Abstract: Knowledge was originally a major study of the philosophy of science and cognitive psychology that has given rise to various theories about the process of human knowledge. Berkembangnya Knowledge Management (KM) to the new discipline as an object of knowledge has led multi-disciplinary understanding of the multi-perspective. Multi perspective stems from a difference in understanding the characteristics of knowledge, which spawned a variety of definitions that are not coherent and unambiguous, and the different perspectives of researchers about the concepts, methodology and KM initiatives, which can be considered as limitations of the theoretical basis KM. Historically, the development of KM should be linked with the ongoing changes (continuous change) that requires an organization to improve quality on an ongoing basis (continuous improvement) through learning and utilization of knowledge. This contextualization consequences on the need to understand KM as the solution space is more holistic and systemic influenced by individuals, organizations and technology. Currently, the special challenges faced by researchers KM related to two main issues, namely the limitations of the theoretical basis and the amount of KM KM initiatives are failing mainly oriented information technology (IT). This is not surprising since KM is an area of study that is very spacious, filled with jargon, which could potentially cause difficulties for researchers since from understanding the diversity of discourse, understanding the concept as a whole to determine the contribution, particularly in the development of KM systems (KMS), which has become IT researcher contribution. In principle, this article aims to share experiences on how to start and run a KM research and build awareness of researchers from the IT track on some of the relevant issues. Framework research (research framework) KM is compiled based on personal experience in developing a conceptual model of KMS with multi-perspective approach. KM's research Framework covers the main points of thinking and approach to achieve the end result of research KM.

Keywords: Knowledge management, knowledge management system, research framework.
1. Introduction

According Sveiby [1], Knowledge Management (KM) is a multi-disciplinary study and Multiperspective, classifying the contribution of two lanes and two levels, see Table 1.

<table>
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<tr>
<th>Organization level</th>
<th>Knowledge Management</th>
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<tr>
<td>IT-Track Knowledge = object</td>
<td>People-track Knowledge = Processes</td>
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<tr>
<td>&quot;reengineers &quot;</td>
<td>&quot;Organization theorist &quot;</td>
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<tr>
<td>individual level</td>
<td>&quot;AI-specialist &quot;</td>
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<td>&quot;E-specialist &quot;</td>
<td>&quot;Psychologist &quot;</td>
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Paths of information technology (IT) implement KM as management information where knowledge is an object that can be identified and managed in information systems. While the path of man (People) implement KM as management’s assessment, change and improvement of skills and behavior of individuals, for their knowledge is a process.

Researchers at IT path tends to refer to the concept of information theory that lack of understanding of the relationship between data, information and knowledge, including the role of knowledge tasit (tacit knowledge) in the transformation of knowledge. Limited understanding of the philosophy of knowledge lead researcher care less about how the object of knowledge is generated, since the process of knowledge within the individual, to be disseminated in the community or organization and the return on the individual. This approach is criticized has simplified the concept of KM and make KM nothing more than a document management or information management (capture, store, retrieve, and access), so less attention to aspects of the creation of knowledge (knowledge creation) that actually took place very naturally, not static and mechanistic human beings.

Meanwhile, researchers at the human pathway at the level of the organization tends to take the definition comes from the fields of philosophy, psychology or sociology so as to have a better understanding of the process of human knowledge. However, the KM models produced from these fields is actually not perfect because it has not provided a full picture of the actual knowledge of the process model. This is the effect of bounded rationality in which researchers limit themselves to a certain perspective, in this organization, and considers the process of knowledge as an integral part of the organization's business processes are observed. In fact, the way individuals in clicking internalization and externalization-right clicking knowledge is not entirely dependent on the specific business processes but follow patterns that are very natural.

The tendency to understand KM only from the occupied areas (specialization) has led to various limitations even flaws in various studies standpoint previous KM. Contributions knowledge of various KM research is like islands isolated knowledge. Nonetheless, it will naturally continue to produce thought-new notion that dynamic to achieve coherence at the point of convergence. The idea of a KM more attention to the nature of knowledge and knowledge processes byMcElroy [2], can be considered as one of the ideas to lead to convergence.

The idea of thinking about KM more attention to the nature of knowledge and knowledge processes requires a holistic understanding (comprehensive) that need to be supported by the knowledge of various disciplines. Unfortunately, not many researchers, especially in the IT path are aware of this because of a lack of guidance on how it should carry out research of KM.

An understanding of the nature of knowledge and KM should be a priority before researchers get into more specific studies in research path KM. A good understanding of the nature of knowledge and KM will provide a good understanding also about the knowledge processing environment. Vlok [3], states that the various errors in designing interventions KM and KM initiatives failure comes from an error in defining the knowledge processing environment.
Therefore, researchers should not only rely on the definitions that have been defined by previous contributors. However, the definition represent the viewpoint and the depth of understanding of contributors of knowledge. This was discussed, among others, in Stenmark [4] and Coakes [5], giving rise to the realization that researchers need to achieve an understanding of the nature of knowledge and KM through holistic thinking.

Figure 1 shows the relationship between the world of research KM complex and divergent and needs of the methodology as a tool to think, express ideas and delivery of results. Pictures were made to illustrate the need for a framework of research (research framework) by adopting an idea towards finding a Systems Thinking.

The remaining discussion of this paper are: i) the theory of systemic thinking as a basic principle of the approach used in the study of KM, boosted by a discussion of the contribution of multi disciplined thinking that has helped researchers to think holistically in understanding the nature of knowledge and KM; ii) KM research framework and philosophical journey; iii) supporting data, either from the literature or from experience; and iv) closed with a discussion about the sustainability of this research and conclusions.

**Picture 1. The phenomenon of KM research and the needs of the research framework**

2. Information Systems

Compared with the Information Systems (IS), the influence of the characteristics of knowledge as a research object, making KM becomes more complex research field and is very open to be viewed from multiple perspectives. KM complexity today has become 'arable land' alongside a range of disciplines.

This section discusses the importance of systemic thinking that attempts to limit the study to research object does not necessarily mean it can limit the naive observer perspective against the most fundamental part of the object being studied. This section discusses the theory referenced systems (ie holism and Systems Thinking), which are considered appropriate for use in research KM; followed by a justification of the research that has been done.
2.1. Systems Theory

Systems theory is an interdisciplinary field of science. It studies the nature of complex systems in nature, society, and science. More specifically, it is a framework by which one can analyze and/or describe any group of objects that work in concert to produce some result. This could be a single organism, any organization or society, or any electro-mechanical or informational artifact (Source: wikipedia).

2.1.1 Holism

Holism is derived from the Greek language ὅλος Holos, meaning all, entire, total. Holism is an idea that all the attributes of a system can not be determined or explained simply by summing the component parts. Instead, the system behavior is determined by how components are applicable. Try a holistic way of thinking includes and integrates the various levels of meaning and experience rather than simply defining various human possibilities narrowly. The general principle is: "The whole is more than the sum of its parts" and reductionism sometimes regarded as an opponent of this viewpoint. At the end of the 20th century, holism brought on systems thinking and its derivatives such as knowledge of chaos and complexity systems in biology, psychology, and sociology (Source: en.wikipedia.org).

2.2.2 Systems Thinking

Systems thinking is an approach to unify, based on the belief that the components of the system will behave differently when isolated from the system environment or from other parts of the system. This approach views the system holistically. Systems thinking focuses understand the system by examining the relationships and interactions between elements that involve the entire system (Source: en.wikipedia.org).

![Figure 2. Directions discovery Systems Thinking](image)

Figure 2 shows that systems thinking is an iterative process that combines three concepts namely:

a. **perceived world**: Everyone has their own viewpoint on the world.

b. **Ideas**: We accept the world through the framework of the various internal ideas for us.

c. **Methodology**: There are various methodologies to think about the world, one of which is the Soft System Methodology (SSM).

SSM is a methodology to analyze complex situations, the situation of the problem allows it to be viewed from various angles diverging-'soft problem’. SSM said as the methodology to apply systems thinking (Source: en.wikipedia.org).  
Based on the problems of space KM, SSM methodology is one methodology that is suitable for use in certain stages of KM research, as practiced by Saad [6].
2.2 Contributions Multi Discipline

Some of the benefits of a holistic approach as it has been perceived in this study: i) be aware of the existence of the islands of relevant knowledge outside the occupied areas; ii) create an understanding of the holistic thinking knowledge becomes universal, whole and natural, so it can be used in determining the prospective focus in their respective fields.

Here is a multi-disciplinary contribute ideas that have supported the holistic thinking in the understanding of knowledge and KM.

a) Contributions philosophy of science and qualitative methods

KM literature from the perspective of technology mostly only provides a set of definitions of knowledge and KM from various sources without explaining how these definitions extracted from understanding the researcher. This means that researchers tend to express their understanding of knowledge by treating them as objects rather than as an integral part of a process of understanding or perception formation (sensemaking) itself. Even the literature KM can not show a significant difference between information systems with KM and how to manage data or digital documents by managing knowledge.

In fact, the definition is not enough to give birth to a new understanding of those who read it. However, a definition of birth crackled through a long process and involves the knowledge of the individual who gave it birth. If the process and knowledge involved is not explained it is impossible if the definition itself can tell you a lot to give in-depth understanding of (sense) to those who read it. Various related theories of philosophy of science, especially on qualitative methods, such as the Sugiyono [7] and Musleh [8] turned out to be very assist researchers in understanding the knowledge and process knowledge. However, this understanding should continue to be reflected in the definition of the knowledge gained from KM literature in order to become an idea in the concept of KM and KMS to be modeled. Understanding is that knowledge and process knowledge can not be separated from the people who are directly involved in the knowledge process. Therefore, efforts to understand the knowledge and process knowledge should begin from understanding the knowledge processes that occur at the individual level, Lidya [9].

b) Contribution Cognitive Psychology

Various theories of value from cognitive psychology has been rarely used explicitly in berbegai literatur KM, including in developing the necessary tools. From what has been done, cognitive psychology enormous contribution in building the creativity of researchers when developing KM and KMS models at the individual level. Some of the cognitive psychology literature and terapannya referencing is Suharnan [10], Klein [11] and Green [12].

In the development of conceptual models KM This individual level, of cognitive psychology can explain many things, among others: i) an understanding of the processes of knowledge [6]; ii) an understanding of the knowledge tasit and its relationship with the experience, knowledge tasit relationship with the intuitive decision-making [3]; iii) the right brain potential as a center of creativity [9], which is considered to provide inspiration on how this potential can be accommodated by KMS tools.

One idea that prospective generated in this study is the idea of how to represent knowledge, including knowledge tasit to support intuitive decision making in the electronic repository, [9]. This knowledge representation model is part of the conceptual model developed KMS.

c) Contribution of Information Systems

Researchers assumed that research can be carried out by applying KM research ways SI. Judging from Applied KM in an organization, the environmental study of KM also includes human, organization and technology. Figure 3 shows the SI research framework proposed by Hevner [13]. The framework of this study applied two research paradigms SI namely behavioral-science paradigm to find relevance to what is at issue and focus as well as the design-science paradigm to provide opportunities for the utilization of proper knowledge in generating research artifacts.
In the beginning, there were difficulties in implementing the SI's research framework for understanding the knowledge is far more complicated than understanding the information. The process of knowledge is much more natural and easy to understand subjective and only by understanding human views of the roles, capabilities and characteristics in the organization.

Moreover, unlike knowledge, no one doubted that the information can be stored and generated in the electronic media. Therefore, the initial phase of the study KM requires a special approach to assist researchers in understanding the nature of knowledge and KM, based on experience in conducting previous KM research, qualitative methods considered appropriate as an approach in the collection and analysis of data.

One approach another SI, who never identified to be applied as one approach to KM is Business System Planning (BSP), Lidya [14]. BSP is a structured approach to help an organization to establish an SI planning. In this KM research, BSP analyzed as a prospective approach to identify organizational knowledge through business processes.

3. Research Framework KM

KM framework proposed research is intended to assist prospective researchers KM mainly from the IT path in developing the KM System (KMS). This framework includes, among others, ways of thinking, ladders, and approaches to collecting and analyzing data. Way of thinking which is considered to accommodate the complexities of KM research is a holistic way of thinking that is accommodated within the framework of the SI whereas research methods to collect and analyze data that is recommended is a qualitative method. Besides as an approach, the application of qualitative methods also help researchers to understand the characteristics of knowledge especially tasit dimension of knowledge.

Figure 4 shows the framework of KM research aimed to develop the design of KMS. Stages of the study were classified into two phases, namely justification (The way of thinking) and engineering (The way of modeling). Justification phase is a phase to understand the knowledge and KM (as constructs) and KMS and knowledge representation (as a model), while the engineering phase is a phase to develop a conceptual model of KMS and its main elements, the conceptual model of knowledge representation.
KM research framework proposed in this study was developed based on personal experience in an effort to develop a design that is more concerned KMS nature of knowledge and knowledge processes. Based on experience, some things that may need some guidance at the beginning of the study KM, among other things: i) how to understand the object of research and space issues are complex and divergent; ii) how to determine the focus and boundaries; iii) how to start and run the study. KM conducted research began in 2003, when there is a reference about KM and KM methodologies are still hard to find and very diverse. Therefore, this research was originally done in a very naturalistic, namely constructing a gradual understanding by synthesizing important discussion of literature with each other literature from various disciplines with the main focus is to try to understand what knowledge and important issues in the study of KM. After a long period living this way, some idea raises itself at certain moments, and it seems formed by the combination of various readings and observations (especially against the researcher's own knowledge of travel). However, eventually it was realized that the approach is called qualitative methods. In the context of KM research, this method can be considered as a way to learn about epistemology, which is a way to understand the knowledge and means to understanding the way of acquiring knowledge. Characteristics of qualitative methods is considered in accordance with the characteristics of KM research and assist researchers in finding a research focus at the same time deeply understand the object of research is knowledge and KM. The consideration is the knowledge of the object of study were very experienced, more easily understood through real experience. Justification of this understanding gained from qualitative methods, particularly on phenomenology and hermeneutics.

3.1. Supporting data

One of the important characteristics of SSM is goal-driven and focus on the desired system and how to achieve it. In the study of KM, SSM may be more appropriate when the focus of the research is clear. This is in line with research trips that have been passed that the determination of the focus of research is only possible after the scientists to understand the knowledge and problem space KM. The method can guide at this stage is a qualitative method snowball sampling technique [15] to assist researchers in developing research subjects.

Furthermore, an understanding of the nature of knowledge and KM would be more appropriate if it is done with reference to the various ideas of multi-discipline through a qualitative approach. At a certain stage, SSM can also be used as a methodology for modeling KMS on specific case studies, especially in defining the problem definition (ie, to analyze specific issues the organization that can be solved by applying KM), the development of a conceptual model, and a model of the desired changes from the real world that now. From the literature have been obtained and studied, so far has not encountered a framework or methodology that explicitly dedicated as a framework KM research as defined within the framework. The proposed research study. Table 1 in the appendix provides a summary of some of the approaches that have been used by some previous studies.
3.2. Further research

Sustainability of this research will be developed on the following questions:

a. How to effectively communicate, knowledge and understanding of the knowledge process according to qualitative methods?

b. How to evaluate the conceptual model is generated from a qualitative approach.

4. CONCLUSION

The study concluded that:

a. KM research area is the study area were highly divergent. This is because knowledge as an object that is managed in this study is the object at the same time a very natural process, which is possible only properly understood through direct interpretation of the disciplines that are studied.

b. Multi-disciplinary studies are very helpful in understanding the nature of knowledge, among others from the philosophy of science, cognitive psychology and research methodology.

c. Information system a developed a way of thinking of a way of thinking and their derivatives holistic systems thinking is the most basic way of thinking should be applied in a variety of research KM.

d. Using a methodology that is consistent with a more holistic way of thinking is recommended to facilitate researchers in internalized sources of knowledge about KM and externalise knowledge and research results.

5. References


[12] Pink, DH (2005), A Whole New Mind: Moving from the information age to the conceptual age, Penguin Group (USA), Inc. Translated by publisher Abdi Tandur.


6. Appendix

<table>
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<tr>
<th>Source</th>
<th>Summary Approach</th>
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<tr>
<td>(Tiwana, 2000)</td>
<td>Development, IT-centric, KM Roadmap, ten-step implementation of KM in the organization, consists of four phases: infrastructure evaluation, design analysis and KM development, deployment and evaluation. Focus on developing KMS, SI approach, does not dispute the definition of knowledge.</td>
</tr>
<tr>
<td>(Volkel and Oren, tt)</td>
<td>Development, IT-centric, developing knowledge in particular KMS server (concentrating knowledge repository of scientific knowledge). KM as management explicit knowledge using technology, do not mind the definition of knowledge.</td>
</tr>
<tr>
<td>(Guo and Sheffield, 2006)</td>
<td>Research, track people, synthesizing the concept of systems thinking and critical thinking are Churchman's inquiring systems and Habermas' critical social theory. Provides basic philosophical, pragmatic framework to manage kompleksiti and wealth of knowledge in the concept of the phenomenon of multiple perspectives / interest (emansipator / personal, practical / organizational, and technical).</td>
</tr>
<tr>
<td>(Saad et al., Nd)</td>
<td>Research, multi-perspective for the development of strategies KMS, people track, using the Soft Systems Methodology and Perspective Multi theory (MP) by Mitroff and Linstone (1993).</td>
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<tr>
<td>(Stewart et al., 2000)</td>
<td>Research, track people, develop research questions in KM, especially to appreciate the role of IT in KM. Begins by analyzing four assumptions about KM at the organizational level generated collaboratively,(1) knowledge is worth managing, (2) organisasi benefit from managing knowledge, (3) knowledge can be managed, and (4) minimal risk is associated with managing knowledge. Furthermore, every assumption was analyzed implications on the strategic and operational level that generates support and negation of the respective assumptions. These results are used to classify a research question, which is then used to generate a wide range of relevant questions. Inspiring to provide an understanding of the various fundamentals and their implications in the study started.</td>
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