

A1

WHAT IS KNOWLEDGE MANAGEMENT?

1. Fundamental changes are sweeping through the global economy.

Firstly, GDP of most national economies has been shifting towards the service sector – a knowledge-intensive sector. If the agricultural revolution about 30,000 years ago was the “first wave” and the industrial revolution about 300 years ago was the “second wave”, a “third wave” had started about 30 years ago – the Information or Knowledge Revolution.

Pope John Paul II captured the essence of these global changes succinctly:

“Whereas at one time the decisive factor of production was the land, and later capital, today the decisive factor is increasingly man himself, that is, his knowledge.”

Wars were won and lost through industrial power. The nature of conflict is itself changing. Although he was a military officer, former Philippine President Fidel V. Ramos sensed the changes when he said:

1 — The global economy is shifting from industry to services.

“The most important wars of the 21st century will be fought no longer on the physical battlefield, but in corporate boardrooms, laboratories, stock exchanges, classrooms, and shop floors.”

At the firm level, fundamental changes are also going on.

The Intangibles Research Project by New York University and Brookings Institute, as reported by Patrick H. Sullivan in “Value-Driven Intellectual Capital” (2000) found that since 1978, the assets of non-financial corporations had shifted towards intangibles:

Year	Tangibles : Intangibles Ratio
1978	80:20
1988	45:55
1998	30:70

In 1995, the market-to-book ratio of the 500 firms in the Standard and Poor index was 3.83 and in 1997, the ratio for Dow Jones index companies was 5.3. The ratio often exceeded 10 for Internet-based companies.

In 2000 in the Philippines, some market-to-book ratios were (note that ratios for companies selling knowledge-based services are bigger than those selling commodities):

Corporation	Market-to-book ratio
ABS-CBN	3.9
Globe Telecom	3.8
BPI	3.0
PLDT	2.5
Ayala Corp.	2.4
Jollibee Foods	1.8
San Miguel Corp.	1.6

S. L. Mintz writing at CFO Magazine (February 2000) summarized what is going on:

“Increasingly, intangible knowledge assets are dwarfing the value of tangible book assets at many companies.”

The emerging consensus is that the wealth of corporations consists more and more of intangible assets, namely knowledge assets. Conversely, what is seen and measured by traditional accounting (book value or tangible assets) is less and less of market value of corporations. However, market-to-book ratio must not be over-interpreted because market psychology, and at times stock market manipulation, is a big factor affecting market values.

2 — Intangible assets had exceeded tangible assets in many firms.

A rule-of-thumb is: once your market value exceeds twice your book value, you must seriously consider managing your knowledge assets. That this measurement and management gap is serious can be gathered from rather strong statements such as:

“For Internet companies, there is hardly any relationship at all between book value and market value. Accounting may perhaps be the world’s second oldest profession, but its survival may well be at stake, if this trend continues.”

— Claes Fornell, Donald Cook Professor of Business,
 University of Michigan

“The accounting system doesn’t capture anything, really.”

—Judy Lewent
 Chief Financial Officer, Merck

“...Coming out of the change in our economy from one that is industrial-based to one that is knowledge-based, where intellectual property, soft assets, and other intangibles increasingly make up the bulk of the asset

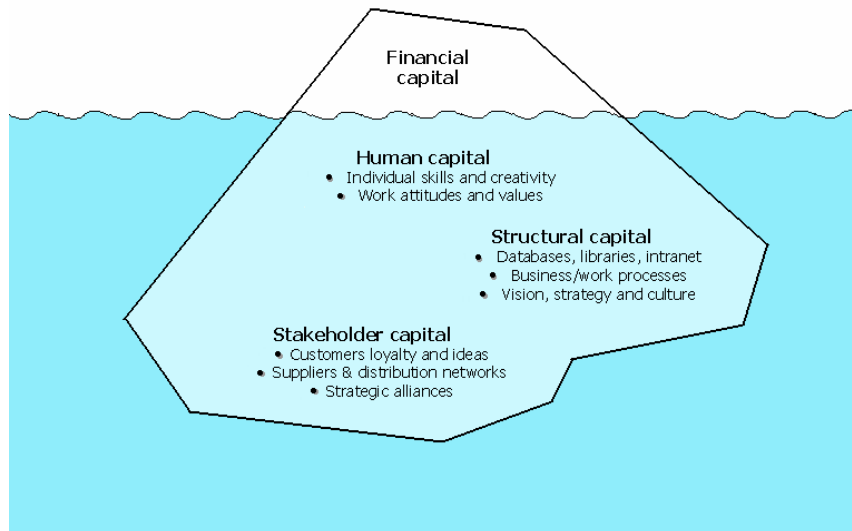
base for wealth production in our society... we must learn to better measure and account for these assets, and reflect that in the financial reports of corporations.”

— Commissioner Steven Wallman
US Securities and Exchange Commission

2. Definitions

The consensus among knowledge managers is that the intangible assets are largely knowledge assets or intellectual capital, which consists of three components (see figure below):

1. Human capital or the knowledge that leaves company premises at 6 o'clock in the evening.
2. Structural capital (sometimes called process capital or internal capital) or the knowledge that is left behind in company premises at 6 o'clock in the evening.
3. Stakeholder capital (sometimes called customer capital or external capital) or knowledge inherent in external business relationships. This component includes what accountants refer to as “goodwill” and “brand.”



The iceberg metaphor illustrates how most of the market value of a corporation is largely hidden from view. The hidden part consists of assets that knowledge management addresses. I call them 3 P's: **people, processes and partnerships/patrons**: corporate knowledge is embodied in people, embedded in processes and earned with partners and patrons.

Knowledge is not only the repository of corporate value, it is also essential in the process of creating value. Knowledge has indeed become the decisive factor of production. But note that the corporation owns only two components of market value: financial capital and only the explicit forms of structural capital. The corporation only “rents” human capital, and slowly “earns” stakeholder capital. Tacit forms of process capital inhere with the group of employees; they are lost when the employees leave or are regrouped.

3 — Knowledge is both repository and creator of value.

Because much of corporate knowledge is in people rather than in physical or financial assets, knowledge workers and how well managers treat them have become important in the knowledge economy.

Knowledge management (or KM) gurus define “knowledge” more precisely and narrowly than the common meaning of the word:

*“Knowledge is information **in action.**”*

— Carla O’Dell and C. Jackson Grayson, Jr.
— *in: If Only We Knew What We Know*

*“I define knowledge as a **capacity to act.**”*

— Karl-Erik Sveiby,
— *The New Organizational Wealth:*
— *Managing and Measuring Knowledge-Based Assets, 1997*

*“Justified belief that increases an entity’s **capacity for effective action.**”*

— Ikujiro Nonaka,
— *Organization Science 5(1):14-37 (1994)*

*“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 F. Drucker, *in: The New Realities*

In short, among KM practitioners, “knowledge” is information that is useful for effective action, producing results, or creating value¹.

¹ The Knowledge Management Association of the Philippines came up with an “elevator speech” on what is KM. An elevator speech is a short communication about something, so short you can convey a good grasp of that something to anyone while you are riding an elevator.

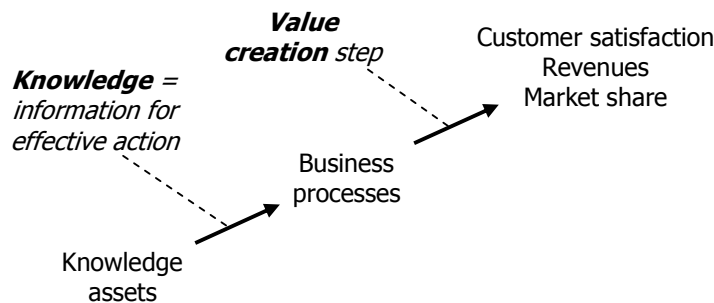
Here is the KMAP elevator speech telling you what KM is:

“In today’s global economy, knowledge is the basis of competitive advantage. KMAP is dedicated to the advocacy and practice of KM for the purpose of attaining that competitive edge for the Philippines.

“Knowledge enables effective action or is useful for producing results. Knowledge goes beyond data and information which technology has enabled to be stored and accessible to anyone.

Information and knowledge overlap but while information is “**know what**”, knowledge is “know how” or information is “what is”, while knowledge is “**what works.**”

The chart below shows how knowledge is useful for creating value. Knowledge, or information for effective action, is input to the business processes that create most value for a corporation. Critical knowledge assets or CKA are those assets crucial for performance of core or critical business processes. In fact, this chart summarizes how KM is linked to business results, or to desired organizational performance in the case of non-profit and government organizations.



Thus,

“Knowledge management is...

- *getting the right knowledge to the right people at the right time and*
- *helping people share and put information into action in ways that strive to improve organizational performance.”*

*— Carla O’Dell and C. Jackson Grayson, Jr.
in: If Only We Knew What We Know*

I also define knowledge management as **sourcing and deploying knowledge in a manner that creates most value** for an organization, individual or society.

4 — KM: deploying knowledge for maximum creation of value

3. The Tacit Dimension

I spoke of “**tacit**” forms of knowledge. Much know-how is tacit; they lie unexpressed, undocumented, and sometimes unrecognized and unappreciated, in people’s minds.

Knowledge has become so vast, pervasive and overwhelming; hence there is a need to harness the power of knowledge.

“Knowledge management is creating, acquiring, exchanging, sharing and applying knowledge for personal success, enterprise growth and community development.”

I have asked hundreds of listeners or students the following question; ask it also of yourself:

Imagine that everything you have ever written, including any available transcripts of what you have said, is placed in two big piles in a room, the first pile reflects your know-how or skills and the second pile is the remainder of the documents. What percent of your total knowledge is in the first pile?

Most likely your answer will be much less than 50%. In other words, much of your knowledge is tacit.

5a — Most knowledge is tacit...

That know-how is tacit does not mean it is unimportant or somehow unreal. No. Your tacit knowledge of riding a bicycle is real and effective although you cannot write it down as a manual (**explicit knowledge**) or tell me how you do it. In many things in work and life, we know more than we can tell, and we can tell more than we can write.

Because tacit knowledge is less visible, what often get managed are those that managers can more readily see, namely, explicit knowledge. In fact, herein lies the difference between knowledge management and information management:

5b — ...yet what gets managed more is explicit knowledge.

- Information management deals with information objects, and with people-to-information interface but KM deals with both people-to-information and people-to-people interfaces.
- KM attends to both explicit and tacit knowledge, while information management can handle only explicit knowledge.

Managing tacit knowledge is an exciting frontier. It is about tacit-to-tacit knowledge transfer, e.g. mentoring, storytelling and peer assist. It is also about developing new taxonomies, indicators and assessment tools. It includes capturing know-how in expert systems. It deals with social networks and informal knowledge exchange mechanisms in communities of practice. It is about how human and organizational learning take place. Among the authors in this exciting school of knowledge management are Ikujiro Nonaka, David Snowden, Etienne Wenger, Chris Argyris and Peter Senge.

The chart below summarizes the overlaps between KM, human capital management and information management.

Managers cannot manage what they cannot see. KM provides the framework to enable managers to better recognize what they may have hardly seen before: tacit knowledge. For instance, the KM framework led to a renewed appreciation of an

age-old method transferring high tacit content knowledge: mentoring or apprenticeship. For another instance, the age-old Japanese *iemoto* traditions led to an appreciation by Japanese corporate KM practitioners of the importance of “ba”

	Tacit Knowledge	Explicit Knowledge
Stakeholder Capital	Stakeholder/client “ba”, informal networks, external communities of practice	CRM system, e-Commerce network, external shared databases
Human Capital (scope of HRM System)	Mentoring/ apprenticeship	HRIS, e-learning and other HRD systems
Structural and Process Capital	Organizational learning, TQM culture, internal communities of practice	Library and database, hardware and software, documented processes

Scope of Information and Communication System

or that tacit quality of interpersonal space within a team, between a customer and a customer relations officer, etc. which facilitates knowledge sharing and knowledge creation – which some technology-oriented KM practitioners from the United States find great difficulty in grasping.

Iemotos are traditional Japanese schools for learning specific crafts (e.g. flower arrangement, calligraphy, kendo, pottery, etc.) where students live and learn from a master craftsman over many years via tacit methods of learning.

I earlier spoke of tacit forms of process capital. There could be informal but efficient work processes in a business, such as preparation of local condiments, which had been developed and perfected over time. They are informal or have not been manualized or formally standardized. Once a work team is regrouped or loses a member, the efficiency of the work process suffers – risks that are not formally recognized and addressed by managers who are not aware and appreciative of tacit knowledge. The knowledge that is embedded in the work processes and embodied in the team members are all tacit knowledge.

4. KM Tools

Like mentoring and apprenticeship, many tools that have long been practiced are also KM tools. Many are practicing KM without knowing or calling it so.

Listed below are some KM tools. Notice that many tools are not new; what is new is the KM framework. Notice too that KM tools can be classified into what Karl Erik Sveiby calls the “IT track” and the “people track” in KM.

Map of KM Tools

Stage in the Knowledge Cycle	Technically-oriented KM tools	Behaviorally-oriented KM tools
Internal and external sensing	Competitive intelligence, Market survey, Organizational diagnostics e.g. Organizational climate survey, KM system assessment	Customer complaints desk, Recognizing communities of practice
Creating, culturing and capturing	Traditional R&D, Documentation of tacit knowledge, Development of work templates, Codification of best practices, Data mining, Manualization	Organizational learning tools e.g. Team Learning and Lessons Learned Meeting, Mentoring and apprenticeship, Buddy system
Organizing, storing, accessing, sharing/transferring	Intranet and portal, Search engine and automated alert, Knowledgebase, e-Learning, Knowledge mapping, Knowledge network e.g. e-group and discussion list	Community of practice, Help desk, Peer assist program, Cross-visit, Storytelling
Facilitating, motivating, synergizing	Chief Knowledge Officer, Chief Learning Officer, Groupware, Incentive systems e.g. employee innovation program, Royalty, Purchase/licensing of IPR	Team Learning including Dialogue, Knowledge champion, Knowledge broker, Visioning exercise, Corporate symbol or logo, Process ownership, Portal ownership
Tracking/monitoring, measuring, evaluating, managing	Intellectual capital accounting e.g. Skandia method, Learning organization diagnostics, Project evaluation, Post-mortem, After-action report, KM system	Learning history, Process documentation
Using/reusing	Transfer of best practices, Employee performance support system e.g. CRM tools, Role-based portal, Use of process tools/templates	Action learning, Double-loop learning, Help desk, Peer assist program

The most important stage in the Knowledge Cycle is the last – use or re-use – because **creation of value**, production or benefit occurs at this stage. This is the stage that justifies, and can/does pay for, the other stages in the cycle. The requirements of this stage should drive the design and management of KM systems.

6 — Knowledge creates value at the point of use.

The other important stage is knowledge creation. New knowledge from this stage is essential for competing for market share in a stable market, for opening up new niches or for inventing novel business models that create completely new markets. A school of thought in KM views that managing knowledge that is already there should be done anyway by everyone, but what is more important is creating new knowledge. For example, transferring best practice is copying from or catching up with what existed while innovating “next practice” is creating what will become the “best” in the future.

7 — Best practice is for catching up. Next practice is for being ahead.

Creating new knowledge is a matter of corporate survival. A study by Royal Dutch/Shell of Fortune 500 corporations (reported by Arie de Geus in his book “The Living Company”) showed that –

- Their average life expectancy is 40-50 yrs
- One-third of 1970 companies were gone by 1983
- Four key attributes of long-lived companies:
 1. ability to learn/adapt
 2. cohesion and identity (corporate persona)
 3. tolerance of differences, eccentricities and experimentations; decentralized; open to other possibilities
 4. financially conservative.

Thus, Peter Senge’s (the guru of organizational learning, of “Fifth Discipline” fame) noted in his foreword to de Geus’ book:

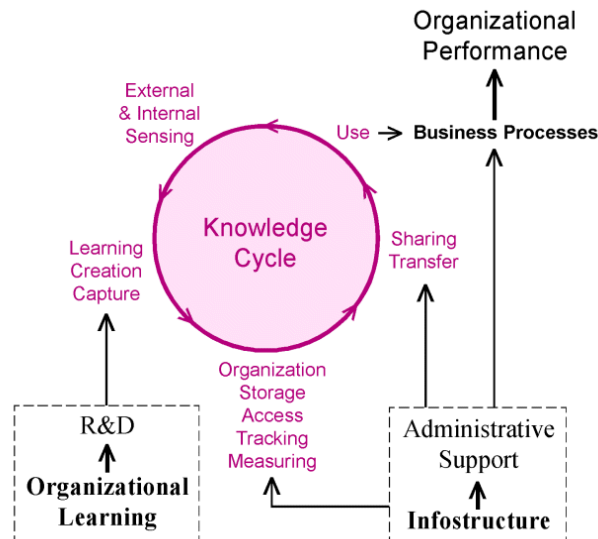
“... [many Fortune 500] corporations die prematurely — the vast majority before their 50th birthday... [due to] learning disabilities.”

8 — Corporations die from learning disabilities.

The other stages in the Knowledge Cycle are also important, but I must stress this point again: business results (in the private sector) or organizational performance mandates (in the government or civil society sectors) must always drive the management of the entire Knowledge Cycle. The core business process is the crucial point of use/reuse of knowledge. The chart below shows a way to visualize this.

5. Link between KM and Organizational Performance

The prerequisite to KM is that organizational goals or mandates are clear and unquestioned. The link between KM and organizational performance is through the business processes that create value for the organization:



From U.S. surveys of corporate KM practitioners, their most popular KM tools are exchange of best practices and use of an intranet or portal.

- When a business process is repetitive or is performed simultaneously by many teams, overall productivity does increase after best practices are shared and implemented among the rest. The impact on the bottom line is evident. If the business process is core then standardization of best practice is imperative. But beware: standardization is double-edged; if it is too rigid or improvisation/improvement is too bureaucratic, standardization becomes anti-learning.
- A knowledge worker performing a core business process should be provided the right information and knowledge at his or her fingertips right when he or she needs it. A role-based portal or a web-based employee performance support system could dramatically improve business performance. To show you why, answer the following question:

"In a typical work week, what percent of your work time do you use hunting for information needed for your work?"

The answers to this question range from about 20 to 40%. Let us assume the answers among a team performing a core business process average 25%. Then they are wasting 3 months in every year hunting for information! If this wastage can be

reduced by a customizable or role-based portal from 3 to 2 months, their productive work time will increase from 9 to 10 months (an 11% productivity increase) and a savings equal to their total one-month payroll will be realized! Such gains can be compared with the cost of acquiring or developing and implementing the portal, to assess the soundness of investing in this KM initiative. And we have not yet factored in the potential gains achieved from many-to-many sharing of knowledge that could take place whenever knowledge workers performing similar tasks are connected via an intranet.

The point is (below): provide the knowledge worker with customized and just-in-time information and knowledge.

	JUST-IN-CASE	JUST-IN-TIME
CUSTOMIZED	research reports, work templates, manuals	Role-based portal, filtered news
GENERAL	academic degree	Internet search engines

The general guideline is: knowledge acquisition must be as close as possible to knowledge application.

The link between KM and organizational performance may be as straightforward in the government and civil society or non-government sectors and in development financing sectors. Our experience at the Center is that the development financier's measure of "project success" may not be the same as those of the recipient rural or indigenous people's communities. We found that:

- a) Community development leaders generally view "success" as also including intrapersonal and interpersonal elements besides the usual economic, technical, institutional, environmental and other elements of success. The development financier may have success measures based on the sustainable development framework, but the recipient communities hold a broader and more reflective "sustainable living" framework.
- b) To more completely capture knowledge in community development, documenting best practice (or structural capital) must be accompanied by characterizing the skills, attitudes and a tacit component we call "sophia" of the best practitioner (human capital).
- c) The tacit component of best practitioners' development knowledge consists of skills (technical, business/financial, managerial/organizational and behavioral/cultural), attitudes and a surprising element we could not easily label. The latter is somehow related to personal values, worldview and charismatic wisdom. We chose a neutral word, "sophia".

Whether, and how, “sophia” can be taught is a practical question. A more practical approach is to identify, recruit or involve people (e.g. “knowledge champions”, “innovation leaders”, “knowledge networkers”) who already have this or similar personal ingredient relevant to a specific problem.

6. KM Stages

Many organizations start by deploying² common KM tools like intranet and exchange of best practices. This is common where the KM initiative is not organization-wide (it is only a “project”), not part of the company strategy or sponsorship originates below the CEO level. Most KM initiatives in the Philippines is at this stage.

At this **deployment stage**, the practical question facing an executive considering a KM project is: *What KM tool will result in maximum impact on our bottom line?* In other words, if knowledge is what works, then what will work best? I call “what works best” in any specific corporate context as “high octane” knowledge. And the smart process of arriving at these answers I call “precision KM.”

With executive sponsorship and with KM as part of the company strategy, an organization can enter the **integration stage**¹ in the use of KM. In the Philippines, I have seen only one Philippine corporation that has successfully reached this stage. Among the problems I observed accompanying the transition to this stage are: leveling off, common language and understanding, and acceptance of KM across operating units; presence of a senior executive responsible for KM; and integration of KM in performance monitoring and budget processes.

I have not come across a local organization that used KM to reinvent itself (**transformation stage**¹) although I have seen a number of small firms established on the basis of new knowledge, i.e. new technology, new business model or new niches. Indeed, enterprise innovation is more strategic than product or process innovation.

9 — Enterprise innovation is strategic KM.

7. The Business Case for KM

The business case for KM is best shown by the winners in the annual Global MAKE Award, or “Most Admired Knowledge Enterprises.” The winners and finalists of the 2003 Global MAKE earned in 1992-2002 an average of 19.6% Total Return to Investors which is 2.2 times greater than the Fortune 500 median. The

² Alex Goodall (Oxford & Boston Ltd., Oxford, UK) defines three stages in the corporate KM maturity model: deployment stage, integration stage and transformation stage. In the last stage is, “rather than using KM to make processes more efficient, using KM to help find completely different things to do; using KM to help transform the individual; looking for quantum changes rather than incremental changes.”

2003 winners were: Accenture, Amazon.com, British Petroleum, Buckman Laboratories, Canon, Ernst & Young, General Electric, Hewlett-Packard, Infosys Technologies, IBM, McKinsey, Microsoft, Nokia, Pricewaterhouse Coopers, Royal Dutch/Shell, Siemens, 3M, Toyota Motors, World Bank and Xerox.

To excel in the knowledge economy, KM is therefore essential.

Acknowledgement:

I am grateful to the helpful comments from fellow KM practitioners for improving this chapter:

- Alex Goodall, Oxford & Boston Ltd, Oxford, UK
- Michael Heaney, Benchwhistler Associates Ltd., Aberdeen, UK
- Richard Granger, Cambridge, UK
- Akhil Shahani, Ajax Knowledge Systems, Mumbai, India
- Yoel Raban, Interdisciplinary Center for Technology Analysis & Forecasting, Tel Aviv, Israel
- Herwig Rollett, Know-Center, Graz, Austria
- Michael Beddows, Catalyst Dynamics Corp., Toronto, Canada
- Katrina Delargy, Aventura, Chester, UK and Northern Ireland