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Abstract

Although many researchers and practitioners have discussed different aspects of knowledge and knowledge management (KM), there have been only a handful of papers that grapple these complex issues from a broad perspective. The main purpose of this study is to afford an integrative framework for a better understanding of KM through an extensive review of literature, and to investigate current and future knowledge practices and research by applying the integrated framework to the context of China. Although current application of KM in China is still in primitive stage, a great number of businesses are in strong demand for a theoretical position and practical guidelines of KM. Therefore, the potential future issues of KM and the integrative theoretical perspective presented in this study may provide a useful starting point for the direction and focus of future KM research and practices, especially in China.

Keywords

Knowledge, KM, Evolution of KM, Integrated View of KM, Current and Future Application of KM in China

Introduction

In an intensively competitive business environment today, knowledge is increasingly seen not only as a critical resource for modern organizations (Gartner 1998, Holsapple & Whinston 1987, Nonaka 1991), but also as an enabler for achieving and maintaining competitiveness (Drucker 1993, Prahalad & Hamel 1990). Futurist Alvin Toffler noted in 1991 that, “it is knowledge not cheap labor, symbols not raw materials, which embody and add value”. Nowadays, effective knowledge management (KM) is considered as the key to success of contemporary organizations. As a result, this topic is currently receiving a lot of attention from both researchers and practitioners.

Despite the increasing importance of knowledge and the considerable amount of literature on related issues including management of technology, entrepreneurship, and business strategy, Spender and Grant (1996) contain that existing frameworks for thinking about KM are still "less coherent and more fragmented". Many comment that knowledge is difficult to define and different knowledge perspectives coexist today. Scholars view the definition of knowledge from "complex, accumulated expertise that resides in individuals and is partly or largely inexpressible" to "much more structured and explicit content" (Davenport & Prusak 1998).

Against such a backdrop, the primary purpose of this paper is twofold. One is to provide a deeper understanding about knowledge research trend by reviewing and synthesizing the previous research and then affording an integrated framework. The other is to guide the direction of future knowledge research by applying the integrated framework to the context of China. During the research process, we first investigate diverse concepts of knowledge and KM to provide their integrated framework. As a result, we are able to develop an integrated framework. For practical contribution, we apply the integrated framework in China. Our background research indicates that because of WTO and the dramatic change of market structure, Chinese organizations are now facing more competition both internally and externally. Therefore, this study may provide meaningful and insightful implications to both researchers and practitioners in China and in other countries that concern KM.

This paper is organized into six sections. The second section examines the definitions of knowledge and its dimensions in detail. The following section provides a comprehensive understanding on the concept of KM. In the fourth section, we propose an integrated viewpoint of both knowledge and KM by identifying their deriving theories and underlying initiatives. The fifth section focuses on the current application of KM in China. Finally, we conclude the paper with recommendations for further research and practices of KM in China.

What is Knowledge?

The history of philosophy since ancient Greece can be viewed as a process of answer "what is knowledge?" The two main streams of epistemology – rationalism and empiricism – have the extremely different opinion on the origin of knowledge. Apart from general debate on the nature of knowledge, there are a number of views on defining knowledge. Through an intensive literature review, this study classifies the existing knowledge perspectives into two major categories: application perspective (i.e., what knowledge is for?) and action perspective (i.e., what knowledge does or represent?).

Application Perspective of Knowledge

The upsurge of emphasis on knowledge starts from the organizational point of view. Beckman (1999) considers that from a managerial angle, the definition of knowledge ranges "from the practical to the conceptual to the philosophical, and from narrow to broad in scope". Here we summarized a bundle of definitions of knowledge ranging from narrow to broad in scope. We also give a remark on each definition. For instance, Sowa (1984) thinks knowledge is created

upon objects, operations and relationships. Thus, his definition is broad in scope. By contrast, Turban (1992) considers knowledge as an application in problem solving and defines only organized and optimise information as knowledge, thus this definition is narrow in nature. Table 1 shows different definitions of knowledge in the previous studies. It is useful to synthesize the manifold understandings of knowledge because different definitions lead to different perceptions of KM (Carlsson et al. 1996), which results in different strategies and implications for supportive systems (Alavi & Leidner, 2001).

Scholar	Definition	Scope
Brooking (1996)	The collective sum of human-centered assets, intellectual property assets, infrastructure assets, and market assets	Conceptual Broad
Davenport & Prusak (1997)	A fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers.	Practical Broad
Grover & Davenport (2001)	A continuum starting at data, encompassing information, and ending at knowledge	Conceptual Broad
Liebowitz & Beckman (1998)	Applied information that actively guides task execution, problem solving, and decision making Any text, fact, example, event, rule, hypothesis, or model that increases understanding or performance in a domain or discipline	Practical Narrow Conceptual Broad
Myers (1997)	Processed information embedded in routines and processes that enable action, captured by the organization's systems, processes, products, rules and culture	Practical Narrow
Sowa (1984)	Implicit and explicit restrictions placed upon objects (entities), operations, and relationships along with general and specific heuristics and inference procedures involved in the situation being modeled	Conceptual Broad
Turban (1992)	Information that has been organized and analyzed to make it understandable and applicable to problem solving or decision making	Practical Narrow
Van der Spek & Spijkervet (1997)	The whole set of insights, experiences, and procedures that are considered correct and true and that therefore guide the thoughts, behaviors, and communications of people	Conceptual Broad
Wiig (1993)	Consisting of truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how	Conceptual Broad
Woolf (1990)	Organized information applicable to problem solving	Practical Narrow

Table 1. Different definitions of knowledge from the application perspective

Action Perspective of Knowledge

Alavi and Leidner (2001) present a very useful classification, and in this paper we term their work as an action perspective of knowledge. In their work, the researchers categorise knowledge into five dimensions: a state of mind, an object, a process of simultaneously knowing and acting, a condition of having access to information, and a capability.

First, knowledge as a state of mind focuses on how to encourage and enable the knowledge transfer from individuals to organizations (e.g., Schubert et al. 1998). That emphasizes knowledge is deposited in personal mind and it is "a state of knowing and understanding" so the organization should facilitate to expand the employees' knowledge and ability as much as possible. Second, the view of knowledge as an object deems knowledge as a kind of real object

that could be gathered, stored, and manipulated (e.g., McQueen 1998, Schubert et al. 1996, Zack 1998a). Consequently the focus of this view lies on how to manage the knowledge acquisition and build the knowledge stocks. The third view considers knowledge in a dynamic way. In other words, knowledge is not a separated state but a process of applying expertise. This perspective pays more attention to the knowledge flows and to each unit of the flowing process, tries to broaden and deepen that flow to realize optimised utilization of organizational knowledge (e.g., Carlsson et al. 1996, McQueen 1998, Zack 1998a). Fourth, the condition perspective refers to the accessibility of knowledge in the organization and the role of KM is trying to provide effective search and retrieval tools in order to locate the related information (e.g., McQueen 1998). Finally, the view of knowledge as a capability is widely accepted as an asset for organizational long-term competitive advantages (e.g., Carlsson et al. 1996, Watson 1999). The main objective of KM is, therefore, to build core competencies based on knowledge to develop the unique advantages of organization.

Perspectives	Objective	Typical References
State of mind	Stimulating and facilitate individuals to possess information and learn	Schubert et al. 1998
An object	Building and managing knowledge stocks	Carlsson 1996, McQueen 1998, Zack 1998a
Process	Facilitating and managing the knowledge flow process	Zack 1998a
Access to information	Providing effective search and retrieval tools in order to locate the related information	McQueen 1998
Capability	Building core competencies based on knowledge to develop the unique advantages of organization	Carlsson et al. 1996, Watson 1999

Table 2. Different definitions of knowledge from the action perspective

Evolution of the Knowledge: A Logical Perspective

In addition to review different perspective on knowledge, we also found that evolution of the definition to certain degree reflects people's focuses in different social stages. The concept of knowledge evolves from components and functional characteristics of knowledge itself, to the organizational sense of knowledge, then, to a more integrated and systematic perspective. For instance, in the first few years of 1990s, knowledge was considered as a form organized information useful to problem solving (e.g., Woolf 1990) and decision-making (e.g., Turban 1992). In the middle of 1990s, researchers began to separate individual from organizational knowledge and, internal from external knowledge (e.g., Boisot 1995, Spender 1996 & Brooking 1996). To the late 1990s, the systematic perspective defines knowledge as a comprehensive process and emphasizes the intellectual capital in an organization. A systematic view of such an evolution is presented in Figure 1 below.

Stage I – constituent and functional view

Scholar	Term	Meaning or illustration
Purser & Parmore (1992)	Knowledge Aggregation	Aggregation of fact, models, schemas, institutions and tacit knowledge
Quinn (1992)	Intellect	The intellect in an organization consists: (1) Know-what; (2) Know-how; (3) Know-why; (4) Care-why

More emphasis on Human capital

Need for Knowledge Transformation

Stage II – view of variety of inter-organizational knowledge types

Scholar	Term	Meaning or illustration
Boisot (1995)	Organizational knowledge	Can be grouped into: public knowledge, commonsense knowledge, personal knowledge, and proprietary knowledge
Glynn (1996)	Individual intelligence Organizational intelligence	Domain-related intelligence, flexible procedural knowledge Context-specific intelligence, socialized output
Nonaka & Takeuchi (1995)	Tacit knowledge Explicit knowledge	Subjective: empirical, synchro, analogy Objective: rational, continuous
Spender (1996)	Conscious Automatic Objectified Collective	Individual and explicit knowledge Individual and tacit knowledge Collective and explicit knowledge Collective and tacit knowledge

Need for Knowledge Integration

Intensive competition& Fast changing environment

Stage III – Integrated and systematic view

Scholar	Term	Meaning or illustration
Bechman (1997)	Knowledge hierarchy	Data – text, fact, code, image, sound Information – organized, structured, interpreted, summarized data Knowledge – case, rule, process, model Expertise – accurate advice, explanation & justification of result & reasoning Capability – knowledge repository, integrated performance support system, core competence
Ulrich (1998), Nahapiet & Goshal (1998)	Intellectual capital	Intellectual capital = competence * commitment
Zack. (1999)	Declarative knowledge Procedural knowledge Causal knowledge Relational knowledge	To describe a matter How this matter happen or be completed Why this matter happen How this matter relates to another

Figure 1. The evolution of definitions of knowledge

As the definition of knowledge evolves as shown in Figure 1, we discover that there are several main issues within this model. The first issue is the distinction between individual and collective knowledge. The individual knowledge is the sum of individuals' knowledge, experiences, expertise and information, created or acquired by individuals and embedded in the individuals (Zander & Kogut 1995), whereas collective knowledge is possessed by a group, an organization, or a society as a whole (Lyles & Schewenk 1992, Zander & Kogut 1995). However, the acquisition of collective knowledge relies heavily on the individuals learning process and outcome.

Secondly, as the external environment becomes more competitive, the firm starts to concern about the boundary between private and public knowledge. Private knowledge, which is also called firm-specific knowledge, is unique to one organization and thus valuable and hard to imitate (Barney 1986). For example, an organization's unique workflows, processes, routines, policies and special business tactics are all private knowledge. Public knowledge exists outside any particular organization and is a public possession. "Best practices" are good examples. Obviously, the private knowledge is a source of competitive advantages.

Finally, component versus architectural knowledge is another couple of taxonomy. Researchers define component knowledge as resources, skills, and experiences that relate to "parts" or "components" of an organization (Amit & Schoemaker 1993, Henderson & Cockburn 1994). Each functional process constitutes one aspect of the specific knowledge. But component knowledge can be deposited individually or collectively. Architectural knowledge, on the other hand, relates to the whole structure of the organization. It is collectively held and unique, private in usual. Component knowledge is embedded within and influenced by architectural knowledge.

Knowledge Management Evolution

If knowledge is important to get a competitive advantage, the next concern should be how to manage knowledge efficient. The following section examines the development process of KM for the past decade.

Definition of KM

The term of "Knowledge Management (KM)" was addressed at a 1986 Swiss conference sponsored by the United Nations (Wiig 1997). Drucker first used the term of "knowledge worker" and focused on the information flow of organization and explicit knowledge as resources for business growth. Since then, a large number of articles have been published. For example, it was Tom Stewart (1991) who made this topic as a bestseller. Other influential books may include Knowledge-Creating Company written by Nonaka (1995) and Managing Knowledge Workers by Daveport (1997). Despite its growing popularity, there is no universally agreed definition yet. Table 3 highlights some of common definitions on KM.

Scholar	Definition
Beckman (1997)	The formalization of and access to experience, knowledge, and expertise that create new capabilities, enable superior performance, encourage innovation, and enhance customer value
Hibbard (1997)	Process of capturing a company's collective expertise wherever it resides – in databases, on paper, or in people's heads – and distributing it to wherever it can help produce the biggest payoff
Newman & Conrad (1999)	A discipline that seeks to improve the performance of individuals and organizations by maintaining and leveraging the present and future value of knowledge assets
Krogh (1998)	Identifying and leveraging the collective knowledge in an organization to help the organization compete
O'Dell (1996)	Applying systematic approaches to find, understand, and use knowledge to create value
Petrash (1996)	Getting the right knowledge to the right people at the right time so they can make the best decision
van der Spek (1997)	The explicit control and management of knowledge within an organization aimed at achieving the company's objectives
Wiig (1997)	The systematic, explicit, and deliberate building, renewal, and application of knowledge to maximize an enterprise's knowledge-related effectiveness and returns from its knowledge assets

Table 3. Some definitions of KM

Evolution of the KM: A Logical Perspective

Apart from purely looking at definitions, we also try to understand the application of KM. The representative perspectives and scholars in different eras are particularized in Figure 2.

In phase 1, the importance of knowledge was presented broadly in both social and organizational scope. Although organisations recognise the critical role of knowledge, the management process was no different from other tangible assets. However, as shown in Figure 1, with more emphasis on human capital and the upcoming need for knowledge transformation within the organization, the focus of KM research consequently turned to the explicit carrier --- knowledge workers. In the second generation of KM, organizations consider more about human resources and the initiative of individuals (McElroy, 2000). Further, theorists believe that enforcing the affluent environment for knowledge creation and innovation is more important. This perspective indicates that KM is synchronizing with organizational learning community and that KM stepped into the knowledge-worker-oriented phase while the managerial paradigm transforms dramatically.

Because more and more knowledge has been created and managed, the crucial issue turns to how to manage the KM itself. We identify this as the third stage: systematic-knowledge-oriented stage.

High attentions have been paid to the complexity and diversification of knowledge and KM. KM is stressed more and more as an integrated process involving distinct but interdependent activities (e.g., Alavi & Leidner 2001, Spek & Spijkervet 1996, 1997, Zack 1999). Sarvary (1999) concludes three processes in KM: organizational learning, knowledge production, and knowledge distribution. Nonaka (2000) also puts forward a KM model in broad sense, which consists of knowledge creation, knowledge asset, and values as the main dimensions.

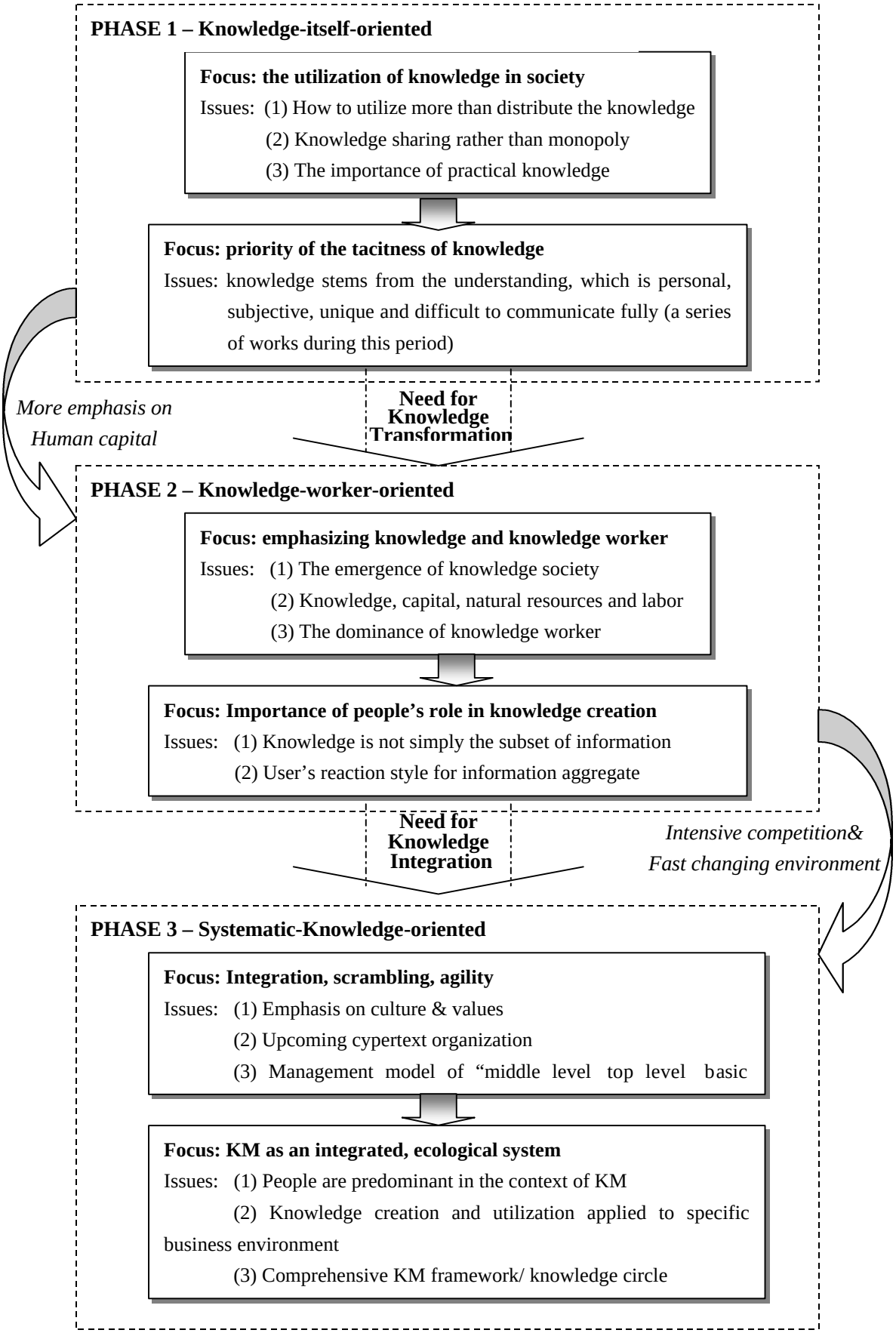

Figure 2. The evolution of KM

Recent perspective of KM also borrows some concepts from the theory of complexity (e.g., Beech 2002, Coveney & Highfield 1995, Goodwin 1994, Guastello 1995). This new perspective considers organization as a live organism that can adjust itself and reorganize to meet the changes of the environment. When the meaning of market and the demands from customers begin to change in new era, KM also needs to be redefined. Organizational boundary is fainting, knowledge is co-developed, and all values are shared in the greatest extent. It is inevitable that the definition and the focus of KM are continuing to develop in accordance with the social evolution and technological improvement.

Integrative View for Knowledge and KM

The preceding sections have provided the overview on the concept of knowledge and KM. In the model for knowledge definition, we identify that there are two internal and external forces driving the organizational change. These forces change people's understanding of knowledge from constituent and functional view to inter-organizational view, and finally to the integrated and systematic view. As result of this exercise, we discover that the change of both knowledge perspectives and KM perspectives has certain underlying logic relationship. Table 4 shows that each change was not only driven but also supported by corresponding theories.

Knowledge perspective change	**Knowledge mgt. Perspective change**	**Driving Theories /Perspectives**	**Driving Mottos**
Constituent & functional view	Knowledge itself – oriented phase	• Resource-based view of the firm • Knowledge–based view of the firm	• Firm is a unique bundle of idiosyncratic resource and capabilities • Knowledge assets is a unique resource which may lead to long-term sustainable competitive advantage
↓ **Emphasis on human capital** **Need for knowledge that may add the values**			
Inter – Organizational - view	Knowledge worker – oriented phase	• Organizational learning	• Organizations should create structure, strategy and culture to facilitate learning of all members.
↓ **Fluid of technologies, information and knowledge** **Changing environment** **Intense competition**			
Integrated & systematic view	Systematic Knowledge – oriented phase	• Organizational memory • Theory of complexity	• Stored information from an organization's history that can be brought to bear on present actions • Organic system is able to adapt to the changing circumstances by self-organizing

Table 4. An integrated view for knowledge and KM

In this table, we offer an integrative view on the evolution of knowledge and KM, and their underlying driving theories and mottos. In the knowledge-itself-oriented phase, constituent and functional view is dominant. Resource-based and knowledge-based views of the firm are the main driving perspectives in this stage. The emphasis on human beings' intellectual assets and the need for utilizing knowledge to add values to business results in the evolution into the knowledge-worker-oriented stage with the focus on organizational learning. Due to the consideration of rapidly changing environment and highly intensive competition, the KM has

moved to systematic-knowledge-oriented, focusing on organizational memory and theory of complexity.

Current Application of KM in China

As discussed above, knowledge has been regarded as a critical source in organizations and the management of knowledge gives rise to sustainable competitive advantages. In this section, we discuss the growing importance of KM for organizations in China as well as the current status of research and practice in this region.

Need for KM in China

One of the most important events affecting the business nature of both China and the whole world is the success of negotiation for WTO. In 10 November 2001, WTO reached the decision of accession of the People's Republic of China. The inosculation with the world leads China to more open global, at the same time, competitive market. In order to keep on the edge of market competition, Chinese businesses must utilize information technologies (IT) to transform organization into knowledge organization.

Beside WTO, e-commerce is another force changing the traditional business model in China. The International E-Commerce Center was founded in China In 1996. Next, a series of big e-commerce projects started-up in 1997, such as China Goods Order System (CGOS), and China Commodity Exchange Center (CCEC). In 1999, China pushed governmental departments to go online. According to the information from the government, Chinese central government has set up 52 websites and 1038 varied databases. Governments in all levels have applied more than 2400 domains, and 720 governmental departments of them began to serve the society through online. In 2000, businesses began to be involved in the Internet in nation-wide scale. Up to now, there are more than 1000 e-commerce websites in China. In the year of 2000, the transaction amount of B2C is 390 millions RMB and that of B2B is 76.77 billions RMB. The corresponding figures of 2001 are 1.3 billions, increasing by 233.3%, and 94.2 billions, increasing by 22.8%. Till the end of 2000, "Golden Customhouse" had completed the import/export stat., quota license management, tax drawback, and foreign exchange payment computerized systems by which the network integration and information sharing have been achieved in diverse but related fields.

In summary, the rapid development of e-commerce in China is virtually putting great challenges to local traditional businesses, which is also a critical power pushing Chinese businesses to be involved in positive KM.

Current Situation of KM in China

Compared with their western counterpart, KM in China has a relatively short history. In 1996, the annual report by OECD, "Knowledge-based economy" was translated into China. In 1997,

Chinese Academy of Sciences came out the report named "Receive knowledge economy, build national innovation system". KM has been paid so much attention since 1998 that it is viewed as "the year of KM" in Chinese academic field.

Many popular books on KM were translated into Chinese in that year. In 2000, the issue of "business KM" was listed as an encouraged research field by the department of management science in National Natural Science Foundation of China. Websites with the topic of KM have gradually attracted the people's broad attention. These websites include not only official, commercial but also individual ones with personal interest. Examples are Chinese KM (www.chinakm.com), Chinese cooperation KM (www.ckmchina.com), I-power (www.i-power.com.cn), and Chinese research center of Learning organizations (www.cko.com.cn).

To identify the status quo of KM in China, the biggest Chinese KM website (www.chinakm.com) carried out a major survey study in Jan 2003. The statistics indicates that the top provinces/cities in China that pay attention to KM are: Beijing (30.10%), Shanghai (11.75%) and Jiangsu (11.55%). From the industry division, computer and IT is undoubtedly ranked in the first place (29.46%), followed by research institutions (21.71%) and communication (7.75%). Additionally, compared with the same period in last year, attention to KM from governmental departments, banking and insurance, transportation, petroleum and mechanism manufacturing industries has risen obviously.

Similar to Chinakm.com's study, Daochina.com Knowledge Web Corporation also conducted a survey to realize and analyze the acknowledgement and application of KM in China between March to April 2002. Online survey was conducted on web partners: www.pa18.com.cn and www.netbig.com simultaneously. This survey posted more than 10,000 questionnaires to large-/middle-scale businesses and professional institutions, and finally received 1342. The low responding rate is originated from asking complex and in-depth questions, including unconcerned respondents, and lack of recognition of KM in China.

The result shows that out of the respondents, 86% "has heard of" KM, and the percentages of "very familiar", "familiar" and "unfamiliar" with the concept of KM and academic literatures are 6%, 59% and 35% respectively. 74% of the respondents hold the viewpoint that applications of KM in China are "just beginning".

As for the understanding of the main purpose and value of KM, different industries have distinct views. In the light industry 40.9% businesses answered that KM is valuable for operational decision-making (which is also the most frequent answer on average in the survey), and 22.7% thought KM is supportive mainly for R&D. The figures in this table show that medical industry and educational industry are more concerned about using KM to support R&D, while financial service industry prefers the value in training respect. Similarly, both financial service and information/consulting industries pay more attention to the customer service through KM. But improving the products and service is almost always the least reason for KM, except that communication, media & entertainment industry and medical & educational industry gave moderate answer ratio in this selection. In sum, the average evaluation in this survey shows that the five industries are most concerned about operational

decision-making (about 35%) and least on utilizing KM to "improve product &service" (about 12.3%). Table 5 sets a summery of this survey.

Function of KM / Different Industry	Operation Decision-making	Product R&D	Personnel Training	Customer Service & Management	Improve Product & Service
Light industry	**40.9**	22.7	**14.9**	**8.3**	11.0
Financing service	32.0	20.4	**17.5**	**16.5**	12.6
Communication, media and entertainment	35.0	18.3	15.0	13.3	**17.5**
Medical & sanitation, Culture & education	33.9	**24.3**	11.6	10.6	**15.3**
Software, information & business consulting	27.3	**25.5**	15.1	**14.4**	11.9
Average	**34.8**	**22.7**	**14.1**	**12.7**	**12.3**

Table 5. The differences of understanding of the functions of KM by organizations in different industries

Resource: Survey by Daochina.com, 2002. Unit: percentage (%)

As for existence of knowledge strategy, out of all respondents, only 27% has made up KM strategy. However, 91% of the organizations that have no KM strategy (about 73%) think that it is necessary to introduce KM. The survey further showed that organizations with KM strategy are centralized in five industries: software, information and business consulting (about 31%), financial service (about 11%), communication, media and entertainment (about 11%), light industry (about 11%), and the industry of medical, Culture & education (about 10%). The common characteristics of these five industries are knowledge and technology intensive with short product life circle.

Although the limitations of the effective respondents and other possible factors that may affect the reliability and credibility exist, this survey displays some degree of the practical situation of KM in China. Reflecting the results in accordance with our integrative framework, it appears that knowledge management has attracted high attention in Chinese organizations. The whole society is passionate to study knowledge and tries to explore its full values applicable to industrial operations. That is the typical characteristic of knowledge-itself-oriented stage, as shown in Figure 2. Moreover, we can get conclusions from the survey that different industries in China have the gap on KM strategy and implementation focus. Industries of knowledge/technology-intense and with high intensity of competition are more likely to develop clear KM strategy, while other industries have a low rate to do so.

Furthermore, despite the majority Chinese businesses have noticed the importance of KM and are putting KM on the agenda of top management, most has not set up a special department or committee responsible for KM. The planning and operations of KM are run by some functional departments (i.e., human resources) rather than a separate unit, or nominated to the Chief Knowledge Officer. The unique values of knowledge workers are seldom raised to strategic level. Most Chinese organizations are zealous to introduce KM solutions or KM systems in

terms of technical consideration, but they hardly put efforts to stimulate and empower the knowledge workers to achieve high value-added performance.

Therefore, we consider KM in China is still in preliminary stage, while a great number of businesses are in strong demand for a theoretical positioning and practical guidelines of KM in accordance with the context of Chinese. Based on our integrative framework, we anticipate that the short-term target of KM in China would be on knowledge worker while the long-term focus lies on the integrated reorganization of knowledge.

Future view of Knowledge Management in China

This paper has showed the overview of the relationship between knowledge and KM by providing the integrated framework through the intensive literature review and applying it to the context of China. The results display that although KM is increasingly important, Chinese organizations have a very limited understanding on formatting and implementing KM. The generalization of the definition of knowledge and the evolution of KM from the logical perspective is a theoretical description of how the focus of knowledge and KM evolves along with the advance of human society and information technologies. It stands for an alternative that researchers can use to understand the nature and roles of KM in a dynamic perspective.

Hence, we see the value of this study for Chinese businesses communities. This study can help them to have a clear view on knowledge and KM and then to position themselves in accordance with both Chinese environment and their own characteristics. Only when an organization realizes its defined need for knowledge and KM, it can develop and implement an appropriate knowledge strategy. This research provides an insightful perspective for managers seeking to understand their business' state and push its KM activity forward.

Since Chinese businesses are still on the knowledge-itself-oriented phase in practice, what they indeed need is to launch the knowledge-driven initiatives and implement suitable KM systems to increase the effectiveness and efficiency, moreover, the better performances. To do so, the future of KM in China should focus on the second and third phases in the evolution process as in Table 3. Based on our integrative framework, we propose that the future practice and research of KM in China should associate with the following areas:

- **The measurements and management of knowledge assets in organizations:** How do Chinese companies classify their knowledge assets? How do Chinese companies manage their knowledge assets effectively? What are tangible and intangible knowledge assets in Chinese companies? Is there any difference between assets in China and those in other counties?
- **The driving forces of strategic KM and its barriers:** What are the current barriers inhibiting the development of KM strategy in China? How can people and organizations remove the existing barriers of KM? How can China government policy help or encourage organizations and individuals to share their knowledge with others?

- **KM in the process of strategic alliances:** How does KM facilitate the process of partnership with the foreign companies? What kinds of knowledge should be or not be shared with partners? How can we transfer our own knowledge to our partners effectively?
- **Improvement of KM by organizational redesigning:** What are the contextual factors of KM influencing the organizational redesign process? What are the key success factors of effective KM by adopting business process reengineering? How does leadership affect the process of KM implementation?
- **KM issues in corporate culture building:** How do Chinese companies incorporate culture into their KM strategy and implementation? What are the unique aspects of Chinese companies' culture for KM? How can we control the process of KM effectively in China?
- **Motivation of knowledge workers:** What are factors affecting the productivity and satisfaction of knowledge workers in China? How can Chinese companies employ and staff knowledge workers? What are organizational barriers to have knowledge works?
- **Facilitating the knowledge flow from individuals to organizations:** How is individual knowledge being transform into collective knowledge in Chinese organizations? What are the critical factors for individuals to let their knowledge be sharable? What is the role of KM systems to facilitate knowledge sharing between individuals and companies?
- **Empirical analysis of knowledge utilization process:** How does Chinese knowledge promote the implementation of KM strategy in China? What are the critical factors to maximize knowledge utilization in the context of China? How can we measure the level of knowledge utilization?

This study put the multifaceted KM phenomena into a proper perspective that is substantiated by an extensive review of literature. It contributes a more comprehensive view of KM research than other previous approaches because it is able to synthesize a rich but confusing body of research into a more understandable whole. Although this is a limited research based on the classification of the previous literatures, this is significant because such an approach integrates a broader base of theories and goes beyond the narrowly research focus of past studies. More importantly, by applying the integrated perspective to China, we identify the stage of the KM development in China. Nevertheless we propose that a pragmatic theoretical model with specific dimensions for evaluation is probably needed in order to guide the transformation of Chinese businesses into successful knowledge organizations in the new global competition. Finally, this study is the first attempt to trace the evolution of KM from its past to its present and use this knowledge to recommend the future direction of theoretical research and practical works in this area.

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