

Overview

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1. Objectives of this Book

This book is the result of an APO project entitled "Survey on the Status of Knowledge Management in Member Countries." The objectives of the project were to:¹

1. *"Conduct in-depth studies to describe the most recent status of knowledge management (KM) applications and practices in the member countries participating in the survey;*
2. *"Analyze conditions, key determinants, and strategies enabling the acceptance and successful implementation of the KM concept by corporations and organizations in those countries;*
3. *"Undertake case studies and comparative analyses to explain how the pursuit of KM has enabled Asian corporations and organizations to reach a higher level of excellence and competitiveness; and*
4. *"Identify recommendations and practical measures for other corporations and organizations in APO member countries to emulate the lessons and successful cases found in the survey."*

The intent is to provide useful and actionable information for two audiences: (a) KM practitioners and executives of private or public sector organizations and (b) National Productivity Organizations (NPOs) of member countries of the Asian Productivity Organization (APO), the APO Secretariat and other national-level policy makers. This book aims to provide actionable information for these audiences in the following action areas:

1. Organizational level: Implementation of KM initiatives and KM applications, and ensuring impacts on productivity and competitiveness; and
2. National level: Promotion and dissemination of KM, and facilitating acceptance of KM in various organizations.

2. Outline of this Overview Chapter

This Overview chapter will cover: (a) an overview of KM concepts and practices at the organizational level, (b) an overview of knowledge-based development at the national level, and (c) an overview of the case studies and national surveys in this book, including a summary of the interesting or unique features of each case study.

3. Overview of KM theory and practice

3.1 Objective of Knowledge Management: Value Creation

Among leading knowledge management practitioners², "knowledge" is commonly understood as *capacity for effective action*, which includes information useful for effective action.³

¹ See Project Notification (project code 06-RP-GE-SUV-31-B) issued by APO last 26 April 2006.

² Here are definitions by some leading knowledge management practitioners:

"Justified belief that increases an entity's capacity for effective action" – Ikujiro Nonaka, from: "A dynamic theory of organizational knowledge creation," *Organization Science* vol. 5, No. 1, pages 14-37 (1994).

"I define knowledge as a capacity to act" – Karl Erik Sveiby, from: "The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets," 1997.

"Knowledge is information that changes something or somebody — either by becoming grounds for action, or by making an individual (or an institution) capable of different or more effective action" – Peter Drucker, from: "The New Realities," Harpercollins, 1989.

An action is “effective” if the result is close to what is desired, whether by an individual or an organization. For private or business organizations, the desired result is creation of *market value*; and for public and civil society organizations, it is creation of *social value*. Actions to create value are organized through *business processes* or *work processes*. Knowledge management is enabling and enhancing capabilities to perform such processes, including sourcing and deployment of the right knowledge assets, in order to achieve the desired results. Knowledge assets include: embodied knowledge in people; embedded knowledge in technology, systems and processes; enculturated knowledge in work relationships, teams and networks; and actionable information and insights. The ultimate aim of knowledge management is to create value (Figure 1).

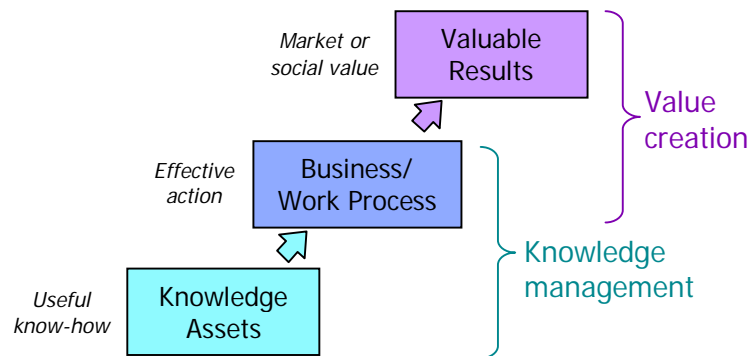


Figure 1: Aligning KM with Organizational Goals

SOME PRACTICAL HINTS

- KM will matter most if applied to a *core* business process.
- KM to increase productivity of a business process is good operational KM; while KM to reinvent or redefine what is “core” is strategic KM.
- A company must first identify what its “core” business processes are before operational KM is undertaken; in other words, a business process audit must precede an operational KM audit. The question “Are we doing the right thing?” should be answered affirmatively before asking the KM question: “How do we do it better?”
- Instead of the term “business process” use whatever term non-commercial organizations use, e.g., “work process.”
- Alignment of KM to the project objectives is achieved through the logical framework of the project.

Knowledge creates value when it is used or applied for effective action. The measure of good KM is effectiveness and efficiency of action, or achievement of valuable end results. Productivity, quality of output, rate of innovation and revenues are measures of KM. This is the reason why productivity

“Knowledge is information in action” – Carla O’Dell and C. Jackson Grayson, Jr. of the American Productivity and Quality Center, in: “If Only We Knew What We Know,” Free Press, 1998.

The failure to distinguish between the specific meaning of the term “knowledge” as understood by KM practitioners and the broad varieties of meanings of the same word “knowledge” among laymen may be a cause of much confusion on what KM is all about.

³ “Action” can mean making decisions, solving problems or physical action.

improvement and total quality management overlap with KM.

Various stages in the knowledge cycle (see figure) constitute the knowledge value chain; it is at the last stage – use or re-use of knowledge – where value creation is realized:

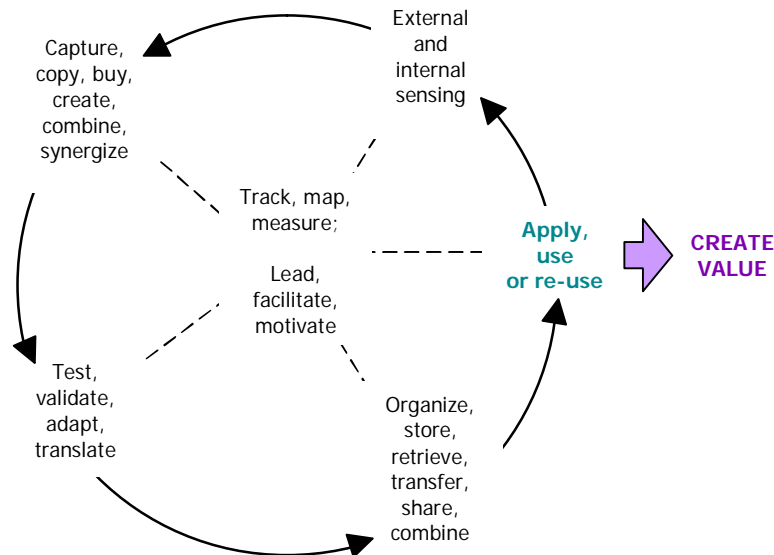


Figure 2: The Knowledge Cycle

Knowledge, like information, allows multiple consumption. Copying, sharing or using it does not diminish the utility of the original. Therefore, knowledge sharing and use can multiply value creation.

| SOME PRACTICAL HINTS |
|---|
| <ul style="list-style-type: none"> • Studying customer needs and complaints (part of external sensing) provides knowledge useful for product R&D, product re-design, or process innovation/improvement. • Demand-driven KM: the use of knowledge specific to a work process and particular to an organizational context should drive how the rest of the knowledge cycle is designed and managed. • Do not “jump” or push a KM solution; a KM assessment or audit (part of internal sensing) provides the empirical basis for selecting the most relevant KM solution. |

3.2 Difference between Knowledge and Information

Knowledge overlaps with information, but one way to distinguish between the two is to regard knowledge as *'know how'* while information as *'know what'*; or that knowledge is *'what works'* while information is *'what is.'* *Utility for action* is what distinguishes knowledge from other information. Actionable information, e.g. content of a manual, is an example of knowledge, or more precisely, explicit knowledge (see Figure 4).

SOME PRACTICAL HINTS

- After every action or project, ask “*What worked well or better?*” The answer is knowledge because it is useful to anyone who will repeat that action or project.
- After every mistake, ask “*What did not work and why?*” Share the answer across the organization. Repeating mistakes amounts to organizational amnesia: a sign that the organization needs KM.
- ‘Knowledge translation’ or converting academic or scientific information into actionable information such as a prescription, a formula or a manual is a form of knowledge creation.

3.3 Intellectual Capital

Knowledge takes many forms. Ask yourself this question: “*What helps me do my job well?*” Answers to this question by knowledge workers and managers often tend to cluster along five groups:

- Group 1. Skills and experience, training, work attitudes, learning, health (or ‘*embodied knowledge*’)
- Group 2. Policies, information and other support systems, work processes, manuals (or ‘*embedded knowledge*’)
- Group 3. Knowledge invested in building external networks and support systems, customer loyalty, brand or reputation, trust of partners
- Group 4. Support and recognition from peers and superiors, incentives, personal drive, conducive work environment and other motivational factors
- Group 5. Technology, equipment, financial resources, supplies and materials.

The intellectual capital school of KM⁴ calls the first three groups *human capital*, *structural capital* (or process capital or internal capital) and *stakeholder capital* (or customer capital or external capital), respectively. These three forms of capital are collectively called *intellectual capital*, which is nearly synonymous with *knowledge assets*. Group 3, arguably, is not ‘knowledge’ as the word is commonly understood by laymen. However, it clearly contributes to capacity for effective action and therefore among most KM practitioners it is part of intellectual capital or knowledge assets.

The intellectual capital framework is consistent with the value creation perspective of KM because, in general, “capital” is anything that can yield regular income, such as –

- *Natural capital*: fruit tree, topsoil, grazing land, ocean fish stock;
- *Social capital*: informal networks and roles, patrons, trust of the community;
- *Financial capital*: savings account, investment papers, stocks;
- *Intellectual capital*: know-how, manuals, directories.

Group 5 is properly called *tangible assets* because in this group belong items that are entered into the accounting system. Groups 1-4 can be called *intangible assets*. The global trend in the last few decades shows that intangible assets are contributing more than tangible assets to market values of corporations.⁵

⁴ For example, see: Patrick H. Sullivan: “Value Driven Intellectual Capital: How to Convert Intangible Corporate Assets Into Market Value,” Wiley, 2000; Thomas Stewart: “Intellectual Capital: The New Wealth of Organizations,” Doubleday, 1997; and Karl Erik Sveiby: “The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets,” Berret-Koehler, 1997.

⁵ For example, see: Margaret M. Blair and Steven M. H. Wallman: Unseen Wealth, Report of the Brookings Task Force on Intangibles, Brookings Press, 2001.

Group 4 is interesting. Although this group is not related to knowledge, I often find it essential for success and sustainability of KM initiatives. For example, company-wide KM initiatives often need accompanying change management interventions. Another example is the common observation that technology alone does not assure increase in knowledge-sharing behavior. Managing Group 4 involves tools that have been developed in the fields of human resource development, change management and organizational development (See Section 3.6 below).

SOME PRACTICAL HINTS

- A good way to start KM is by assessing the adequacy of various intangible and tangible assets most needed as inputs for a business process.
- A knowledge taxonomy specific to an organization provides a common basis for classifying documents, expertise, best practices and other knowledge objects.
- The Balanced Scorecard is a good way to track intangible assets, e.g., customer indicators track stakeholder capital, business process indicators track structural capital and learning indicators track human capital.

Effective action stems from the right mix of, and interactions among, human capital, structural capital and stakeholder capital. Here are some examples to illustrate this principle:

- A chest x-ray plate is a useful input for effective action to a radiologist, but not to an engineer; a boiler manual is useful for effective action to an engineer, but not to a radiologist. What is knowledge to one is only information to the other.
- The usefulness of a laptop is nil in a remote rural village without electricity, Internet access, repair services, spare parts or skillful users. Context affects the utility of technology.
- Reading a documentation of a best farm practice is not as useful for effective action compared to learning through face-to-face demonstration and mentoring by a best farmer practitioner in his own farm. Learning from a document (an example of disembodied knowledge, or knowledge object) is inferior to learning directly from an expert within his own work context.
- After workers are trained outside the workplace, they go back to their work contexts that may not be supportive of their new training (necessary policies are absent and co-workers who do not understand or appreciate the training and new knowledge that the trainee had obtained) and thus, the latter are unable to use their training for more effective action.

In short, KM is designing a mix of appropriate skills, relevant information and support systems, and relational context which can produce better results (Figure 3).⁶

⁶ Interestingly, this triangular mix reappears in other fields. A basic premise in Ken Wilber's integrative epistemology is the fundamental distinction between I, we and it – namely personal/experiential knowledge, group/phenomenological knowledge and empirical/objective knowledge, respectively (see, for example, Ken Wilber: *The Marriage of Sense and Soul*, Random House, 1998). The Three Jewels in Buddhism consists of the *buddha*, *sanga* and *dharma* – namely, personal enlightenment, membership within a community of practitioners and the teachings of the Buddha (or scripture, in Christian language), respectively. The same framework can be applied in warfare. In the brief 2007 conflict between Israel and Hezbollah, the Israeli armed forces were trying to destroy the human and structural capital of the Hezbollah, but the main strengths of the latter are elsewhere,

An effective mix is needed whether the action is performed by a solitary knowledge worker or by a team. In the case of the latter, the relational context (“ba” of Nonaka⁷) and the ICT-enabled⁸ information support system becomes even more important for ensuring coordinated and effective performance of an action.

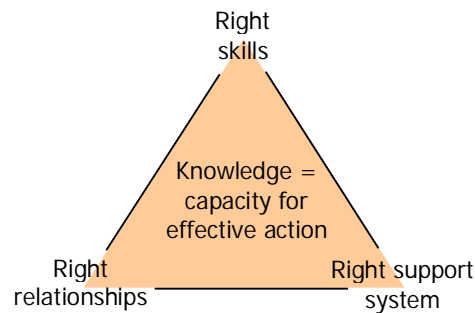


Figure 3: Effective Mix and Interaction of Skills, System and Relationships

3.4 Explicit Knowledge and Tacit Knowledge

Tacit knowledge is undocumented knowledge.⁹ Tacit knowledge is often individual, private, difficult to access by other people and specific to particular work contexts. Examples are:

- Expertise
- Informal network of co-workers /professionals
- Informal work processes
- “Work arounds”
- Past experiences of what works
- Relationship with a loyal customer

Explicit knowledge is knowledge documented or encoded in print, electronic or audio-visual formats or embedded in prototype, equipment or technology. Examples are:

- Manuals, documentation of best practice
- Technology: hard, soft or ‘wet’ (biotechnology)
- Process tools, formulas
- Library
- Portal or intranet, database
- Directories of supplies, customers, etc.

Explicit knowledge or *knowledge objects* can be easily reproduced and distributed to many; they can be removed from their original work contexts and transferred elsewhere. While tacit knowledge is ‘sticky’ (dependent on the practitioner), explicit knowledge is ‘leaky’ (easily copied or stolen). Pure explicit knowledge probably does not exist because a human being is always needed to apply knowledge; even a completely automated or robotic factory needs a human being to turn it on/off and to monitor it. Figure 4 shows more clearly the distinctions between information, explicit knowledge and tacit knowledge. Converting descriptive information (e.g. academic studies) to actionable information (e.g. practical guidelines), which is an example of explicit knowledge, is called knowledge translation. Practice converts explicit knowledge to tacit knowledge.

namely, in stakeholder/social capital (network and support from surrounding communities and countries) and in motivational assets (belief system).

⁷ Georg von Krogh, Kazuo Ichijo and Ikujiro Nonaka: Enabling Knowledge Creation, Oxford University Press, 2000.

⁸ ICT is information and communication technologies.

⁹ I prefer to define “tacit knowledge” operationally and very simply in this manner, and so escape the argumentations and confusions that result from epistemological definitions.

Managing explicit knowledge is mainly the domain of ICT – the technology side of KM. Managing tacit knowledge is mainly in the domain of human resources management, organizational development, change management and related behavioral professions – the people side of KM.

Tacit knowledge is the highest stage of knowledge, when an action has become ‘second nature’ to the practitioner (see Figure 5). While explicit knowledge is gained through copying, reading or listening, tacit knowledge is gained through practice or ‘learning by doing.’

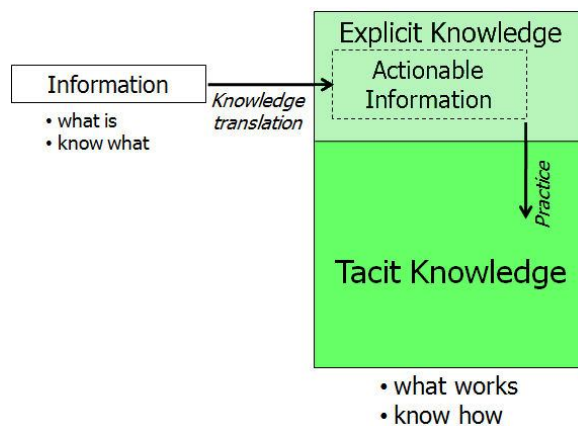


Figure 4. Converting Information to Explicit Knowledge, and Explicit Knowledge to Tacit Knowledge

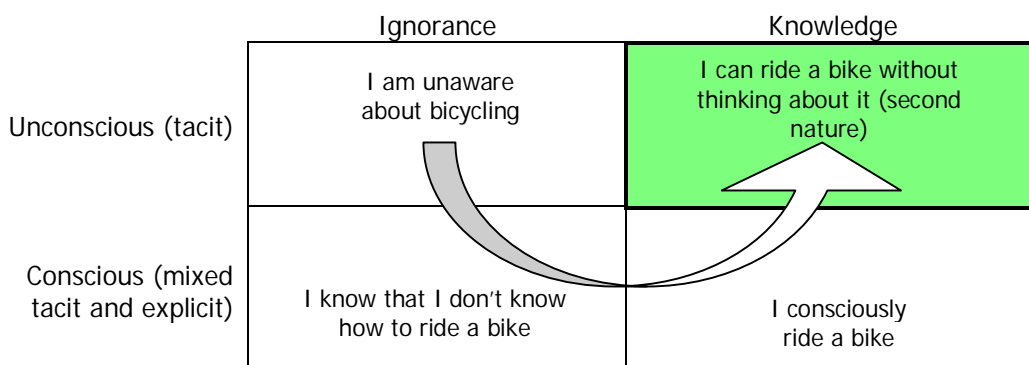


Figure 5: Tacit Knowledge, the Highest Stage of Knowledge

Ask yourself: “Approximately, what per cent of what you know have you written down?” Very likely your answer will be “much less than 50%,” unless you are an e-learning or textbook writer by profession.

In general, there exists much more tacit than explicit knowledge in an organization. Among the reasons are:

- Not all tacit knowledge is recognized as such, and not all recognized tacit knowledge is articulated or documented.
- Even given the willingness to articulate, many forms of tacit knowledge is difficult to articulate or document; ‘we know more than we can tell’ and ‘we can show-and-tell more than we can write’.
- People tend to hoard valuable tacit knowledge.

ICT can be used to assist face-to-face human interactions (e.g., video conferencing, document editing by a virtual group and other similar means of transferring or combining tacit knowledge) but ICT can process only explicit knowledge. What tend to be managed more are the visible and tangible knowledge objects, usually through ICT. KM can enhance advantages from ICT by paying attention to both tacit and explicit knowledge processes, optimizing both people-to-people and people-to-information inter-faces and ensuring the productive interplay of all these.

SOME PRACTICAL HINTS

- Tacit knowledge, once documented, can be more easily shared with many people.
- Storytelling and show-and-tell are also useful KM tools for tacit-to-tacit transfer of knowledge.
- Mentoring an understudy, coaching and peer assist are useful KM tools to transfer tacit knowledge that is difficult to document or articulate.
- You need KM if a business process is too dependent on only one employee, or if many of your senior or specialist employees are about to retire.

3.5 Organizational Learning

Ask yourself another question: "What per cent of what you know now came from your formal schooling?" The more years of experience you have, the more likely your answer will be "much less than 50%." In most cases, we gain much more knowledge from doing than from schooling.

We devote much personal time and money, and much public planning, resources and institutions for learning from schooling. But we do not devote as much for learning from doing. We should. The set of tools for planned and systematic learning from doing can be found in an area of practice closely related to KM, namely, *organizational learning*.

Stanford Professors Jeffrey Pfeffer and Robert Sutton noted that despite 1,700 business books published yearly (1996 data), US\$ 60 billion spent on training, an estimated US\$ 43 billion spent on management consultants, and 80,000 MBAs doing business studies, the changes in actual management practice is, correspondingly, disappointingly little.¹⁰ After four years of studying this "knowing-doing gap," they concluded:

"...one of the most important insights from our research is that knowledge that is actually implemented is much more likely to be acquired from learning by doing than from learning by reading, listening or even thinking."

In other words, the *acquisition of knowledge* must take place as close as possible to the work context where *application of that knowledge* is intended.

SOME PRACTICAL HINTS

- Mentoring in workplace application of KM tools has advantages over classroom training in KM
- Short "lessons-learned meetings" (LLM) after any activity can capture what was learned from doing, which would otherwise fail to be recognized, be forgotten or lead to a repetition of mistakes

¹⁰ This is the finding of a four-year study reported in their book by Jeffrey Pfeffer and Robert I. Sutton: "The Knowing-Doing Gap: How Smart Companies Turn Knowledge into Action," Harvard Business School Press, 1999.

Yet another reason why organizational learning is essential is the finding from a Royal Dutch Shell study that the average lifetime of Fortune 500 corporations is 40-50 years. Long-lived corporations, the study found, have the following common characteristics:¹¹

- Ability to sense, learn and adapt to changes in the environment;
- Cohesiveness, strong sense of identity, sense of belonging;
- Avoids centralized control, tolerant of eccentricities and experimentations;
- Financially conservative, avoids debts or careful about borrowing.

According to Peter Senge – the guru of organizational learning – the study showed that *“most corporations die prematurely – the vast majority before their fiftieth birthday – ...from learning disabilities.”*

Organizational learning requires capacities for recognizing useful tacit knowledge in individuals and converting them into group explicit knowledge (Arrow 1 in Figure 6) for storage in and easy retrieval from a knowledge repository, which can be a simple operations manual or an organization-wide intranet. Examples of KM tools for this conversion are mind mapping, causal flow diagramming, and lessons-learned meeting or session (LLM or LLS). The Malampaya MMT case study illustrates how LLMs are used to capture and codify institutional memory among members of high-turnover teams.

These knowledge repositories residing in company intranets accumulate the growing learning, innovation and knowledge of the organization, and make it widely available for users across the entire organization; in effect, they serve as the ‘organizational brain’. As more users practice what they access from the intranet, group explicit knowledge is converted into their own individual tacit knowledge (Arrow 1 in reverse).

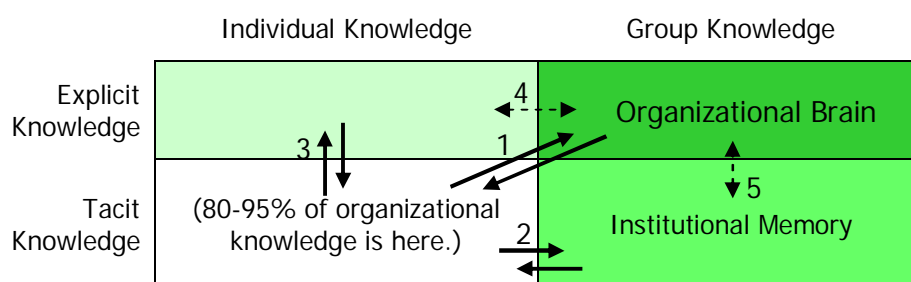


Figure 6: Knowledge Transfer and Conversion Processes within a Learning Organization

Converting useful tacit knowledge into explicit form that is accessible and re-usable by more knowledge workers in the organization is illustrated by the following case studies: (a) Retrospect, Unilever Indonesia’s way of capturing tacit knowledge gained from projects, (b) documenting of innovations by Wika in Indonesia, (c) manualization of work processes into a Learning-Oriented Systems Manual and Lessons Learned Meeting to capture tacit knowledge of staff by Malampaya MMT in the Philippines, (d) the Dynamic Workspace by JTC Corporation of Singapore, and (e) the Three-Tier Knowledge Process of SK Energy in Korea. In the tacit-to-explicit conversion processes of the last two examples, there is systematic attention to screening, validation, refinement or improvement to generate high-value knowledge.

Tacit knowledge can be cross-validated, combined or synergized, and shared or multiplied among members of a community of practice or CoP, or transferred through storytelling, mentoring or coaching (Arrow 2); and when the receivers practice what they hear or read, it becomes their own

¹¹ Arie de Geus: *The Living Company, Habits for Survival in a Turbulent Business Environment*. Harvard Business School Press, 1997.

tacit knowledge (Arrow 2 in reverse). Group tacit knowledge can be codified and stored in the corporate knowledge repository (Arrow 5). This learning process among CoPs is illustrated by the KM model in the SK Energy case study, 'Leisure Talk' or story telling in Bank Indonesia, the Patent Expo of Samsung Advanced Institute of Technology in Korea, and the CoPs for continuous clinical quality improvement in Siriraj Hospital in Thailand.

Documentation of good or best practices, blogging, drawing a chart or mind map, manualization and knowledge transfer from retiring staff are KM tools to convert individual tacit knowledge into individual explicit knowledge (Arrow 3), which can then be easily shared, contributed to or copied from the 'organizational brain' (Arrow 4).

When readers of a manual or best practice document practice what they read, it becomes part of their tacit knowledge (Arrow 3 in reverse). There are group processes which capture enculturated tacit knowledge in a group and convert them into explicit group knowledge; some of these processes are: documentation of a business process, group formulation of their organization's SWOT table, visioning exercise and wiki-style writing of the history of an organization (Arrow 5). In addition to these internal knowledge flows, there are knowledge flows to and from outside the organization.

Organizational learning is a long journey that requires individual members to grow in awareness and self-responsibility as learners. It requires teams to learn to collaborate effectively by learning how to suspend judgement to truly listen and engage in generative dialogue; to surface much that are normally left unsaid so that the group can together examine hitherto implicit assumptions, blindfolds and mindsets; and to decide together using explicit rules and protocols of thinking. It also requires systemic changes in the way individual tacit knowledge is screened, validated and converted to group explicit knowledge – the "organizational brain" – to be made available to more users to learn and practice, and to create value for the organization as well as to be multiplied into individual tacit knowledge among more members. Managing these behavioral and organizational processes is perhaps more akin to a gardener nurturing a living plant (Theory O) than to a mechanic trying to fix a machine (Theory E).¹²

SOME PRACTICAL HINTS

- Official support or sponsorship and personal example from top leaders are essential.
- Mistakes are OK if they are used as learning opportunities; repeating mistakes is not OK.
- Make it a habit to document learning and what works.
- Incorporate knowledge sharing and other desirable behaviors in the performance appraisal system, in job descriptions and in employment or consultancy contracts.
- Unlearning requires the skill of recognizing and revising your own limiting assumptions or mental models.

3.6 Motivating Knowledge Workers

A knowledge worker may know how to do a job well, and he may be provided adequate inputs, support systems and enablers, but is he willing to do the job? Does he want to perform well or better? An intranet may have the latest functionalities for knowledge sharing, but these do not guarantee that the knowledge worker will begin sharing. Many answers to the question "What helps me do my job well?" fall along Group 4 (see Section 3.3 above). Successful KM is not only about

¹² Michael Beer and Nitin Nohria: Breaking the Code of Change. Harvard Business School Press, 2000.

information and knowledge ('head' and 'hands'), but it is also about presence of many internal and external motivating factors ('heart' and 'guts'). By paying attention to Group 4 variables, the KM practitioner may be able to reduce the many human and systemic unknowns in the practice of KM and increase the predictability of KM interventions.

Many examples of awards and recognition are discussed in the case studies: (a) 'champions' in Module Teams and 'knowledge owners' in SCG Paper in Thailand, (b) 'begawans' or senior experts in Bank Indonesia and Wika, (c) 'Knowledge Activist' award in JTC Corporation in Singapore, and (d) 'Enterprise Award' in Unilever Indonesia. Samsung Advanced Institute of Technology's Praise Ground is a notable example of publicly-announced peer-to-peer recognition (see last chapter on Concluding Observations).

SOME PRACTICAL HINTS

- Here is a checklist of motivational factors to harness:
 - Personal talents, interests and ambitions
 - Sense of ownership, or officially designated ownership over a process
 - Moral support and recognition from superiors, peers and family
 - Incentives, awards and titles of honor
 - Teamwork in a group and morale in the organization
 - Quality of leadership
 - Policies and physical environments that encourage openness, interaction, taking responsibility, collaboration and innovation.

4. Knowledge-Based Development

National promotion of KM, organizational learning, management of intangible assets and similar genre of approaches and tools are greatly facilitated if the government and important institutional KM champions have formally recognized the value of a knowledge-based economy (KBE) and society, or a knowledge-based development (KBD).

The adoption by the government of a national strategy or plan for a KBE or KBD is an indicator of this recognition. In Asia, some examples are as follows:

- e-Korea Vision 2006
- Malaysia's KBE Master Plan (2002)
- Thailand's IT 2010 (2001)
- Singapore 21 (1997), ICT 21 Master Plan (2000)
- India Vision 2020 (2002)
- e-Japan Strategy (2001)

The World Bank introduced the Knowledge-Based Economy or KBE model and identified its "four pillars:" (a) education for a skilled workforce; (b) science and technology, and innovation; (c) ICT infrastructure and (d) policy and regulatory environment. The first three have been found to significantly influence national factor productivities.¹³ The similarities between the KBE pillars at the national level and the components of intellectual capital at the organizational level are noticeable. The World Bank also developed a Knowledge Assessment Methodology (KAM) consisting of national indicators along each of the four pillars.¹⁴

In practice, many Asian governments' KBE strategies also encompass social and developmental goals:

¹³ Derek H. C. Chen and Carl J. Dahlman: Knowledge and Development, a Cross-Section Approach. World Bank Policy Research Working Paper 3366, August 2004.

¹⁴ Derek H. C. Chen and Carl J. Dahlman: The Knowledge Economy, the KAM Methodology and World Bank Operations. World Bank, 2005.

- e-Korea Vision 2006 aims to *"...focus on qualitative accomplishments...throughout society rather than quantitative expansion of the Internet."*
- Thailand's IT2010 refers to a *"Knowledge-Based Society and Economy (KBE/KBS)"* where *"development is... not on focusing on 'technology' per se, but rather, on the good use of ICT that would drive overall national economic and social development."*
- The goal of e-Japan is to create a *"knowledge-emergent society."*

Accordingly, the Asian Development Bank expanded the KBE concept into "knowledge-based development" or KBD, where the three categories of intellectual capital are applied to the three value domains of sustainable development: economy, society and natural environment.¹⁵ The development of the three categories of intellectual capital can be reframed for application at the national level as follows:

1. Education and training (development of human capital);
2. Innovation (development of structural capital): R&D or development of technology whether hardware, software, wetware¹⁶ or humanware¹⁷, and the establishment of supportive new policy and regulatory regimes;
3. Building physical and human networks (development of stakeholder capital and social capital): ubiquitous networks and communities of practice.

Other factors facilitate the national promotion of KM: institutional and individual KM champions; a government-supported KM promotion, R&D and training institution such as the KM Institute in Thailand; KM and IT service providers; and the presence of professional associations in KM such as iKMS in Singapore and KMAP in the Philippines. The APO through the National Productivity Organizations does play a leading role in promoting KM, such as in Vietnam, the Philippines and Malaysia.

The running of MAKE-Indonesia was found to greatly stimulate awareness and appreciation of KM in Indonesia. MAKE or Most Admired Knowledge Enterprise is a well-known global award scheme for recognizing organizations who are the best practitioners of KM and intellectual capital management. It is run by Teleos, a UK-based company.

SOME PRACTICAL HINTS

- **National promotion of KM is facilitated by:**
 - A formal government strategy or roadmap towards a knowledge-based economy (KBE) or knowledge-based development (KBD)
 - KM champions, both personal and institutional, e.g. NPOs, KM professional associations, KM/IT service providers
 - An award program for best KM practitioner organizations

5. Overview of this Book

After this overview chapter, the next chapters are case studies. The latter chapters are national surveys¹⁸ on the status of KM in nine APO member countries. The last chapter makes concluding observations and some indicative directions or recommendations on what are the next steps NPOs and the APO Secretariat may take for the further development of KM in APO member countries.

¹⁵ Moving Toward Knowledge-Based Economies: Asian Experiences. ADB, 2007.

¹⁶ Biotechnology can be called "wetware."

¹⁷ The range of behavioral, institutional and social technologies can be labeled "humanware."

¹⁸ By "survey" is meant a broad scan and review of what has been happening in KM in an APO member-country, which may or may not include the administration and analysis of a survey questionnaire.

Some interesting or unique features in the case studies are noteworthy:

| Case Study | Interesting or Unique KM Approaches or Solutions |
|--|---|
| Dabbawalas (India) | <ul style="list-style-type: none"> • Non-technical but precise (Six Sigma certified) business process • Informal but effective KM among 5,000+ illiterate <i>dabbawalas</i> |
| Airtel (India) | <ul style="list-style-type: none"> • Procedures and templates for best practice sharing, knowledge sharing sessions (KSS) between source and replicator, best practice approval and best practice replication • Best practice replication funnel • Incentive scheme: the Knowledge Dollar (K\$) and Joint President's and CEO's Knowledge Management Awards |
| Infosys (India) | <ul style="list-style-type: none"> • Broad range of IT-based KM solutions and tools • Multi-dimensional corporate knowledge taxonomy • KM integrated into corporate information systems |
| Bank Indonesia (Indonesia) | <ul style="list-style-type: none"> • IMOVATION: competition in innovations to business processes • Leisure Talk: informal, relaxed discussions and storytelling within CoP framework • Begawanship: system where retiring senior experts share their skills • Dr. Know: functionality whereby any employee can ask a question |
| Unilever (Indonesia) | <ul style="list-style-type: none"> • Senior managers as coaches • Retrospect: retrieving tacit knowledge from projects and disseminating them in the Knowledge Club website • 3C's: listening to consumers, customers and community for product improvement insights • Various CoPs: K-Club shows (business sharing), GLAD (group learning and development), Book Club, SOLAR (sharing of learning and discussions), video café session, Cinemania • Internal expertise locator • Enterprise award: for innovative ideas that are tested or implemented |
| Wika (Indonesia) | <ul style="list-style-type: none"> • Wika Scorecard: modified Balanced Scorecard • Various awards: Innovation award, Adi Komersial Award (contributing to the company's incremental profits), Knowledge Award (for knowledge sharing), Inspirator Award (for making an inspiring breakthrough) • Managing tacit knowledge by: cMc program (coaching, mentoring, counseling), Begawans (well-seasoned executives or staff), externalization (documenting innovations), sharing sessions |
| Samsung Advanced Institute of Technology (Korea) | <ul style="list-style-type: none"> • Integration of KM with Six Sigma applied to work processes • Over 140 CoPs: internal, across Samsung Group, and with outside • Patent Expo: cross-disciplinary synergy of expertise to improve R&D ideas • Cyber Research Center • Praise Ground: informal recognition of valued KM behaviors |
| SK Energy (Korea) | <ul style="list-style-type: none"> • Three-Tier Knowledge Process: filtering and refining of tacit knowledge and experiences into proven "solution packs" or Core Knowledge Packages for operational excellence or new business creation • Working Room (first Tier): physical as well as virtual space where CoP members can propose, discuss and screen initial ideas |
| Bank Negara Malaysia (Malaysia) | <ul style="list-style-type: none"> • Corporate knowledge taxonomy • Redesigning office spaces to encourage interaction • KM Fair |

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| Tun Abdul Razak Library, UiTM (Malaysia) | <ul style="list-style-type: none"> • KM Roadmap: aligning KM to organizational strategy, KM audit, KM Team, design of KM system, implementation and measurements • Managing change, culture and reward structures |
| Department of Health (Philippines) | <ul style="list-style-type: none"> • Harnessing potential in-house KM champions into a KM Team • Measures to develop "buy-in" across a big organization • Demand-driven KM audit • Development of web-based KM toolkits for productivity by the KM Team: 'Learning KM by doing KM' |
| Malampaya Multipartite Monitoring Team (Philippines) | <ul style="list-style-type: none"> • K-Loop: development of a Learning-Oriented Systems Manual • Team learning processes: intrapersonal learning and interpersonal learning tools • Lessons-learned meeting to capture tacit knowledge of staff in a high-turnover organization |
| Philippine TQM Foundation (Philippines) | <ul style="list-style-type: none"> • Knowledge-sharing mechanisms across small and medium-scale industries (SMEs): documentation of best practices, manualization of procedures, training, knowledge-sharing website, development of local certification system • KM assessment of SME members |
| Qian Hu (Singapore) | <ul style="list-style-type: none"> • Variety of communication platforms: among employees, and with customers, suppliers and investors • Enabling HRM practices: employee involvement, teamwork and intrapreneurship, awards • CoPs for R&D |
| JTC Corporation (Singapore) | <ul style="list-style-type: none"> • Corporate-wide taxonomy and metadatabase • Common contribution template to standardize knowledge capturing • CoPs and online forums for specific issues • Various 'Knowledge Activist' awards • Dynamic Workspace: thematic repository of lessons and knowledge generated from previous projects, communication medium among staff experienced or performing similar projects, 'Knowledge Discovery Points' to focus attention on areas where further learning is needed |
| Sunon (Taiwan) | <ul style="list-style-type: none"> • Product Data Management: KM for managing R&D covering project document management, better patent and other knowledge search • Apprenticeship and mentoring • e-Learning |
| CAPCO (Taiwan) | <ul style="list-style-type: none"> • Initiation through a KM Promotions Committee • PTA Knowledge Hall, followed by Share Knowledge Portal • Multimedia Cyber College: e-learning program • Promoting KM through: Business Unit Performance Review Meeting, Certification Program and Motion Award |
| ASE (Taiwan) | <ul style="list-style-type: none"> • KM Center • Instructive history of evolutionary growth of KM: policy, systems, organization, and people |
| SCG Paper (Thailand) | <ul style="list-style-type: none"> • Training modules and corresponding 'knowledge owners' in eleven knowledge areas across four key business processes • PPB Knowledge System: intranet for knowledge repository and sharing, KM working groups, module teams, champions and mentors in module teams, CoPs • Technology management thru Technology Roadmap, R&D program, and Intellectual Property Center |

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| Siriraj Hospital (Thailand) | <ul style="list-style-type: none"> • CoPs for continuous clinical quality improvement: best practice identification and sharing in patient care • KM Committee, Chief Knowledge Officer and CoP Roadmap • R2R program (routine-to-research): systematic research of daily work routines to generate quality improvement, best practices and innovations • IT support system |
| Techcombank (Vietnam) | <ul style="list-style-type: none"> • Integration of KM with other business excellence initiatives • Development and sharing of knowledge products |
| Goldsun (Vietnam) | <ul style="list-style-type: none"> • KM system design and plan aligned with business goals, and selection of three pilot projects based on priorities and feasibilities • Internal KM Team • Click-2-K (or click to knowledge): the internal knowledge portal |