrated in figure 8.

Regarding the activities of knowledge management, the majority of the models explicitly consider said activities.

From the study carried out, Holsapple & Joshi establish a model of three levels (or dimensions):

- Knowledge Resources: These are the sources of knowledge in organisations.
- Knowledge Activities: These are the processes that establish the handling of knowledge.
- Factors of Influence: These are the elements of organisations that could support or hinder the knowledge activities in organisations.

### 2.1.3. CEN Model

One of the main frameworks currently used in practice is the framework by CEN (2004) created in the European standar-dization community. It provides a common terminology and frame of reference for organizations involved in knowledge management (Figure 8). The CEN frame-work shows a clear process orientation, aiming at describing core business processes as well as knowledge-related processes. It extends those processes by enablers: knowledge capabilities on an organizational (e.g., vision, strategy) and individual level (such as skills, competences, methods, tools). This framework has created a common terminology and structure as well as guidelines around those. However, it does not cover the main aspects of globally distributed KM but provides extension options, such as extending processes or adding enablers and additional compo-nents. It also does not incorporate the research perspectives (e.g., aspects studied or models validated). However, due to its relevance to practice, it is a good candidate to be used as a basis for a global framework.

## 2.2. Knowledge Management Technology and Architecture

### 2.2.1. Kerschberg & Weishar Model

Based on the Conceptual Model of Kerschberg & Weishar (2002), we show the components of a Corporate Knowledge System that are defined in the middle layer, based on the *Business Model* and the goals established by the *Strategic Management*, which we can divide into two subgroups: *Services Based on Knowledge and on Unstructured Information,* and *Services Based on Standardised Processes and Structured Information.* Within each of the subgroups we can find the following services:

- **Knowledge Based Services and Unstructured Information (KBS-UI).** These services are aimed at the needs of organisations relating to knowledge: the *Business Intelligence* for the monitoring of competitive processes, the *Knowledge Engineering* for the modelling of the intensive knowledge processes and the culture of organisations, as well as the management needs of the *unstructured information*, which is usually 80% of the total in an organisation, and finally, the *Work in Group* processes (and a certain amount of automation based on the WorkFlow). The solutions aimed at these needs are *Decision Support Systems* (DSS) and *Data Mining* for Business Intelligence; *Knowledge Based Systems* (KBS) and *Knowledge Engineering* (KE) to manage the intensive knowledge processes (*Intelligent Agents* in Generic Tasks), the culture of the organisation (*Corporate Reports*), and developing *Intelligent Agents* that can be used for *Learning, Information Retrieval Systems* (IRS) combined with *Document Based Management Systems* (DBMS) to optimise the use of unstructured infor-mation in organisations, and *Collaborative Work Systems* (CWS) to support the group processes within organisations.
- **Services Based on Standardised Processes and Structured Information (SBSP-SI).** These services are aimed at

the needs of organisations relating to standardised processes: Finance, Customer Relations, Production, Logistics and Products; using automation through the Work Flow, as well as the multi-platform of the WEB environment. All of this based on the structured information of organisations.

### 2.2.2. Zack model

The management of explicit knowledge utilizes four primary resources (Figure 10):

- Repositories of explicit knowledge;
- Refineries for accumulating, refining, managing, and distributing that knowledge;
- Organization roles to execute and manage the refining process; and
- Information technologies to support those repositories and processes.
- The Knowledge Repository

The design of a knowledge repository reflects the two basic components of knowledge as an object: structure and content. Knowledge structures provide the context for interpreting accumulated content. If the repository is conceived as a "knowledge platform", then many different views of the content may be derived from a particular repository structure. A high degree of viewing flexibility enables users to alter and combine views dynamically and interactively and to more easily apply the knowledge to new contexts and circumstances. At a Classification of Knowledge Management Applications Based on this knowledge management architecture, knowledge processing can be segmented into two broad classes: integrative and interactive (Figure 11), each addressing different knowledge management objectives. Together, these approaches provide a broad set of knowledge processing capabilities. They support well-structured repositories for managing explicit knowledge while enabling interaction to integrate tacit knowledge.

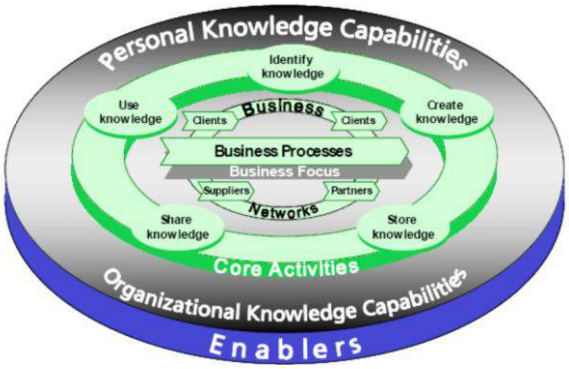


Figure 8 Cen KM

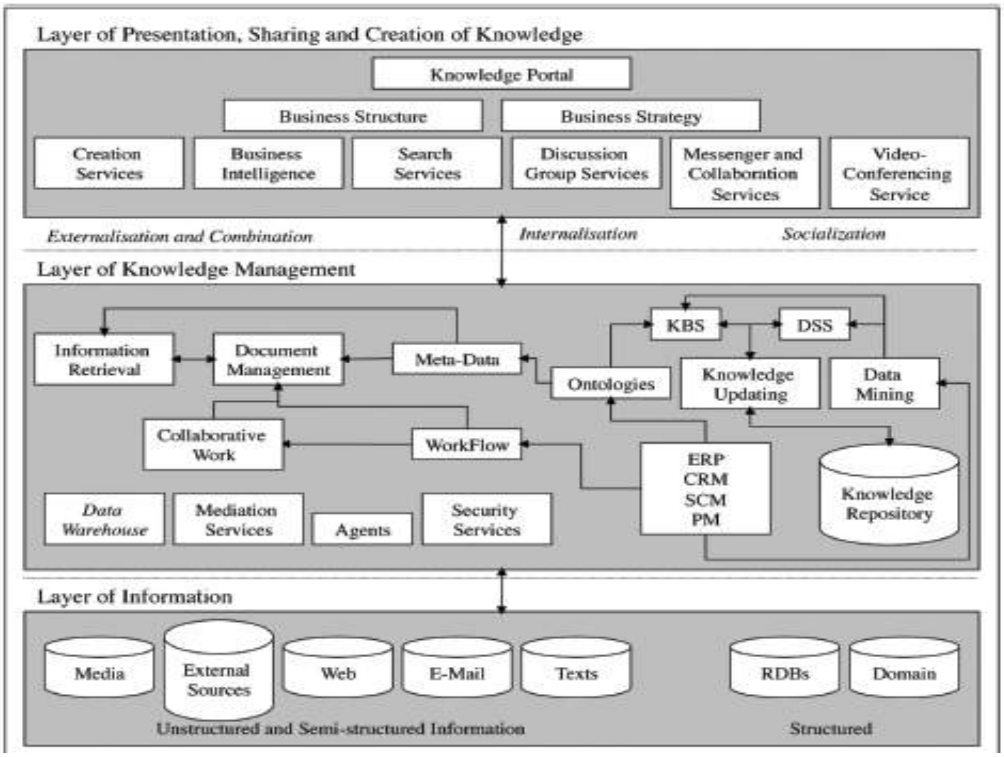


Figure 9. Holsapple and Joshi Model

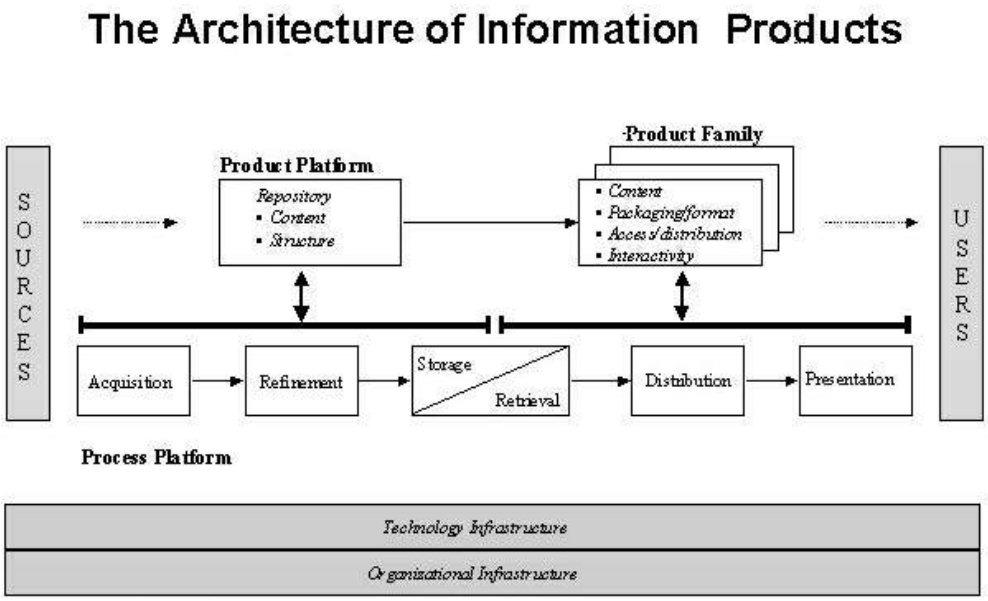


Figure 10. Zack Model (Zack, 1998)

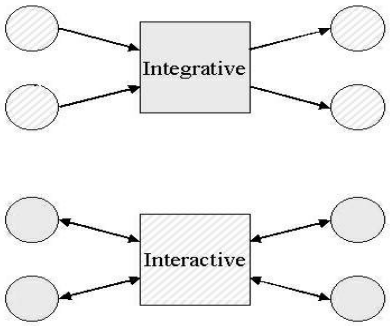


Figure 11. KM Application Zack Model (Zack, 1998)

**Integrative Applications**
Integrative applications exhibit a sequential flow of explicit knowledge into and out of the repository. Producers and consumers interact with the repository rather than with each other directly. The repository becomes the primary medium for knowledge exchange, providing a place for members of a knowledge community to contribute their knowledge and views. The primary focus tends to be on the repository and the explicit knowledge it contains, rather than on the contributors, users, or the tacit knowledge they may hold.

**Interactive Applications**
Interactive applications are focused primarily on supporting interaction among people holding tacit knowledge. In contrast to integrative applications, the repository is a by-product of interaction and collaboration rather than the primary focus of the application. Its content is dynamic and emergent.

Interactive applications vary by the level of expertise between producers and consumers and the degree of structure imposed on their interaction. Where formal training or knowledge transfer is the objective, the interaction tends to be primarily between instructor and student, or expert and novice, and structured around a discrete problem, assignment or lesson plan. I refer to these applications as distributed learning.

### 2.2.3. Lindvall & Sinha Model
KM services are provided using tools for data and knowledge discovery and collaboration services. Through portals, knowledge can be distributed to different users and applications, such as e-learning, competence management, intellectual property management, and customer relationship management (illustrated in figure 12).

### 2.2.4. Duffy Model
Communication Systems Layer
The basic foundation layer for knowledge management is the communication systems layer that represents all the communication systems involved. There are varieties of communication systems such as local area network (LAN) or intranet, extranet and World Wide Web or Internet. The

organizations would have connectivity to Internet service providers (ISPs) through various “last-mile technologies” options. The communications systems are used for communicating across or exchanging information through various groupware systems for the creation of knowledge. Illustrated in figure 13.

- Enterprise Data Source Layer
  The enterprise data source layer provides the base or platform upon which KM solutions are built. It consists of repositories for unstructured data (i.e., document and content management) and structured data (i.e., databases, e-mail) and groupware, etc. (Duffy, 2001). Companies use databases and ERP systems for structured data and varieties of document management systems for unstructured data.
- Knowledge Repository Layer
  The knowledge repository layer consists of a data warehouse for structured data and document content management and a groupware system for unstructured data. The knowledge repository layer mainly consists of repositories for unstructured data (i.e., document and content management), structured data (i.e., data warehousing, generation, and management), and groupware for supporting the collaboration needed for knowledge (Duffy, 2001)
- Middleware Layer
  The middleware integrates the applications of the knowledge repo-sitory and enterprise information portals. Middleware supports intelligent message routing, business rules that control information flow, security, and system management and admini-stration.
- End-User Application Layer
  The end-user application layer represents the user interface into the applications and knowledge. Because the Web is used as a medium for interface, it uses Web-based interactive tools to access knowledge from knowledge management systems. In many instances, portals similar to those used to access the Internet (e.g., Yahoo!, Lycos, Excite, or Plumtree) represent the user interface layer (Duffy, 2001). A user interface should be easy to use, interactive and valuable to the users. It should hide all the internal complexities of KM architecture and should respond to users’ requests through easy-to-use features.

### 2.2.5. Meier Model

This framework is organized on different levels (strategic, design, organizational) and by knowledge types which are connected by generic knowledge acti-vities. The architecture identifies key aspects of knowledge management as well as potential tools and methods around those (e.g., ontologies, technical architectures, or roles). It is based on clear, research-based classifications and categorizations and identifies influence factors and solutions for different purposes. Thus, it is applicable for structuring both research and practice approaches. However, the framework also needs to be extended regarding the specifics of globally distributed KM activities. Ilustrated in figure 14.

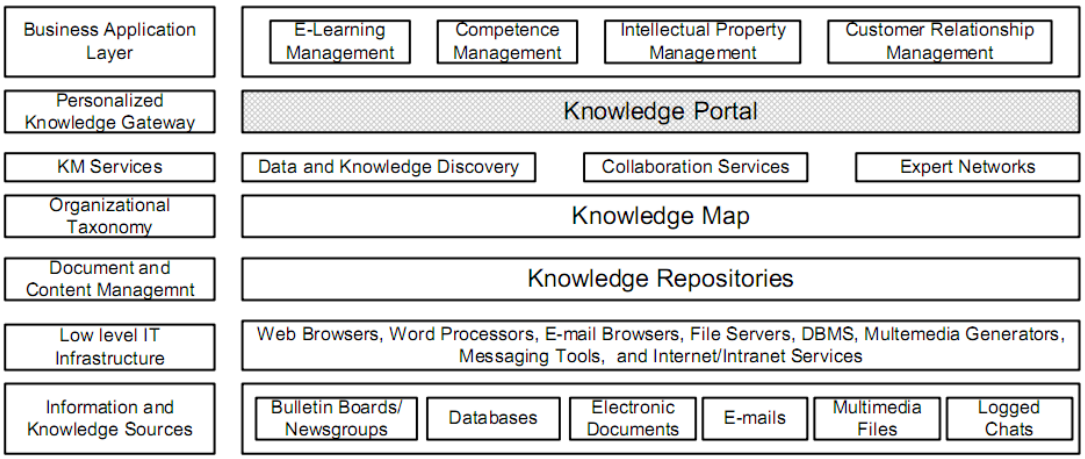


Figure 12. KM Architecture, Lindavall& Sinha

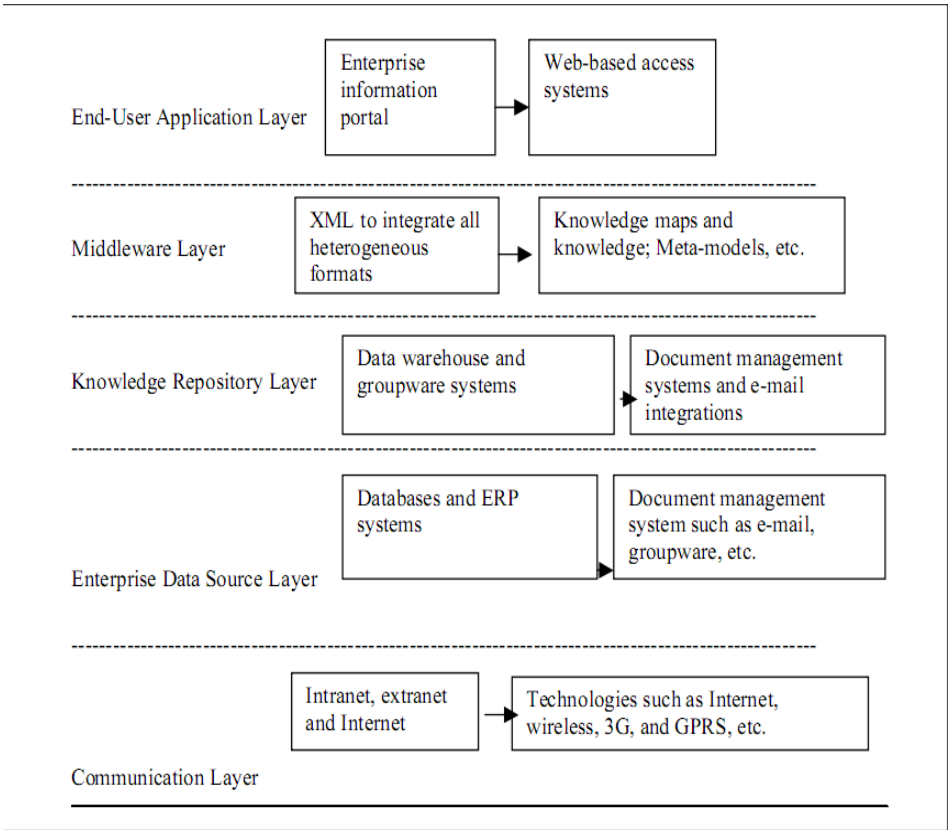


Figure 13. KM Architecture, Duffy

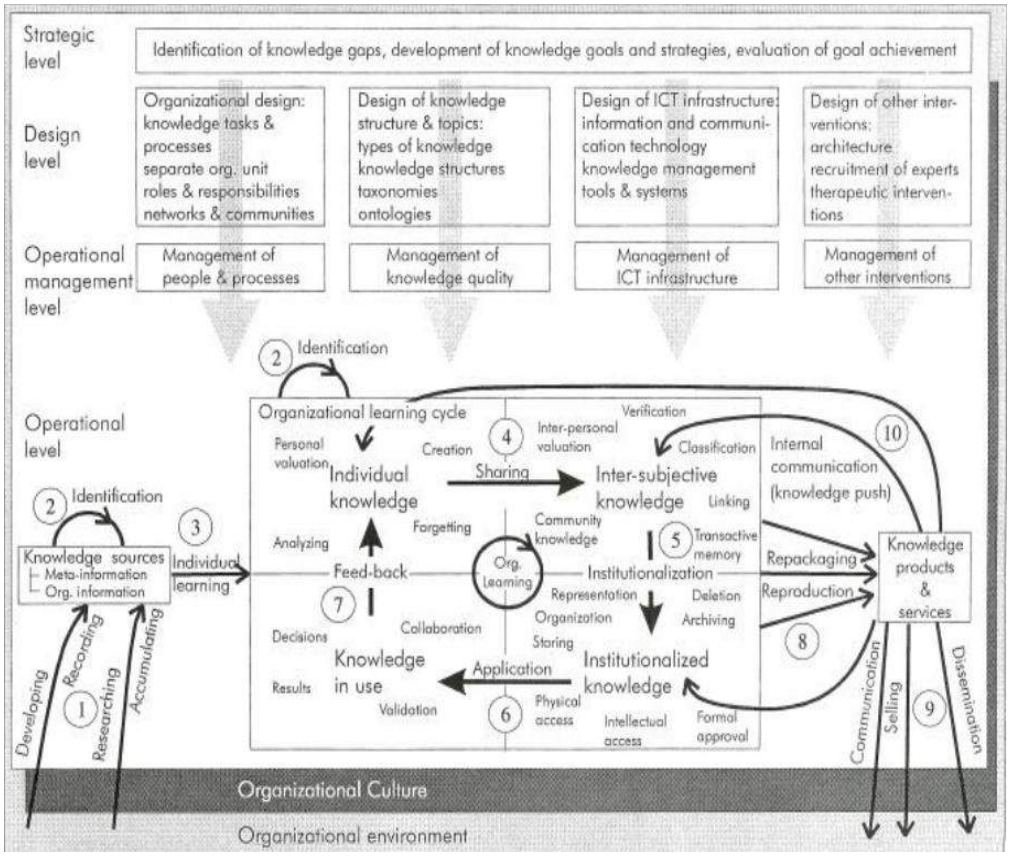


Figure 14. KM Architecture, Meier

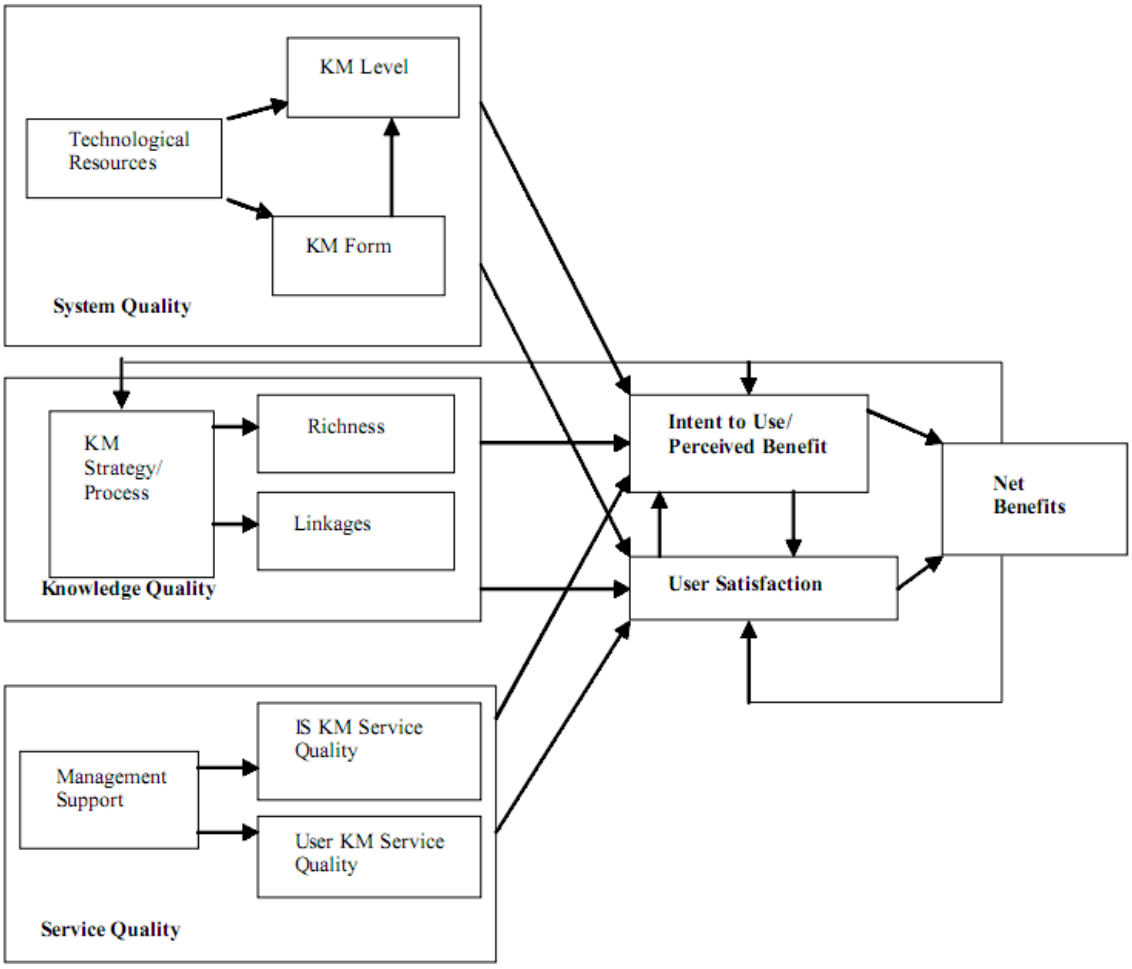


Figure 15. KM Solution, Jennex & Olfman Model

### 2.3. Knowledge Management System And Solution

#### 2.3.1. Jennex & Olfman Model

Dimension descriptions of the model follow, reperesentated at figure 15.

- SYSTEM QUALITY

Jennex and Olfman (2000, 2002) found infrastructure issues such as using a common network structure; adding KM skills to the technology support skill set; and using high-end personal computers, integrated databases; and standardizing hardware and software across the organization to be keys to building KM. The System Quality dimension incorporates these findings and defines system quality by how well KM performs the functions of knowledge creation, storage/retrieval, transfer, and application.

- KNOWLEDGE QUALITY

Jennex and Olfman (2000, 2002) identified that having a KM process and an enterprise-wide knowledge infrastructure, incorporating KM processes into regular work practices, and that knowledge needs were different for users of different levels, were key issues in order to determine and implement what is the right knowledge for KM to capture. Addition ally, it was found that KM users have formal and/or informal drivers that guide them in selecting information and knowledge to be retained by KM and formal and informal processes for reviewing and modifying stored information and knowledge. The Knowledge Quality dimension incorporates this and ensures that the right knowledge with sufficient context is captured and available for the right users at the right time. Three constructs: the KM strategy/process, knowledge richness, and linkages among knowledge components are identified.

- SERVICE QUALITY

The Service Quality dimension ensures that KM has adequate support in order for users to utilize KM effectively. Three

constructs management support, user KM service quality and IS KM service quality—are identified. Management support refers to the direction and support an organization needs to provide in order to ensure that adequate resources are allocated to the creation and maintenance of KM; a knowledge sharing and using organizational culture is developed; encouragement, incentives, and direction are provided to the work force to encourage KM use; knowledge reuse; and knowledge sharing; and that sufficient control structures are created in the organization in order to monitor knowledge and KM use. This construct enables the other two constructs.

### 2.3.2. Berecca- Fernandez Model

Knowledge management solutions refer to the variety of ways in which KM can be facilitated: KM processes, KM systems, KM mechanisms and technologies, KM infrastructure. Knowledge management systems are the integration of technologies and mechanisms that are developed to support the four KM processes, the model is presented in figure 14.

### 2.3.3. Massey, Montoya-Weiss, and Driscoll KM Success Model

Massey, Montoya-Weiss, and O'Driscoll (2002) present a process-based KM success model derived from their Nortel case study. The case study suggested that KM cannot be applied generically and that a process approach to KM will help an organization to understand how it can apply KM to improve organizational performance. The model is presented in Figure 15. Key components of the model are:

- KM Strategy-defines the processesusing knowledge and what that knowledge is; the sources, users, and form of the knowledge; and the technology infrastructure for storing the knowledge.
- Key Managerial Influences-defines management support through leadership, allocation, and management of project resources, and oversight of the KMS through coordination and control of resources and the application of metrics for assessing KMS success.
- Key Resource Influences-the financial resources and knowledge sources needed to build the KMS.
- Key Environmental Influences-describe the external forces that drive the organization to exploit its knowledge to maintain its competitive position.

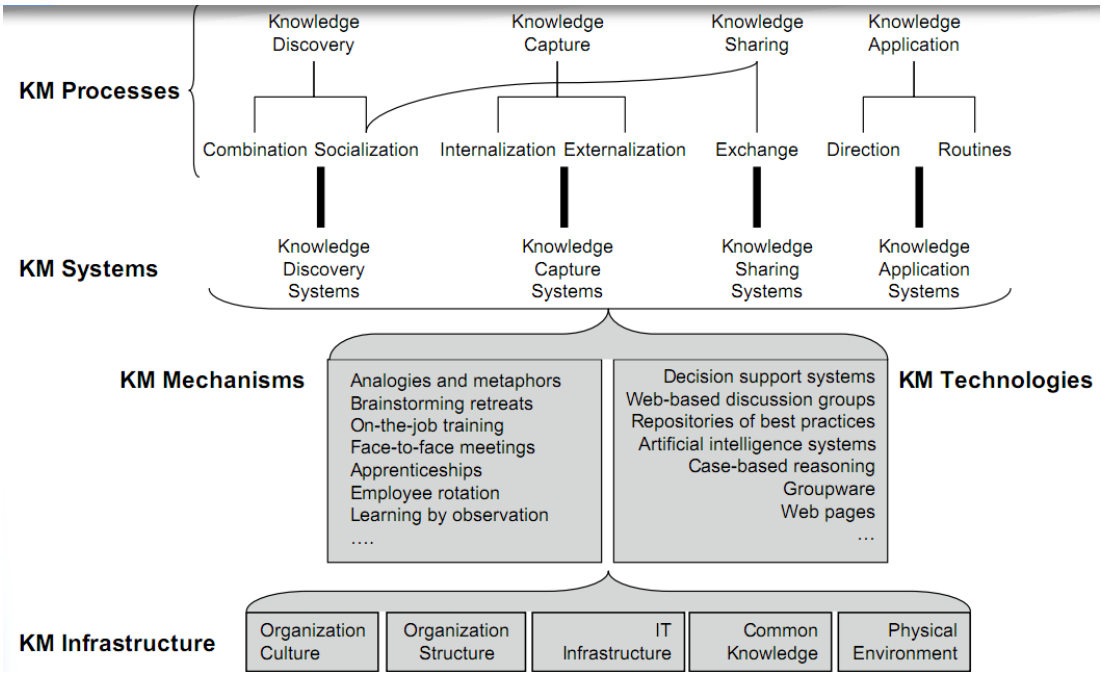


Figure 14. KM Solution, Berecca-Fernandez Model

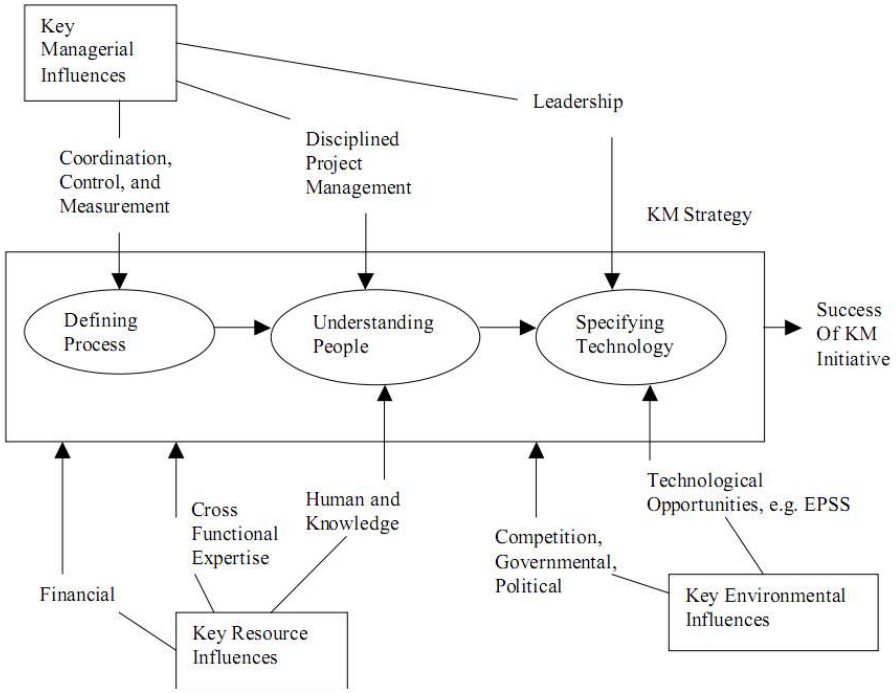


Figure 15. KM Success, Massey, Montoya-Weiss, and Driscoll Model

### 2.3.4. Lindsey KM Effectiveness Model

Lindsey (2002) proposes a conceptual KM effectiveness model based on combining Organizational Capability Perspective theory (Gold, 2001) and Contingency Perspective Theory (Becerra- Fernandez & Sabherwal, 2001). The model defines KM effectiveness in terms of two main, knowldege infrastucture technology and knowledge capability.

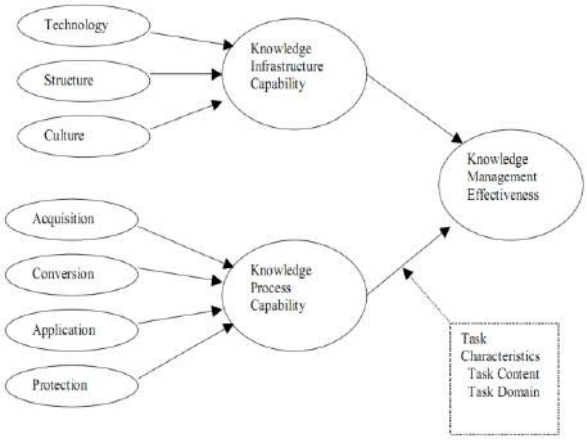


Figure 16. KM Effectiveness, Lindsey

## 3. ANALYSES OF FRAMEWORK

The descriptive framework on three dimention, knowledge management framework, technology/architecture, and solution/ system.Table 1, 2, 3.

Table 1. Summary of Knowledge Mangement Framework

| Author | Description | Detil Activity |
|---|---|---|
| Nonaka | An individual and organizational creat knowledge through the interactions between explicit knowledge and tacit knowledge(SECI) | - Socialiation<br>- Internalization<br>- Combination<br>- Externalization |
| Wiig | Knowledge Management focuses on those functions (or activities) that enable organisations: creating, displaying, using and transmitting their knowledge based on the socalled Pillars of Knowledge Management. | - Creation<br>- Manifestation<br>- Use<br>- Transfer |
| Skandia | The intelectual capital are equity, human, customer and innovation in managing the flow of knowledge within and externally across the networks of partners and | - Measuring intelectual capital (human, customer, innovation) |

Table 1. Summary of Knowledge Mangement Framework (cont.)

| Author | Description | Detil Activity |
|---|---|---|
| Leonard Barton | Manage Interaction betwen capabilities of organisations, and their knowledge creation activities. | - Problem solving<br>- Importing knowledge<br>- Experimenting<br>- Implementing and integrating |
| Arthur Anderson, APQC | Provide KM processes that can operate on an organization's knowledge and identifies organizational enablers that facilitate the workings of the KM processes | - Share<br>- Create<br>- Indentify<br>- Collect<br>- Adapt<br>- Organize<br>- Apply |
| Alavi, KPMG | Concern at improving customer service in organisations, using the Web as a storage and consultation environment | - Acquisition<br>- Indexing<br>- Filtering<br>- Linging<br>- Distributing<br>- Application |
| Szulanski | focuses on the analysis of organisations' internal structures, to evaluate the difficulty in the transfer of internal knowledge | - Initiation<br>- Implementation<br>- Ramp-up<br>- Integration |
| Sveiby | focuses on identifying and evaluating the intangible assets of organisations | - Internal Resources<br>- Eksternal Resources<br>- Employee Skills |
| Holsapple and Joshi | classifying them into two types: employee knowledge and knowledge from physical systems. | - Knowledge resources<br>- Kowledge Activities<br>- Factor of Influence |
| Cen | shows a clear process orientation, aiming at describing core business processes as well as knowledge-related processes | - Identify<br>- Create<br>- Store<br>- share<br>- use |

Table 2. Summary of Knowledge Mangement Technology and Architecture

| Author | Description |
|---|---|
| Kerschberg & Weishar | 3 Layer<br>- Information<br>- KM<br>- Presentation<br>- Sharing<br>- Creation |
| Zack | Technology dan organizational infrastucture Integrative and Interactive |
| Lindvall & Sinha | 7 layer:<br>- Information and Knowledge Source<br>- Low Level IT Infrastucture<br>- Document and Content Management<br>- Organizational Taxzonomy<br>- KM Sevices<br>- Personalize Knowledge Gateway<br>- Business Application Layer |
| Duffy | 5 Layer:<br>- Communication<br>- Enterprise Data Source<br>- Knowledge repositoy<br>- Middleware<br>- End User Application |

Table 3. Summary of Knowledge Mangement System/Solution and Architecture

| Author | Focus | Description |
|---|---|---|
| Jennex & Olfman | KM System | - System Quality<br>- Knowledge Quality<br>- Service Quality<br>- Use/perseived benefit<br>- User satisfication<br>- Net benefits |
| Berecca-Feernandez | KM Solution | - KM Processess<br>- KM Systems<br>- KM Mechanisms<br>- KM Infrastucture |
| Massey, Montoya-Weiss, and Driscoll | KM Success | - KMStrategy<br>- Key Mangerial Influence<br>- Key Resources Influence<br>- Key Environmental Influance |
| Lindsey | KM Effectiveness | - Knowledge Infrastucrture Capapbility<br>- Knowledge Process Capability |

## 4. CONCLUSION

The internal and external knowledge of the company and the different models of knowledge, its competitive knowledge resources, belonging to their key competencies and tasks, and the proposed technology supports the competitive strategy implemented in the company and is applicable to different organisational types. This review contributes to the existing framework KM literature by reviewing the evolution and development of the previous KM models. The importance of KM technology and the role it will play in organizational and support of KM framework and KM solution.

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## AUTHOR BIOGRAPHIES

**Riya Widayanti** is a lecturer in Department of Informatics, Faculty of Computer Science, Esa Unggul University, Jakarta. She received her Master of Information System from Gunadarma University in 2003. Her research interests are in the area of Knowledge mangement & Software Engineering, Information Techology Governance. Her email address is riya.widayanti@esaunggul.ac.id.