Knowledge creation has been widely recognised to be strategically important for organisational learning and innovation. Nonaka and Takeuchi’s book *The Knowledge Creating Company* crystallised the intricacy of knowledge creation and its importance in the organisation’s long-term success and survival. However, the lack of empirical work in this area has limited our understanding of this important phenomenon. Previous studies have focused on limited aspects of the overall knowledge creation process, such as inter-organisational knowledge transfer, knowledge flows within the firms and the interplay of tacit and explicit knowledge. As a result, our understanding of knowledge creation is limited to certain micro-level aspects, rather than understanding the process in its entirety.

Our study is a comprehensive analysis of the knowledge creation chain, incorporating both environmental and organisational factors that play a role in the overall process.

The hallmark of our research is that we present and test a comprehensive beginning-to-end model of knowledge creation. Specifically, our model examines five important dimensions of the knowledge creation and application process:

- acquisition of information and knowledge from networks of interaction;
- integration of external and internal knowledge;
- creation of new knowledge from the application of information and knowledge to problem solving;
- impact of new knowledge on firm innovation and performance; and
- role of specific individual and organisation factors play in the overall process.

Our results reveal what is important for effective knowledge creation in organisations. Specifically, we show that:

- formal networking is not as important as informal networking as a source of information acquisition for organisations;
- know-how is not acquired directly but synthesised from the acquisition of information;
- know-how synthesis is strongly determined by the ability of the individual employee to absorb new knowledge and the incentives and systems of the firm that encourage knowledge acquisition;
- this know-how contributes to the performance of the firm through the level of creativity in problem solving which, in combination with comprehensiveness and consensus, is the key contributing factor to the level of new knowledge created by the firm; and
- new knowledge impacts directly on firm innovative output, which, in turn, is a positive influence on financial performance.

(continued on page 4)
Asian companies still lag behind in KM

The winners of the Fourth Annual Most Admired Knowledge Enterprises (MAKE) study, recognising world-class efforts in managing knowledge that leads to superior performance, ranked in order, are:

1. General Electric
2. Hewlett-Packard
3. Buckman Laboratories
4. World Bank
5. Microsoft
6. BP
7. Siemens
8. Skandia
10. Cisco Systems
11. Andersen
12. Ernst & Young
13. KPMG
14. Xerox
15. International Business Machines
16. Accenture
17. Clarica Life Insurance
18. Royal Dutch/Shell
19. Sony
20. Schlumberger

The survey leading to the MAKE awards is conducted by Teleos in association with The KNOW Network, a Web-based network of leading knowledge organisations dedicated to the identification and exchange of best practice knowledge processes.

To select the Most Admired Knowledge Enterprises, senior executives at Fortune Global 500 companies and chief knowledge officers were asked to nominate companies and rank them against eight key drivers of outstanding performance. A total of 102 organisations received at least one nomination in the 2001 MAKE study. Of this total, 37 enterprises received nominations from at least 10% of the respondents and were selected as MAKE finalists. The top 20 finalists are 2001 MAKE Award Winners.

General Electric gained top UK honours in this year's international MAKE study. GE was recognised for its leadership role in five knowledge performance dimensions, including top rankings in the "Success in Establishing an Enterprise Knowledge Culture" and "Success in Establishing a Culture of Continuous Learning" categories.

Rory Chase, Managing Director of Teleos, states: "Organisations are becoming increasingly aware that managing knowledge is the key differentiator when competing in today's global markets. The 2001 MAKE Award Winners are recognised as leaders in the race to deliver customer-focused, knowledge-based goods and services."

Keen readers of KMAP will note that a similar study conducted in Japan recently put Fuji Xerox at the top of the Japanese KM hill. So why did another Japanese company, Sony, make the top 20 and not Fuji Xerox in the international study?

"Fuji Xerox was a 2001 MAKE finalist, but its composite score was slightly lower than Sony's. Only the top 20 MAKE finalists received 2001 MAKE Awards – Fuji Xerox just missed out," explains Chase.

"The 2000 MAKE Japan study was conducted by Japanese senior executives and KM practitioners whereas the 2001 international MAKE study was conducted by Global Fortune 500 senior executives and international KM practitioners. Also, in the international MAKE study, companies must be seen to be global KM companies, not regional ones - most of Fuji Xerox's activities are based in the Asia-Pacific region," Chase adds.

As to why there was only one Asian company present in the top 20, Mr. Chase responds: "At present there is a significant gap in the understanding and maturity of KM between Asian companies and those in the US and Europe. This is mainly due to the fact that American and European companies have had KM strategies and initiatives in place for almost 10 years, while Asian companies have only two or three years of experience."

"American and European companies have gone through the KM learning curve and are now transferring best knowledge practices across organisations. Asian companies are still attempting to understand the concept of KM, and most of their initiatives have not been going long enough to show the return on investment."

However, Chase does believe that Asian KM is emerging, and has observed this in several Japanese firms, but warns: "Like American companies in the early 1990s, these Japanese companies have been working on IT-based KM projects. They are just beginning to realise that KM is more than IT - it is actually about transforming organisational cultures to emphasise the value of intellectual capital and the knowledge in people's heads."

"It is my opinion that Asian companies will begin to close the 'KM gap' with American and European companies over the next couple of years. I have been most impressed by the dedication and learning culture in most Asian companies, and I think that Asian companies are now in a position to avoid many of the mistakes made early on by Western companies. In doing so, I believe that they will move quickly up the KM curve - it is quite possible that Asian companies will be able to catch up with Western companies within the next five years." KM

For more information on the MAKE awards, visit www.knowledgebusiness.com
New handbook hopes to handle KM confusion

Standards Australia International has released a 68-page handbook entitled Knowledge Management – A Framework for Succeeding in the Knowledge Era (The Framework). It outlines the elements of knowledge management and how to apply them in an organisation. The handbook is also designed to reduce confusion about KM, instill confidence in the value of the field and to assist organisations in its implementation.

John Rimmer, CEO of Australia’s National Office of the Information Economy (NOIE), officially launched the handbook. He said: “Effective knowledge management is of increasing importance for both the Australian and the global economy. There is a fundamental shift occurring in the world economy, with an increasing importance of knowledge intensive services sectors.

Rimmer claimed that the application of the concepts and principles behind the new handbook can assist companies in facing the challenge of the information economy. “The Framework provides a roadmap for organisations to follow, which will assist them in succeeding in the information economy. I commend Standards Australia on The Framework. We are intending to make use of it in NOIE and look forward to seeing its application throughout Australian organisations.”

Standards Australia’s project manager responsible for developing the framework, Tim Kannegieter, said: “With hundreds of organisations around the world putting forward knowledge management strategies, it is easy for the novice KM practitioner to become confused. Which approach to knowledge management should they choose and how can they have confidence they are heading in the right direction?”

He claimed that these issues were addressed by The Framework.

Launch of the Hong Kong Knowledge Management Society

“Knowledge is where the money is,” said Les Hales, director of Gartner Group, succinctly describing the importance of knowledge management in the modern economy.

On June 7, Hales and Regina Yuet Fai Yu, Director of Knowledge Management at Pricewaterhouse-Coopers, officially launched the non-profit Hong Kong Knowledge Management Society (HKKMS) with Waltraut Ritter.

“The service sector already makes up a higher proportion of Hong Kong’s GDP than any other economy in Asia and a significant segment of its population are knowledge workers employed in information-intensive businesses. KM adds to this by strengthening companies’ ability to innovate, respond and compete through sharing and leveraging people’s knowledge and expertise,” said Ritter.

“KM [strengthens] companies’ ability to innovate, respond and compete...”

As a result, the HKKMS has set itself a number of goals and objectives such as:

- increasing awareness of KM’s importance among Hong Kong companies and organisations;
- raising KM standards in Hong Kong by recognising and documenting successful practice;
- expanding the pool of KM expertise available in Hong Kong;
- tracking developments in the KM field and communicating them to members;
- serving as a repository of information about KM; and
- voicing the collective views of the KM profession on pertinent public issues.

Intellectual capital is the most important means of production in the 21st Century,” commented Hales. “Enterprises should develop formal processes or enabling technologies around this key resource.”

According to Ritter, the HKKMS plans to hold regular meetings to discuss KM issues and organise conferences open to Hong Kong’s community at large. The HKKMS will actively build links and share resources with KM-related organisations in both Hong Kong and overseas, says Ritter.

Membership of the HKKMS is open to both individuals and companies. An individual membership to the HKKMS with be HK$1,200. Individual corporate and corporate memberships will be HK$2,000 and HK$5,000 respectively, according to the society. The HKKMS states that its founders comprise more than 120 individuals and corporate members, including Cathay Pacific, KPMG and Xerox.

JULY 2001
Show me the money
(continued from page 1)

Our research is relevant to managers interested in leveraging the knowledge of their organisations to improve innovative output and financial performance. Not only does it provide solid information against which to benchmark a firm’s performance, it also guides managers toward the key factors that affect the process of knowledge creation and innovation. Our findings suggest that managers must pay careful attention to:

- cultivating opportunities for inter-firm and intra-firm informal networking;
- encouraging absorptive capacity amongst employees (and providing supporting policies and procedures); and
- sustaining high levels of creativity in organisational problem solving as a means of generating new knowledge. As one of the first studies to examine the knowledge creation process empirically, we have lifted the lid off the black-box of knowledge management.

A model of knowledge creation in organisations

Knowledge is being acknowledged as a strategic asset and a source of competitive advantage. As goods and services become more sophisticated in content and production, the foundation of competition becomes intensively knowledge based, with the focus on developing valuable and hard-to-imitate knowledge that yields sustainable competitive advantage. With the development of information technologies, the networked form of organisation and the need for innovation, the main concern is on the generation, management and utilisation of knowledge in such a way that produces long-term advantages. Despite its importance, knowledge management in organisations has remained a black-box for both scholars and practitioners.

The focus of our work is the process of creating new knowledge in organisations, an area that has received little attention in empirical research. Although scholars have written about knowledge as a subject, from the perspective of a wide range of disciplines, there has yet to be any theory of knowledge developed. In their book *The Knowledge-Creating Company*, Nonaka and Takeuchi argued that "even though many of the new management theories since the mid-1980s have pointed to the importance of knowledge to society and organisations in the coming era, there are very few studies on how knowledge is created within and between business organisations."

In formulating and executing the current research, our objective was to present a comprehensive theoretical and empirical investigation of organisational knowledge creation and its impact on firm performance. The basic model is presented in Figure 1.

In the most simplistic terms, the model looks at innovative and financial performance as the outcomes associated with the learning and knowledge that flows from decision-making processes, which themselves are aided by information and know-how that is absorbed by the firm and its employees through its internal and external networks.

All of this occurs with an informational and industry environment.

Who was studied?

A questionnaire survey was developed to test the validity of the model presented in Figure 1. The survey was sent to 2,137 organisations (addressed to the CEO or managing director) in 17 industries. The industries included in the study are listed in Figure 2. Attention was given to ensuring that we targeted industries where issues of information and knowledge transfer, knowledge creation and innovation were important and relevant. Specifically, the study targeted industries facing dynamic and competitive environments and, hence, the need for continuous knowledge creation and learning. 345 executives responded to the questionnaire survey (yielding a 16% response rate). After eliminating 28 surveys due to large proportions of missing data, the final number of observations used in the analysis totaled 317. The distribution of responses by industry and the response rate within each industry are given in Figure 2. The responses were fairly evenly distributed across manufacturing (44%) and service (56%) industries, as well as across the 17 industry sub-groups included in the survey. Figure 2 also indicates that each of the 17 industries included in the sample population is represented in the final set of responses, with response rates ranging from 5% to 16%.

The bottom line

The statistical analysis provides strong confirmation for the model presented in Figure 1. The general findings are that information is...
sourced from internal and external networks and converted into know-how that is acted upon by decision makers in their daily activities. This leads to new knowledge which increases innovative output and, hence, performance.

The specific managerial insights emerging from the results are as follows.

Both formal and informal networks are important sources of information. The 20% of firms with the broadest and deepest formal networks were 40% higher in information acquisition than the bottom 20% of firms. However, the 20% of firms with the broadest and deepest informal networks were 50% higher in information acquisition than the bottom 20% of firms.

This latter point and more sophisticated analysis indicate that the informal network is somewhat more critical to information and know-how acquisition than the formal network. This supports the theories of many social network scholars that the informal network represents a rich pool of resources into which individuals and organisations can tap. It also implies that firms attempting to utilise formal systems as their primary means of managing knowledge are likely to fail.

Know-how is not acquired directly from the network, but indirectly via information acquisition. This leads to two interesting potential conclusions. First, firms do not acquire knowledge externally. They acquire information. Second, formal systems that focus on knowledge acquisition are doomed to fail since they are attempting to acquire the unachievable. Hence, firms may be better off setting their sights lower when they talk about knowledge acquisition; i.e. they should stick to distinguishing between formal information systems and informal know-how systems.

The propensity for information and know-how acquisition is augmented by both individual and organisational absorptive capacity. That is, the more individuals engage in information seeking, storing and sharing, and investments in knowledge development, the more likely they are to absorb information and know-how from their network of interactions. The top 20% of individuals acquire approximately 20% to 30% more information and know-how and convert this into new knowledge. Similarly, firms with the better incentives for absorbing information and know-how show consistently larger amounts of information, know-how and new knowledge acquired and created.

Knowledge acquired through network interaction influences the effectiveness of the organisation’s internal processes. Specifically, the level of know-how acquisition directly affects the level of creativity in problem solving. More formal analysis shows that knowledge impacts creativity in problem solving, which is a quality measure, and not comprehensiveness, which is a quantity measure.

Effective problem solving processes (i.e. where creative solutions are devised and organisational members are committed towards their implementation) contributes to new knowledge creation, in terms of improved productivity, new ways of doing things, new ideas, new ways of thinking, and improved problem-solving ability. The creation of new knowledge in turn generates higher levels of innovative output, which is then manifested in financial performance. Greater comprehensiveness and creativity in decision-making leads to greater generation of new knowledge. Firms using more consensus-driven decision-making are slightly better than those having more autocratic structures, but the results here are not as clear or consistent.

The more new knowledge created, the greater is the organisation’s innovative, financial and market performance. Firms creating the most new knowledge are 40% higher in innovation than those creating the least new knowledge. In addition, firms with the highest levels of innovation have an 11% higher return on assets (ROA) and almost 40% higher relative market share when compared to the poorest performing firms.

Finally, and perhaps most convincingly, [this study] shows the link between knowledge and financial performance.

A final wrap

The key contribution of this study is that it paints a picture of what matters in the knowledge creation process. More detailed results (available from the authors) show these results to be stable and consistent across a variety of industries. This work also highlights the complex nature of knowledge creation by showing the interplay of acquired and existing knowledge, as well as the necessary individual and organisational capabilities needed to transform acquired knowledge to new knowledge. Finally, and perhaps most
CASE STUDY: managing know-how at ADCO

ADCO, a medium-sized media design- and-execution company, had achieved phenomenal growth since its inception in 1990. With this growth came some unexpected challenges, not the least of which was the fact that it created pressures to design systems that replaced the hands-on management style typical of small start-ups. For Paul Royale, one of the founding partners, the main problems ADCO was grappling with were communication, lack of respect, lack of competences and the lack of a post-project review process. His eyes were opened to the idea of knowledge being regarded as a currency, and that currency being worth something to other people. The problem was to encourage or give an incentive to people to share the knowledge. This was the charge given to him by the seven partner/owners.

Knowledge sharing was particularly important to a company like ADCO that operated in a deadline-driven business where you simply have to do “what the client wants ... when they want it.” Whereas ADCO looked on client management as one of its key strengths, managing internal relationships took something of a back seat. As one director noted, working well with clients did not necessarily extend to working well with colleagues; "...we all work well with clients, but I think internally we are absolutely appallingly at sharing how we work...ways of working smarter." As ADCO grew, the informal networking between the partners that made it operate smoothly were put under stress. The model where "...I use other peoples brains for storing information so I know what they did... when it's relevant to ask them about it," emphasised by one of the partners was becoming increasingly ineffective.

Paul Royale discovered that five levels of knowledge were critical to the agency’s success. The first was technical expertise - how to make effective videos and other promotional material. The second was project management - the understanding of what it takes to put a major project together for a client. The third area was understanding client needs and delivering marketing value for clients. This has historically been the competence that sets ADCO apart from most of its competitors. The fourth realm of knowledge was the ability to seek out and absorb “what’s new,” fresh and trendy in the industry. The fifth area of knowledge management, and perhaps the least important, was the storage and retrieval of on-going internal knowledge development.

Recognising that a firm the size of ADCO, with 51 full-time employees and an equal number of temporary workers, could not afford complex database systems, Paul Royale focused his efforts on developing formal informal networking and transfer systems that substituted for expensive IT and fit better with the company’s “creative” focus. The result was three initiatives.

The after-action review (AAR) process was aimed at facilitating more constructive feedback and eliminating mistakes after the completion of each project. The business directors decided to try it for a period of three months to see if it worked. The importance of such reviews, especially their timing, has been emphasised by one director. "We used to sit down every couple of months and look at mistakes instead of learning from our mistakes as soon as they happened. I think it’s important to share these things as you’re going along, rather than analysing them three months down the line when it’s too late.”

Show-and-tell allows people to do a short presentation of work that has been done for certain clients to the rest of the agency. In addition, senior managers give 20 to 30 minute talks on areas they felt would benefit the agency as a whole. The topics discussed have been fairly broad, such as life skills or relationship management skills.

Informal brainstorming sessions have been instituted at the initiation of large client projects. Part of the impetus behind these meeting was the failure of communications between the different client groups. This lack of information sharing was highlighted when the one team wanted to use “heat-reveal” promotional material. Because nobody on the team had any experience with the technology, they went through a long learning process. In fact, it took several weeks of painful and expensive research. In the end, the team had found a company that specialised in developing heat-reveal promotional material. When the company was contacted, the team found out that another group at ADCO had worked with this same company several months ago on a promotion for another client.

These informal structures were critical to ADCO’s success. They systematised meetings and interactions and avoided the failure to reuse relevant information and highlighted the sources of knowledge inside the firm. Although many in the company bemoaned the fact that most of the larger mainstream agencies have research departments or a resource libraries that kept them up to date, it was clear that ADCO could not afford to operate such a system, and that informal development was more efficient. However, this did not mean that they ignored more formal database systems. Plans were on the books to develop a database of detailed information on each employee as a way of encouraging people to get to know each other more as well as becoming a source of business-related information. Plans were also in place to update ADCO’s current database – a centralised repository of client names, contact numbers and other very superficial information that is updated by the client service people responsible for their respective clients. However, given the “creative” and “informal” nature of ADCO’s culture it was felt that such systems could not replace the more humanistic approach to knowledge management. KM
convincingly, it shows the link between knowledge and financial performance. This study has given us a small but significant step forward towards understanding the intricacies of organisational knowledge.

Subsequent to the work described above, we also examined both quantitatively (through internal surveys) and qualitatively (through interviews), the knowledge management practices at six firms. These firms also represent a cross-section of industries. Two of the firms were industrial in orientation with large labour forces – one in automobile engine design and manufacturing and the other in railway engineering design. Three were professional business service organisations that were large in their respective markets and also respected for their financial and service quality performance – one each in legal services, business services, and executive search. The last firm was a small advertising partnership. In total, these firms generated another 357 survey responses and 150 interviews.

This case research shows the normative and prescriptive value of the research. We are able to understand the respective roles played by various environmental and organisational factors and drive solutions that lead to better innovative performance. One of these case studies is included herein (see page 6).

Analysis of the case research reveals a number of interesting and compelling findings:
• there is an over-reliance on formal IT systems when dealing with knowledge management. Our research shows that good IT systems are an absolute necessity but are hardly sufficient to serve as a basis of a knowledge management strategy. However, even then most IT systems are inadequate technically and fail to mesh with the organisation’s strategic needs;
• senior managers have more positive perceptions on the role of the organisation’s incentives for the absorption of knowledge than do middle- or lower-level managers. Across all organisations we find that senior managers feel that their knowledge management incentive policies (e.g. the incentives to use, codify and store information and knowledge) are effective but non-senior managers feel they do a good job in spite of the policies and systems;
• senior managers have difficulty in understanding the payoff from knowledge management. This is most notably driven by an inability to measure knowledge and its impact. Most are afraid to get involved with something that they perceive to be little more than a fad.

Although our work has obvious academic benefit, when we link the survey and case research we find that we have a powerful explanatory and diagnostic tool. For example, the finding that new knowledge creation is a crucial determinant of innovative output (and hence financial performance) is a powerful compelling force for managers. Before, all they could hope for was what the gurus where telling them was true. The finding that new knowledge creation is a crucial determinant of innovative output (and hence financial performance) is a powerful compelling force for managers. Before, all they could hope for was what the gurus where telling them was true.

The strength of the present work is the comprehensiveness of the investigation of the complete information → knowledge → decision-making → innovation → performance chain along with the exactness of its empirical measurement. However, it goes beyond positive investigation, and provides managers with powerful theoretical guidance backed by effective benchmarking.

The authors may be contacted through the Centre for Corporate Change at the Australian Graduate School of Management (e-mail: t.devinney@unsw.edu.au)

By Professor Timothy M. Devinney, Dr. Christine W. Soo and Professor David F. Midgley
Managing the Knowledge Asset Manager

With so many organisations looking into KM, one query always arises: "What makes a good KM manager?" Robin Sears, managing director at executive search firm Korn/Ferry International looks at various answers to this important question.

Even before the effort of finding and retaining a good knowledge manager begins, it is important to understand the potential minefield that this new business tool represents. The perception of many corporate colleagues is that knowledge management is simply another fad. Remember "re-engineering" and "Six Sigma"? As is the case with every "back office" rather than a revenue-generating role, there is scepticism on the part of line managers about knowledge management’s value and the potential impact on revenue targets and costs.

Defining "knowledge management" is not so easy, as there is little agreement on what either of the two words actually mean. Does "knowledge" cover all aspects of corporate business history, or is it limited to a high-level analytic product? When does data become knowledge? Debates about the management of this knowledge can be equally controversial. Is managing a database "knowledge management"? Or does knowledge management only apply to a more proactive and value-added use of the firm’s history and knowledge? The range of opinions on both these issues is wide, and the debates intense. Our working definition is "any new value extracted from existing information." This definition forces "value" to be the performance metric and "existing" emphasises the importance of better stewardship rather than expensive new data acquisition.

Another approach that cuts through the confusion is defining knowledge in terms of "assets." Naming the product "knowledge asset valuing," stimulates a less sceptical reaction from revenue-driven colleagues. It also allows one to apply some of the performance matrices that are used for other types of assets. As a consequence it elevates the seriousness and perceived value of "knowledge management" and the knowledge manager. Therefore, the designation "Knowledge Asset Management" (KAM) and "Knowledge Asset Manager" may be useful.

There is an old aphorism about large organisations which, paraphrased, goes "if only IBM knew what IBM knows." The dilemma of hidden or wasted knowledge assets in a large organisation has troubled managers since Egyptian engineers were building pyramids. How to ensure that there is "an institutional memory," or an individual "learning curve" based on previous experience is as challenging to those managing blocks of data today as it must have been to those moving blocks of stones then. The obstacles are often defined in terms of technologies and standards. Given how ancient the problem is, that is clearly wrong. The genesis of obstacles to effective knowledge management is human, not mechanical.

There are two fundamental reasons why knowledge is poorly shared or utilised in large organisations: the first is that knowledge has no perceived financial value. Little effort is therefore made to extract benefit from it, let alone share it. The second reason is that the knowledge is perceived to have significant potential personal value, and is therefore hoarded rather than shared. Both issues are features of most dysfunctional KAM organisations.

Mitsubishi used to brag in the late 80s that it received more than one million pages of fax documentation every working day from its vast empire of offices around the world. This river of fax paper was all carefully photocopied, archived, and then filed in warehouses. Was it "knowledge"? Not if one is attempting to apply the "asset value" definition; it was simply accumulated data. Imagine the strategic impact on an enormous trading and manufacturing enterprise such as Mitsubishi if it were able to take this river of words and numbers and analyse it for trends, risks and future opportunities. Imagine in your own organisation today, if email traffic could be culled for its asset value in trend-spotting or risk management.

The world’s best knowledge manager is without doubt the National Security Agency (NSA) of the United States government. It monitors, filters and then stores an unimaginable stream of data from every source all over the world 24-hours a day, year in year out, resulting in trillions upon trillions of names, numbers, facts and their patterns. The world’s largest and fastest computers, the world’s best software developers and strategic analysts, serve the world’s most expensive bureaucracy in knowledge management. They can scour every phone call, email, and data transmission around the globe for information deemed of strategic importance to the United States. And yet, despite the expenditure of hundreds of billions of dollars, and the employment of nearly 50,000 people over the last two decades, the NSA is, by its own admission, beginning to drown in data rather than successfully manage this ocean of knowledge assets. The reason is simple: exponential growth of data traffic in the past decade.

It is estimated that there are now 100 billion emails transmitted annually in the United States, with that number still accelerating rapidly. Those emails are getting more data-rich and complex as transmission speeds and storage capacities increase. How can a serious "knowledge asset management" organisation cope with its own rivers of data if the boffins and billions of the NSA are floundering?

What do you need to know? The first level of response is "knowing what you want/need to know" and ignoring every-
thing else. The temptation in large organisations to print, photocopy, circulate, and archive, reams of documentation, often in several versions with little variation among them, is a huge barrier to successful KAM. Managers want to have their own copy of crucial contracts or agreements in addition to those held in the personal files of other managers, the regional and central corporate offices of an organisation, and in digital format on several levels of corporate servers. But it is clearly not very wise: not only is it a waste of resources, it creates a poor "signal to noise" ratio of valuable knowledge versus mountains of useless data. Extracting the jewels from the flood of photocopies and computer folders becomes impossible.

Agreement on what the object of KAM for the firm should be – what you "need to know" – is a strategic challenge which needs to proceed the decision to create a structure or begin a search for the key executives to manage the process.

**Who needs to know?**
The decision about "what one wants to know" should obviously be driven by discussions with the internal clients of the KAM system. In some organisations, competitive information about the behaviour of other players in the marketplace is of greater value, for example, than client information. In other organisations, the focus will be on industry trends and potential threats rather than specific competitors. Especially at the launch of a new system, while the "green" knowledge manager is establishing his/her value to the line management, it is important to keep the deliverables short and the performance targets low. As in any service industry, it is far better to "under-promise and over-perform" when establishing credibility. KAM systems that fail to have an impact on the bottom line are typically the victims of attempting too much, rather than incompetence or insufficient resources.

It is important that the knowledge asset manager be seen as a peer by line managers not only in his title, and compensation, but also in his style, background and presentation ability. In other words, the knowledge asset manager needs to be as effective a salesman as an analyst, as effective a communicator as a strategist, to succeed. The knowledge asset manager needs to be the type of executive who is capable of spotting new opportunities and problems for internal clients in a manner that wins support, and is not seen as either a threat or a waste of time. Most crucially the person needs to be seen as a client management professional, not a librarian.

**The "ideal" knowledge asset manager**
One of the first priorities for a new knowledge asset manager is identifying the obstacles to effective knowledge sharing in the organisation. If the conventional wisdom in the firm is that the information gathered from another geography or another line of business has no value to others, then tackling the "perceived value" of knowledge assets issue should clearly take priority. If, however, there is a "knowledge hoarding" culture in an organisation, that culture needs to be challenged from day one. Benchmarking against the best pioneers, sharing an industry or culture is often the best sales tool.

My personal epiphany about the "walls around knowledge" came in struggling with competing and incompatible email systems in the days of X.25 data protocols, among various lines of business of the same organisation. Working on a plane trip on my laptop, I muttered and cursed about the foolishness of incompatible systems and the digital walls blocking data transfer in the organisation as I jumped back and forth between digital barriers. My seatmate observed my frustration. When I asked how he dealt with the problem, he laughed, and said, "In the same way you are, cursing!" He was a senior IBM Asia executive who had responsibility for more than a dozen manufacturing centres across the region.

I expressed astonishment that working for an organisation that designed and built information technology systems, that owned, in Lotus Notes, one of the finest email and knowledge management systems yet created, and sitting at a senior executive level with access to the best equipment and services, that he could experience anything like my problems. "After all," I protested, "you guys build these things!"

He chuckled again, and mildly observed that I did not understand where these walls originate. With a wry resignation he gently pointed out that it was no technical obstacle that prevented him from looking at unfiltered sales and production data from each of the plants he supervised. There were no obstacles in the software or the communication systems that prevented him from looking straight into the database servers of these operations. It was the desire of each of those plant managers that they should be able to screen and filter such access - "especially from me," he laughed – that created the digital barriers.

"Most technological obstacles to sharing information are a fiction," he observed. The real barrier to knowledge sharing is almost always human.

This "obvious truth" was a revelation to me. It’s a useful analytic principle about knowledge management to this day. In any organisation, when one is told that it is "not technically possible" to provide unfiltered, or real time, or external access to data or knowledge, the gatekeeper is probably lying or ignorant or both. Simply calling this bluff is not very useful, however. The effective knowledge manager needs to find ways of worming the information from the carefully sheltered cloisters in which it is being protected, building confidence and perceived benefit from breaking down the walls.

The successful knowledge asset manager is therefore a combination of diplomatic negotiator, salesman and administrator. He needs to be someone who can see the knowledge forest in a mass of data trees; someone who can make sceptical line managers believers on the basis of delivered benefit to them; and someone who knows that "no" is probably the most important word in his professional vocabulary. He or she explains: "Why not" in several fashions that don’t give offence. Being clear about what the KAM system cannot deliver is also a key success.
variable. Explaining, diplomatically, why the KAM system will permit a user to search its data freely but cannot be everyone’s “custom-tailored” research department is essential to success and survival.

In our advice to clients about this role, therefore, we emphasise the personal qualities and style of the individual executive rather than their database, or library science or strategic analysis background, as essential qualities. Is he or she seen as a leader, as an innovator? In the retention of such an exceptional individual, it is important that they be measured, performance-tracked and rewarded on the basis of delivery of new value from the firm’s existing knowledge assets. Specific deliverables and targets and deadlines are as important to a good KAM system as any other form of value creation. If it can’t be measured it can’t be improved, as the saying goes.

Creating and deploying metrics that are believable and fair is as complex as defining what the goals are for any KAM system. Some will argue that the gains are “qualitative” and not measurable. Set “quality” goals then, and measure the trends in performance over time!

Even a customer satisfaction survey can be a useful performance trend monitor.

The CEO or line-of-business head should be the direct report of any serious KAM role. Reporting to a “non-line” executive simply undermines the “value generator” status of the position. One "cost centre" executive reporting to another is not a good message to the firm about the role and value of knowledge management.

The KAM system goals need to be long-term, multi-faceted and transparent, but each quarter requires precise deliverables. If the firm operates on a precise individual revenue allocation system as many professional services firms do, the system may need to be built into the performance measurement structure through a "double counting" mechanism. Each revenue dollar is attributed twice and then "rolled up" in an annual budgeting process.

If the organisation manufactures products or revenue from their distribution, the KAM system performance needs to be measured on improvements in the outputs and margins of those businesses. It is important, needless to say, that the knowledge asset manager not be seen as a competitor for revenue or compensation benefits by the KAM system’s internal clients. The knowledge asset manager must be seen as someone who genuinely adds value to a line manager’s bottom line, not a competitor for sales revenues or internal expenditure budgets.

Finally, the best knowledge asset manager is a mentor to young executives about the "knowledge sharing" values of the firm, the "wise uncle" who colleagues turn to when they’re blocked on a project.

The firm that develops such a model, finds the "wise uncle" to manage it, retains him or her, and executes precisely will always be a leader in its space.

The author is Managing Director, Board Services & Management Assessment Practices for Greater China at Korn/Ferry International. He has extensive experience in the recruitment and hiring knowledge managers and all levels of executive positions. He can be contacted at (852) 2521 5457.
Home is where the heart is

KMAP interviews one of KM’s “founding fathers,” Dr. Karl-Erik Sveiby, about KM’s humble beginnings and why Asian companies should be looking within as they confront today’s business challenges.

Ye ars before anyone had heard of the term “knowledge management,” a Swedish publishing executive, frustrated that he could not understand how and why managing journalists differed from traditional management, began exploring ways of improving the creative capacity of what we now know as, his “knowledge organisation.” Two decades later, that frustrated executive is widely considered to be one of the founding fathers of KM, and he remains on the leading edge of KM implementation strategies.

Now splitting his time between Brisbane, Australia and Bohuslän, Sweden, Dr. Karl-Erik Sveiby, has a varied career background, having worked alternatively as an auditor, accountant, manager at consumer goods giant Unilever, and as a publisher before ending up as one of today’s leading KM consultants. Dr. Sveiby is a much sought after conference speaker, has published numerous books and articles on KM in both Swedish and English, and has consulted worldwide with companies such as China Light & Power, Motorola and Ernst & Young.

However, it was while working in Sweden at Ekonomi+Teknik Förlag in the early 1980s that Dr. Sveiby identified the fundamental KM problems within nearly all organisations that present-day managers still face today. "Our information professionals often did not know what was going on around them, and we as managers did not understand why some of our editorial environments appeared to be more creative than others," he says, "so I started exploring ways of solving the problems.” Unfortunately, there was very little information on the subject at that time, and what was out there did not effectively deal with the issues at hand. "I supported Swedish managers unlearning what the American management gurus tried to teach us." Thus Sveiby himself began researching and writing his own material, laying the groundwork for many of today’s KM principles.

"I did not know it at the time, but I was one of the first in the world to study KM techniques along with a few others such as Ikujiro Nonaka in Japan." However, it would be years before these KM pioneers would know about, or even understand, each other’s work: "There were only small pockets of KM research at that time. Also, practitioners published very little and the material published was in different languages . . . the only reason why I published anything was because I worked for a publishing company!

He adds that KM did not enter the minds of the English-speaking world at this time because none of the early-published work was in English, compounding KM’s difficulties. The irony that those purporting to research knowledge management in those early days could not understand each other’s work slowed its initial growth and development.

A natural understanding

Difference in both culture and language continue to be major issues affecting the study and implementation of KM today. Sveiby says that there are clear cultural differences in the priorities and approaches to KM in companies he has worked with.

He cites the results of his work with his business simulation course, Tango, as an example. Tango participants are divided into six management teams who compete against each other for the same customers and key personnel. "Tango mirrors the real world," says Sveiby, "the [participants] learn by doing as they choose their business strategy and then manage their tangible and intangible assets for long-term financial success. Participants learn to strike a balance between attracting the right employees and customers and ensuring adequate profits and cash flow." As a result, "what emerges is a clear understanding of how these factors affect a knowledge organisation."

When implementing Tango in US companies, Sveiby notes that participants focus almost exclusively on profits and tangible results, whereas Swedish companies appear to be over-interested in the people element, making all parties happy, even at the expense of profits. However, he says that when dealing with Asian companies, there appears to be a deep, almost innate understanding of fundamental KM strategy even where pure business acumen is often lacking, as in less commercially developed countries. "Asian cultures seem to understand that effectively sharing knowledge in an organisation is more about natural relationships between people rather than just databases."

Asian cultures seem to understand that effectively sharing knowledge in an organisation is more about natural relationships between people rather than just databases"
petitiveness of pursuing profits with the cooperation of sharing knowledge effectively. "Their ability to engage in both competition and cooperation, or 'co-opetition,' resulted in the highest ever recorded market value in a Tango exercise; the total value created capacity of the simulated companies was very high," he says. A real-world example of such "co-opetition" is the highly competitive automobile industry that nonetheless, has many instances of cooperation between competing companies such as the sharing of engine technologies, he notes. (See page 13.)

It is the effective sharing of knowledge at the human level that is most important to KM according to Sveiby: "Knowledge is not in databases, but in people." In fact, he sees a disturbing shift away from the human element in KM nowadays towards something that is little more than database management. "The trouble for KM is that its agenda has been hijacked by American IT companies and consultants, who make their living from selling IT advice." He explains that, "while IT is essential in today's globalised world, we must appreciate its limitations . . . it is not the solution to every problem."

To this end, Sveiby contrasts Western culture with its focus on explicit knowledge, science and technology, versus Asian cultures that traditionally focus on the human experience and appear to better realise the importance of tacit knowledge. "In the long run, I think there is a greater understanding of how to help people find and use knowledge in Asia," he says.

Nevertheless, Sveiby warns that Asian companies may be losing this "natural" edge in KM over their rivals. He has observed "a recent fascination with IT toys in Asia." Again, he takes pains to emphasise the necessity of IT in the modern business environment, but is clear in his position that such technological investments should not be at the expense of Asia's own understanding of knowledge and how humans interact with knowledge. "With the exception of Japan, which is taking an isolationist stance, Asia seems to be looking to the US for its KM model . . . this is sad because Asia has such an exciting, homegrown knowledge understanding."

In Sveiby's opinion, Singapore, in particular, "is very well positioned to be a world leader in leveraging knowledge for growth in the future." He names a number of reasons for this view. As demonstrated in the aforementioned Tango simulations, Singaporean managers appear to understand the balance between IT and people to maximise the leveraging of knowledge; there is a focus on higher education in Singapore that is required for a workforce of "knowledge creators"; and Singaporeans have "unique business acumen."

Indeed, an excellent illustration of the effectiveness of Singapore's leveraging of knowledge in the modern economy comes from Sveiby's own 1999 study comparing the Gross Domestic Product (GDP) per capita of Australia and Singapore over the last 25 years. He found that since 1993, Australia, the resource-richest nation in the world per capita, has consistently lagged behind the little Singaporean economy with no natural resources at all – except 3.5 million people, in GDP per capita.

As a result, effective KM boils down to two important factors, according to Sveiby: maintaining a healthy environment for creating new knowledge, and the ability to leverage your own knowledge, or not "reinventing the wheel."

Small business challenges
The same principles apply to small businesses in Asia as well, says Sveiby, only on a smaller scale. "Since managers in smaller companies generally have less information to deal with, it is much easier for them to effectively manage knowledge . . . it is the big companies that have the problems." In his view, Asia's small businesses are very good at leveraging their own knowledge, the Singaporeans being a very good example, but they often face challenges in maintaining a healthy environment for creating new knowledge.

To accomplish this feat, Sveiby suggests that businesses adopt a "non-authoritarian work environment" where workers can "question existing rules and habits; suggest silly or outrageous ideas," and where it is "safe to question managers." The natural consequence of such an environment would be a company that is not afraid to take risks and lose some money in the short term for long-term rewards. Unfortunately, he notes, where a small business is concentrating on day-to-day survival, such risk taking may be a daunting task. Nevertheless, it is a challenge that Sveiby believes that Asia's small businesses are up to.

A rich tapestry
Another issue in the emerging face of KM in Asia today is language. While English remains the dominant language of business, the importance of other languages in the region continues to grow, and cannot be ignored. Different languages and KM have always had a close connection, says Sveiby, harkening back to the early days of KM when it developed in Swedish and Japanese before English. "Obviously facing different languages can be a barrier to the effective sharing of knowledge, but it can also be a rich source of new knowledge," he asserts.

For example, in English, the word "know" means both explicit knowledge – "I know about x"; and the capacity to act – "I know how to do y". However, in most other languages, these two meanings of "know" each have their own separate words. Extra layers are required to differentiate between the two meanings in English. As a result, he posits, we have ended up with a different, richer notion of KM than if it were only studied and implemented in English. By viewing a multiplicity of languages as an advantage rather than a hindrance, Sveiby says he encourages the use of Asian languages and cultures to build upon and explore KM. He predicts that "different languages are potentially the most valuable source of new and effective KM ideas" – frustrated managers of today should take note.

Dr. Karl-Erik Sveiby is the founder of Sveiby Knowledge Management and may be contacted at: www.sveiby.com.au
"Co-opetition" is helping out the little penguin

The world of computer operating systems (OS), the computer program that tells a computer how to run itself and other programs, is a dangerous place littered with the carcasses of numerous competitors who have fallen by the wayside. However, the vast riches of the OS industry provide an incentive for companies to continue trying for a share of the marketplace. The intense competition has led to some very novel strategies including a good example of what Dr. Karl-Erik Sveiby calls "co-opetition." (See ‘Home is where the heart is’, pp 11-12.)

The current king of the OS hill, as anyone who has followed the on-going anti-trust lawsuit in the United States is aware, is Microsoft's omnipresent Windows. One unique challenger to the Windows domination is an OS initially created as a hobbyist effort by a student, Linus Torvalds, at the University of Helsinki in Finland in the early 1990s.

The fundamental difference with Torvalds’ creation, Linux, compared to other OSs is that it has an open-source code. In other words, the basic formulas and algorithms that drive Linux, its "source code," are freely available to anyone wanting to take a look and make improvements and modifications. Under the licensing terms of Linux, it is very easy to share knowledge and improvements to the OS, but legally impossible to make it into a proprietary product such as the competing Microsoft Windows. In fact, volunteer programmers around the world, using the Internet as the medium of communications, do most of the on-going development of Linux in a cooperative and communal atmosphere. The informality of Linux in a traditionally cut-throat industry is typified by Torvalds' philosophy for the OS with a penguin as its mascot: "It's supposed to be goofy and fun!"

Now it appears that Torvalds' little band of merry programmers are about to get some big corporate help. IBM, once a bastion of corporate conservatism, has joined forces with three major Japanese computer server-makers in an effort to produce better versions of Linux. The informal partnership will team Big Blue with Fujitsu, Hitachi, and NEC. The companies will communicate informally and hold meetings to compare notes, share knowledge and eliminate duplication of work.

The freewheeling style of the Linux community is still somewhat novel for Big Blue, among the most tradition-bound of computing companies. For example, in the cooperative work with the Japanese companies, "there are no contracts. There's nothing formal," says Dan Fry, Director of IBM’s Linux Technology Centre. Since all four companies are working with the open-source community to produce better versions of Linux, it makes sense to set up a relationship, says Dan Powers, IBM's director of Internet technology. Though this corporate involvement will mean that Linux development is becoming more formal, the original improvisational nature of the Linux community still dominates, adds Fry.

This arrangement typifies the growing cooperative effort among many companies, who are intense competitors, to collectively improve Linux, which has been described as "a cancer that attaches itself in an intellectual property sense to everything it touches," by Microsoft CEO, Steve Ballmer.

This "co-opetition" by Microsoft’s OS challengers is not surprising. By banding together, they hope to develop the David in Linux to topple the Windows Goliath. And if they have to be "goofy and fun" going about that, it seems, then so be it. KM

YES, I would like to subscribe to KMAP at only US$99 / HK$775 (A 50% DISCOUNT!)

Pacific Business Press Ltd.
17B Hilltop Plaza, 49 Hollywood Road, Central, Hong Kong
Fax: (852) 2575 0004  Tel: (852) 2542 1225
sales@pbpress.com

☐ Cheque enclosed  ☐ Please invoice me later
(Payable to Pacific Business Press Ltd.)

Name ____________________________________________
Position __________________________________________
Company __________________________________________
Type of Business __________________________________
Address __________________________________________
Telephone ____________________________
Facsimile ____________________________
Email _______________________________
Signature _______________________________________

COMPLETE AND FAX THIS FORM TO: (852) 2575 0004

KM 0102
It is now clear that organisations that manage performance through measurement do better than those that don’t. If people throughout an organisation are well informed about their current processes and likely future levels of process performance, and they know the factors that have contributed to those results, they will all make more confident and more effective decisions.

Process measurement-based management that is focused on strategy, objectives, issues and decision-making leads to success. Major benefits of performance management include:

- better achievement of objectives (often objectives are exceeded);
- better and quicker decision-making (fast action is demanded);
- staff are better aligned to common goals; and
- managers and staff have greater confidence and motivation.

**What is process performance management?**

Process performance management ensures a management style that plans and acts to achieve strategic and operational objectives by measuring and monitoring both important process results and more importantly, the process drivers.

"Results or outcomes" are commonly measured at the end of a process, and are commonly referred to as "lagging or historical indicators." Drivers, on the other hand, are measures usually coming from within a business process, and are referred to as "leading indicators." See Figure 1.

But, not all measurement is equally good. Many organisations are in chaos because of a flood of data that is far too detailed, too poorly integrated, and difficult to access, plus of little actual value in making key decisions. Too much data is just too confusing!

Some measures bear little relationship to what the organisation is trying to achieve – they are not relevant to objectives, nor tied to the strategy. Other measures are misleading because their meanings are poorly understood, unclear or ambiguous. Sad to say, but some measurements, are manipulated to confuse (or de-fuse) the management from taking strong actions early enough to head off a disaster. Irrelevant or misleading measures therefore lead to poor, or even disastrous, decisions.

Just knowing that you have a performance gap is not enough to guide decision-making and action. To take effective action, you also need to know why you have a gap. Measuring and then understanding the reasons for the gap will lead you to make the right decision. That’s really what knowledge management attempts to achieve by providing accurate and timely information that creates new knowledge and that can be acted upon.

**What to measure?**

Selecting what to measure is one of the most important tasks for those who wish to focus on and manage process performance. Without professional and independent outside help, many managers will avoid measures that focus on shortcomings in the processes for which they are responsible.

Until recently, there has been a widespread belief among business executives that they can control the firm’s performance with little more than the firm’s financial information. After all, financial measures are the best developed of all, and have been in use for hundreds of years. In fact, the ubiquitous Generally Accepted Accounting Principles were developed for bankers and investors, not for operating managers.

**Early warning signs**

Most key performance (lagging) indicators tell us how we have done in the past. If all you have is lagging indicators in front of you, it is like driving your car by looking in the rearview mirror. You know exactly where you have been, but it is not at all clear where you are going. Your chance of running into something is obvious. As a result, it is important to classify measures according to whether they:

- tell us about the past; or
- give an early indication of what is likely to happen in the future in the short-term or the long term.

For example, we may get a report that shows that there is a large increase in the number of items sold in the latest month. This is a "lag" indicator – it tells us about the past. By itself, it is not a good indication of what is likely to happen this month or in future months. On the same report, we may also have a rapidly falling forward order book for the next few months.

However, a change in forward orders is a "lead" indicator of sales units. It tells us what is likely to happen in the short-term future. In managing key processes we need to look for lead measures that give us an early warning of what is likely to happen. So, our lead measures
need to be grouped according to how much warning they give us and how reliable they are.

A classic short term leading indicator is On Time Delivery (OTD). In many cases, we know that we are going to be late in delivering goods and services before the customer does. In that case we are given an indicator that should provoke us to inform the customer ahead of what may become a disaster for both our reputation and the customer’s plans.

**What are the drivers?**

If action is to be taken, if decisions have to be made, we would like these to be based on the best information available. Effective decisions are based on good information that creates new knowledge and understanding of what has led to the current position, and how future results can be influenced or controlled. Therefore, we need measures that tell us why or how a key indicator level was reached. We need to have measures of the key process drivers of each area of performance.

The drivers of short-term results may well be different from the longer-term drivers. For example, in the short term, (month to month) sales of our products are affected by targeted advertising, special promotions and temporary pricing programmes. We need to measure these to understand the linkage between them.

In the longer term (say two years or so), strategic initiatives such as distribution agreements, partnerships, joint ventures with builders, cross-selling of products, development of new products and new uses for old products are a more powerful influencer. As a result, we may have different explanatory measures for short-term tactical target achievement than for achievement of long-term strategic objectives. Whatever these are, they provide guidance to our decisions, and point to and encourage quick action. Using these measures, our executives and teams are likely to make more effective decisions and are less likely to make decisions that lead to poorer results than intended.

**Where to stop?**

Clearly, if we attempted to make a complete list of the "causes" of drivers of performance for an organisation, the list would be very long. We could look to the drivers of the performance, the drivers of those drivers, and so on. There has to be some point at which we say: "Enough is enough!"

We have found that we do not need to create many levels of causality before we gain no added value by going any deeper. Obviously, this has to be examined on a case-by-case basis. Nevertheless, the general rule is that as long as you have reasonable information on which to base a confident decision, you have gone deep enough. I have seen few instances where the hierarchy of drivers is more than about two levels deep.

Simplicity is also an issue here. If we provide too much information, it will either not be used or people will become confused and make poor decisions. Discover what really drives the process performance and only use that. If the drivers are all going in the right direction, the results will happen.

Cost is very much a consideration. If the cost of creating and maintaining extra measures were greater than the value added by having the information, it would be silly to include them.

**Good measure design**

The most important principle of good measure design is that of relevance. What is meant by relevance depends on the type of measure; but the measure must be directly relevant to the purpose intended. That may seem obvious, but take the time to examine what your own company measures. Are most of these really relevant, do they really provide you with a pro-active capability to make changes? Or are they just provided for information after the fact?

There are many other principles of good measure design that are worth considering. Unfortunately, this is an extensive topic that cannot be covered in a short article.

Examples of good measurement principles are:

- lack of manipulation opportunities such as use of actual cycle time as a measure or asking the customer to measure you;
- completeness and transparency;
- reliability;
- relevance to the task at hand;
- choose "drivers" over "results";
- robustness and accuracy;
- provided on-time, every time;
- available to many, not just a selected few; and
- good common sense.

**Risks and rewards**

Most organisations have a strong desire to link employee remuneration with performance measures. This, on the face of it, makes a great deal of sense. We naturally base this on the assumption that this will motivate employees to achieve or exceed corporate performance targets. There is also the sensible financial argument that rewarding employees on any other basis is likely to result in less than optimal financial performance.

However, to rush into such a formal link before the performance measure framework has been well proven can, and has, resulted in anomalous rewards. These financial reward links have to be very carefully considered.

With the continuing complexity of business, globalisation and the new knowledge economy, it is often not possible for individuals to be personally responsible for a gain in process performance. Most of us rely on our peers, and our team members for a great deal of our success. This, I suspect is why more and more companies are adopting a two-stage remuneration system, that both rewards the individual and also has a component for rewarding the team (or department, or business unit).

**In summary**

Process performance measures on the surface are logical and necessary to manage the process well. Customers are best served when key processes work well, and within the expected performance goals we set for them. Measuring them properly, and choosing the right set of metrics, is far more important than most managers realise.

Doing something about it however is rather harder than it looks. For the proper set of measures to emerge, we need to fully understand not only the process itself and its internal workings, but also what the customers need for the outcomes. It is best to engage a specialist for this task, as the in-depth analysis of a complicated process will use special skills that come with experience and the knowledge of how process dynamics play together. It also requires that the process metrics be able to be displayed (charted) in ways that will emphasise the cross-linkage between key drivers.

---

**The author is a Singapore-based specialist in the areas of Business Process Transformation, Process Excellence, Leading Change, Knowledge Innovation and Balanced Scorecard. He can be contacted at (65) 280 1316, or by email on leadedge@pacific.net.sg**

**Knowledge Management & Workflow Automation**

Apply your trial account now. Qualified applicants are entitled for a 12-month VIP membership. Start your networking with other executives and research professionals for free!

- Our platform is powered by Xerox's DocuShare database, a field-proven product in Europe and US for years.
- Workflow scripts are powered by NASA-proven Process Integration Server, a Xerox certified solution.
- Both software complied with industrial WebDAV standard and require no software/add-on at client side.
- We can help you reduce document cycle times and eliminate missed steps in document processes while providing a complete document trail for better ISO compliance.

"At Xerox itself, where more than 50,000 (DocuShare) users share information ... The largest single server hosts all of Xerox's technical publications, and it is accessed by some 21,000 users."


**Online Consultancy & Research-On-Demand Services**

Today, executives should leverage both internal and external experts to turn a sea of data into actionable intelligence. While long-range business strategies are well addressed by existing consulting firms, required marketing information for daily operation is not.

Via Myrix's research outsourcing services, executives can utilize our expertise, tools and the most prestigious business contents whenever, whatever and wherever they need. We retrieve high value contents from tremendous data banks that have been built up for decades. Many of them are not available from public channels. Moreover, there is no hidden cost and no subscription fee.

Myrix is a web-based business intelligence solution provider.
We facilitate better decision-making by providing subscription-based KM solutions and pay as you go "Research-On-Demand" services for executives.

Our Founder — Mr. Joseph Chen
JosephChen@myrixinfo.com

---

**Global Affiliated Researcher Wanted**

- Qualified part-time and home-based researchers and consultants all over the world are welcome.
- Responsible for clientele development in your own practice and/or geographic area.
- Complimentary DocuShare login ID plus access rights to our partners' databases.
- Excellent remuneration.
- Contact recruitment@myrixinfo.com for details.
TO SUBSCRIBE TO KMAP
OR FOR MORE INFORMATION ON OUR OTHER TITLES VISIT OUR WEBSITE AT

www.pbpress.com