

Knowledge Management Practices – an overview with reference to the Australian Legal Profession

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1.1. Leadership:

There has been a lot of talk about the fact that “leadership” per se, in an organization, does not create value for shareholders. The proponents of the “flat-structure-kill-the-middle-manager” trend applauded re-engineering and then fled into the dark night once the harm done by continual re-sizing and downsizing became obvious. In the newly arrived “knowledge age” (I take exception to the presumption that it is a newly arrived one, but it must have just made it to the USA), one fact is very clear: no leaders passionate for the sharing and creation of knowledge assets = no knowledge management venture.

What distinguishes KM from other ventures, according to Delphi’s [Koulopolous](#) (1999), is the passion, fearlessness and confidence of the *knowledge leader*. Whatever knowledge is, wherever it resides or however it is managed, few would disagree that knowledge is an essential part of our individual and organizational ability to innovate, compete and succeed. Given that, few would doubt that the roles and responsibilities of knowledge leaders are an essential ingredient of competition in the next millennium. A multi-client study conducted by The Delphi Group revealed that, in practice, knowledge leadership spans a broad domain of positions and types of individuals. Regardless of the differences in title or organizational placement, knowledge leaders exhibit similar qualifications. The most notable have hybrid business/information technology experience, at least ten years (and often much more) of line-of-business experience, an entrepreneurial attitude and a relatively high level of interest in career definition and development. They also exhibit acumen in corporate communication throughout the formal hierarchy reflected in most organization charts, as well as in the informal networking that occurs in communities of practice or the “corporate underground.” It is through all these channels that knowledge leaders introduce methods and systems to match knowledge seekers with knowledge providers.

Just as leadership is necessary for the success of a knowledge management venture, so is the appropriate implementation of knowledge management necessary for developing good leadership in the firm. Arguably the most compelling challenge facing organizations entering the new millennium is not the general shortage of talent. It is the dearth of executive leadership. The practice of downsizing that began in the late 1980s and continues today has stripped organizations of a generation of leadership candidates. Computer and telecommunications technology has made possible the eradication of thousands of middle management positions, which had been the proving ground for future executives. The advent of the World Wide Web struck another blow at middle management. Lines of communication were opened universally. One of the traditional roles of managers, that of passing information up and down the chain of command, was made obsolete. Saratoga Institute, has been conducting exit interviews for six years. To

date the Institute has gathered data from 60,000 ex-employees who voluntarily left their organizations. For several years departing workers mentioned pay, supervision, and opportunity for career advancement as the major motives for leaving. Only within the past year have departing employees cited the lack of executive leadership as a cause of their decision to leave. More explicitly, the exiting employees have indicted executives for their inability to provide a clear vision, a consistent strategy, and credible behavior. In more than one case the evidence has been so damning that the HR directors who commissioned the study were afraid to pass the results on to the CEOs ([Fitzens, 2001](#)). Examples of how KM provides new training for existing managers has been provided in the mentioned article. Organisational learning also walks hand-in-hand with KM ventures and develops new leadership better equipped for the global challenges facing their profession.

Of course, as with any new trend in management, the lucrative postings to the top of the innovative club are few, and the pretenders many. Even technical writers aspire to become KM leaders ([Wick, 2000](#)). But regardless to whether the leader is called a CKO, CLO, a “knowledge enabler” or an “innovation guru”, the role is essentially the same: set a KM agenda, convince the management that it has validity in terms of business goals, get your team together, convert the obstinate and the insecure, bang head and fists against cultural walls, install more water-coolers and portals, and encourage their use. *“[T]he primary task of a first-generation CKO is to articulate a knowledge management program. This is a twofold task that involves evangelizing the nature and value potential of knowledge and selling not only the concept of knowledge management but also how to sell it to both corporate and line or local management. In particular, CKOs have found they need to engage senior executives one on one to understand possible individual or local knowledge gaps or opportunities and to initiate customized knowledge management projects,”* states [Ear and Scott \(1999\)](#).

[Parrachin \(1998\)](#) states ten essential leadership skills: passion for excellence, patience, creative compromise, constructive conflict resolution, listening skills, persistence and perseverance, positive attitude, ability to learn continually and minimize weaknesses, and valuing their reputation. All these can be applied to knowledge leaders. I would add humility and selflessness, ability to share, mentoring skills and the ability to make oneself redundant after achieving the goal.

[Scheeder \(2001\)](#), after expressing her hope that all information professionals are knowledge leaders (she did not explain the logic behind this presumption), defines a knowledge leader as Knowledge leaders are those who are “*respected for their expertise as evaluators, selectors, organizers, and disseminators of information and knowledge,*” and says that although as “information professionals” we are all positioned to grab the leadership laurel, the competition is bitter. *“To be a knowledge leader one must also be a knowledge seeker, one who is intent on expanding one's involvement with their industry both in terms of education and personal interaction with colleagues. Our need to be knowledge seekers might explain why overall attendance at conferences is up in all professions, why we like sessions that are case studies and why our networks of professional colleagues are so important to us,”* she rightly claims. Seeking new knowledge can mean many things: reading the literature of a competing profession, contributing to discussion lists, writing articles to share your knowledge with others or preparing a presentation on a topic, getting to know a broad range of professionals, borrowing ideas from organizations far different from one's and successfully applying them to one's environment? Knowledge seeking and visibility go hand-in-hand and add to the stature of a knowledge leader.

For a Knowledge Management initiative in a law firm to succeed, it has to have to total commitment of its managing partner. This is in itself hard to attain as Managing Partners' mentality, attitudes and perceptions are often the main barrier to Knowledge Management. But it is hoped that future generations of Managing Partners will be more aware of environmental changes and that pressures from the outside world will finally force any law firm willing to remain profitable into accepting some form of Knowledge Management whether willingly or otherwise. This in itself will not happen for many more years to come. An estimate based on when Australian Universities started fully implementing technology into teaching law and such indicative events as the creation of AUSTLII and ScalePlus, coupled with the average time it takes a newly graduated lawyer to become a partner in a firm indicates that it may be anywhere between 15 to 20 years before N-Gen lawyers have power enough to make Knowledge Management decisions. Whether Knowledge Management will survive until then as a management tool, or whether management will change to a point where a more powerful tool is needed, is futurology.

The management should also espouse change as related to the implementation of new ways of doing business. In Australia, the onus for change in the area of legislation is coming from the government, not from within the practice itself. It is thus "forced" onto the lawyer population. Such "forced" initiatives included, over the past 5 years, implementation of electronic filing of cases at Family Court, acceptance of electronic mail as "formal documentation" when used for correspondence, the creation of AUSTLII databases to give access to free legal research, the application of push technology at Scale Plus (Attorney General's website), and wide-spread use of electronic law journals. These are good signs. They are not, however, very effective at changing the IT-resistant culture within law firms, since they are optional and complementary to the already existing work practices.

An Australian law firm, Dilanchian, is a multi-disciplinary law firm and management consultancy - professionals in the law, management and commercialisation of knowledge, intellectual property, technology and innovation. It is only six months old, but a good sign for the KM market in Australia. The firm uses an approach they call the KM Leadership Methodology. The firm has trademarked this term. It embodies the principle that in deal making you have to use knowledge to plan the proposed deal, work out how to implement and manage the outcome of the deal, and only then do the deal. We apply this principle to your strategic, tactical and operational decisions. Knowledge Management Leadership™ resolves vital business issues which cut across different disciplines and fields of knowledge. It integrates planning and management processes (eg. risk management and knowledge management) with the legal considerations of intellectual property management and business law.

1.2. Technology:

A successful knowledge management strategy combines the power of IT with the creative and innovative capacity of the people. Smart technologies can work wonders when used by smart people who know how to use them. So far, both are very rare. And there is the basic issue of knowledge management, the formula that knowledge + trust = collaboration. Trust cannot be coded, at least not yet. Neither can intelligence, although we are trying - we even came up with "artificial stupidity" ([Hiltzik, 2001](#)).

My clients are mainly small law firms for whom the stuff that makes knowledge management in business publications and Microsoft Road Shows is beyond the limits in financial, time and personnel scale. The business world is made of multinationals, nationals and small to medium businesses. The fact is that if these SMBs do not/can not manage whatever intellectual assets they are in possession now, then they are doomed to remaining SMBs or maybe even exiting the business scene totally. At the risk of being called a conservative Luddite, I encourage these firms to manage their knowledge "as-is", a term used by second-hand vendors to describe their wares. This often means using whatever software is already available. I am not against the use of information technology to promote/assist in the initial (information-related) stages of knowledge management. What I am against are "comprehensive" and "total solutions" to KM based solely on software and hardware.

A July 6, 2000 article in the Management Executive section of The London Times discusses the failure of organizations to make full use of knowledge management (KM). Companies are not yet making full use of internal knowledge sources (employees, customers, vendors, and intellectual capital such as licenses and patents owned by the company) to achieve a competitive advantage. The Times reports that despite thousands of pages of advice on the subjects and millions of pounds spent on promotion and implementation, the expected benefits of KM have not been realized. According to experts, the problem (at least in part) is that companies have put knowledge management into the hands of their technical people (rather than their human resources practitioners) who develop tools for information collection and storage and build databases of information. These companies are managing information, not knowledge. Knowledge is more than information. Knowledge is more than the people who have information. Knowledge is also the network of relationships which those people have within and outside the organization.

There are some valuable software and hardware tools for knowledge management that simply must be part of any serious attempt at a KM venture. These include intranets (and for larger enterprises, portals), groupware, databases, document management systems, content management systems, real-time communication software, etc. The problem does not lay in availability, as there is in my opinion already too much stuff on the market, but in making the correct choice. If the whole consultation process for purchasing and implementing KM software is to reside in the IS department, one can wave the success of the KM venture a sad farewell. IT people, like hungry children, buy with their eyes - and I have personal experience of that. Few of them have any notion of business processes or are interested in what the firm is about. If it works for them, it should work for all. Here, the watchful engagement of the knowledge leader is essential, if the firm is not to end up with a "productivity paradox".

Too often the knowledge in the heads of individual staff can become like a messy, poorly-equipped workshop. Each staff member has a few favorite tools close at hand in a drawer or back pocket and tends to use those few tools to fix a wide range of problems, even if there's a more suitable tool available. Disseminating best practices to all staff members in such a way that the knowledge will be accessed when needed is an ongoing struggle. Knowledge management involves taking an inventory of the existing tools, cleaning them up, discarding the broken ones, adding any needed tools and organizing the tools in a central location. But that's the easy part. The real challenge of knowledge management is to make the new, large selection of tools very easy to access and to encourage staff members to readily use each other's tools and share their own. Otherwise, it's too easy to

keep reaching for that old trusted utility knife to do everything from tightening a screw to prying off a lid. In addition, a mechanism is needed to keep the tools up-to-date and “rust-free” and to provide an easy way for colleagues to share any new tools they discover in the course of their work ([McGaritty, 2000](#)).

There are generally three types of tools that can be applied to managing knowledge:

- Information technology systems: In many firms, evolved from information, for the obvious reason that and information are closely related. McKinsey and Accenture, for example, both have highly sophisticated databases that provide libraries of information about their proprietary methodologies, clients and previous engagements. These are essentially repositories of codified. They do not capture the tacit or expertise of leading partners, but provide a form of collective memory that consultants can tap into quickly and efficiently
- Formal and informal structures. A large part of is simply about facilitating the natural interactions between people. One approach is to design the physical layout of offices so that social interaction is encouraged. Ericsson and GlaxoWellcome, for example, designed their R&D labs using lots of glass, open-plan layouts and hub-and-spoke structures to facilitate informal discussions. A second approach is to design the formal structure around the key flows. Cross-functional project teams are a case in point -a way of formalizing meetings to ensure that all the individuals involved bring their relevant to bear on the project. A third approach is to facilitate informal interactions through what are usually called "communities of practice" - groups of individuals with common interests and problems that are dispersed throughout the firm. These individuals, it is argued, will naturally seek one another out to share their experiences and learn from one another, so the firm can play a subtle role in facilitating their interaction, for example, by creating discussion forums on the intranet.
- Specific - tools. Finally, there are a number of specific tools that firms use. One is the transfer of best practice - a structured process for taking a practice in one location and transferring it to another. Another is the designation of centres of excellence, which are groups of individuals whose expertise is recognized on a firm level so that it can be picked up and used in other parts of the firm.

[Birkinshaw](#) (2001) complains in her article that most companies do not know what they want, are most publications on KM tools are inward looking. For her, a successful KM project as much about generating new as it is about recycling existing. Most of the literature is inherently inward-looking. It is concerned with tools such as the transfer of best practice, and databases that are extremely important, but ultimately focused on what I would call "operational efficiency"-- current activities work in a more streamlined way. Much more important, over the long term, is the ability to bring new into the organization, and turn it into new products and business models. There are many ways of doing this. The 3M Corporation, for example, has strategic accounts with many leading customers to pursue joint innovation projects. Ericsson and Nokia both have outposts in Silicon Valley whose job is to tap into the latest thinking there and transfer it back to head office. Cisco Systems aggressively acquires small companies as a way of building its base. All of these approaches to generation have their own challenges, but they are critically important because they represent a way of renewing the firm's, rather than just recycling it.

The problem with commercial solutions is often the fact that they were not meant to tailor-fit the type of work done by the particular firm or business. They are generic. On the other

hand, tailor-made software is often too expensive to be accessible to small firms. An amount of ingenuity and healthy innovation is required for any tool to be successfully implemented.

[Bair](#) (1998) argued that human systems were found to require as much attention as technical developments. In today's terms, KM requires behavioral and cultural change with attention to all the aspects of change management. In addition to a tried and proven set of roles, responsibilities and organizational tactics, Engelbart defined "co-evolution." This concept has been employed by many, especially in the management literature ([Moore](#), 1998). It means that technology innovation begets behavior change which in turn requires more technology innovation. Technology evolution today includes new user interfaces and collaborative filtering tools to accommodate massive increases in accessible, online information, as discussed below. As these innovations are rolled out, behavior will co-evolve leading to additional needs and so on. end-users in system design. The mechanisms for capturing changes in end-user needs have become much more indirect to accommodate mass usage, but end-users' needs do count as evidenced by the quick turn toward Web technology by the entire computing industry. KM is best served by a return to incremental, evolutionary changes in computing systems instead of periodic releases of "new," often backward-incompatible technology. Although computing has become a part of the daily knowledge work "tool kit," the symbiosis implying an interaction with the computing environment and other users in it that was transparent, i.e. the user did not have to think at all about operating the computer, but could focus entirely on the task or the people sharing the computing environment. Users must constantly focus attention on making the computer work, distracting them from the knowledge work at hand. This then impedes performance, obviating the high performance aspects. It can be said that today's knowledge workers accomplish more computing and less work in more time ([Dechant and Viega](#), 1997).

For KM tools to become enablers, not inhibitors or detractors, the next wave of KM products must reduce the labor intensity for sharing knowledge or be derailed like other fads. Artificial intelligence (AI) has long held promise for automating knowledge-based tasks. AI tools and technologies are anticipated to be more widely integrated into KM products; for example, customizing searches to individual users' cognitive styles. Case-based reasoning (e.g. Inference and Intellix) technology provides access to problem resolution case bases to find analogous situations to a given problem, support finding answers to specific questions within predefined areas of interest. The final frontier appears to be the capture of tacit knowledge in those situations where it is made explicit for the duration of the situation and then carried away in the minds of the participants. Indeed, recognizing the need to capture tacit knowledge in its moment of explicitness and leverage it for the enterprise may be the defining challenge of KM. Research will reveal ways to capture tacit knowledge that unfolds in meetings, phone calls and other synchronous interactions; to better represent the sense of content for discovery and reuse; and to define best practices for improving human cooperation, the fundamental social issue.

1.3. Culture:

Even though the economic incentives are becoming clearer and technological capabilities now exist to support knowledge-based organizations, pioneers in knowledge management are finding the behaviors supported by their existing organizational cultures to be a major barrier to this transformation. Organizational knowledge and culture are intimately linked, and that improvements in how a firm creates, transfers, and applies knowledge are

rarely possible without simultaneously altering the culture to support new behaviors. Whether the objectives of a knowledge management strategy are to improve operational efficiencies, enhance organizational learning, intensify innovation, or speed up response to the market, a culture change strategy designed to shift behaviors and practices is a critical part of almost any knowledge initiative.

Today, knowledge-sharing is widely-held to be inherently necessary to the health of most enterprises. Research shows that a “willingness to share” is positively related to profitability and productivity and negatively related to labor cost ([Jarvenpaa & Staples, 2000](#)). Knowledge-sharing is positively linked to growth and innovation, bottom line savings, increased customer satisfaction, increased shareholder value and learning. A knowledge-sharing culture is one where people share openly, there is a willingness to teach and mentor others, where ideas can be freely challenged and where knowledge gained from other sources is used. Knowledge-sharing can occur through many different media: conversations, meetings, processes, best practices, data bases, and questioning. Ideally, knowledge-sharing should be a corporate value which defines how work gets done and how everyone thinks. In short, a culture of knowledge-sharing goes deeper than superficial individual behaviors and captures the hearts and minds of the people in an organization.

The industrial age culture is characterized by most of our organizations are steeped as being strongly antagonistic to knowledge-sharing. In this type of culture, knowledge is considered to be power, so information hoarding is the norm. Management operates on a need-to-know basis and actively promotes a culture of secrecy. The “not-invented-here” syndrome is rife and rewards are based on individual contributions. The challenge for today’s managers is therefore to evolve from such a culture to one which actively encourages and facilitates knowledge-sharing and discourages industrial age thinking and behaviors.

A “knowledge-sharing culture” is believed to be inherently good because of the growing importance of intellectual capital to organizations and the need for effective knowledge management practices ([Gupta & Govindarajan, 2000](#)). In modern organizations, increasing interdependencies between jobs and the information explosion resulting from interconnectivity and rapid change, mean that many people have pieces of solutions and no one knows it all ([Stauffer, 1999](#)). Therefore, cultures which inhibit knowledge-sharing are widely-held to be significant barriers to creating and leveraging knowledge assets. Instilling a knowledge-sharing culture is thus a necessary prerequisite for companies which believe that it is a significant way to differentiate themselves ([deLong, 1997](#)).

So why does culture matter? Leveraging knowledge is not an end in itself. Experience has shown that successful knowledge management strategies are always driven by clear links to business objectives. But simply implementing a more knowledge-oriented business focus and installing the necessary technological infrastructure will not produce the changes necessary in behavior and culture to enable more effective knowledge use. There are several reasons for this:

- First, organizations that are currently profitable and riding high in the financial markets will have a hard time convincing senior management, much less employees, that a revolution in how people create, share and use knowledge is necessary or worth the organizational pain. Thus, the shift to a more knowledge-driven business is likely to be

incremental, which means the existing culture will have a major impact on the implementation of any knowledge strategy.

- Second, the essential technologies supporting knowledge management will be adopted and shaped by the existing organization. This means the technology will be implemented and used effectively only to the degree that a culture is aligned to support the objectives for knowledge management. This point was illustrated in a study of a Lotus Notes implementation in a professional services firm. Designed, in part, to facilitate knowledge sharing among consultants, the system failed because of the firm's rigid hierarchy and its competitive and individualistic culture.
- Third, many firms today rely heavily on the quality, experience, and expertise of their technical and professional workforce. For these organizations, human intellectual capital has become one of their most valuable, albeit intangible assets. Assuming these employees are expected to be valuable in the future in more knowledge-centered businesses, management cannot afford to alienate or demotivate them by ignoring their existing values and norms when implementing a knowledge management strategy.

Trust creation is the first, and most important, enabler of knowledge in law firms. This includes vertical interactions and horizontal interactions. In firms where the culture is never to challenge upwards, where sensitive topics are not discussed and management gives the impression of inapproachability, knowledge is not shared. Such perceptions must be dealt with from top down, with management genuinely interacting with staff and engaging in dialogues. A firm where staff feels that management is not concerned with them and is not paying serious attention to them, are not developing this 'trust'. [Von Krogh](#) (1998) calls this attitude of concern "care". Management needs to show that it has an interest in different viewpoints and experiences of the staff as well as practice lenience in judgement. Staff needs to have access to help, mentoring, and be encouraged to voice opinions. The far most difficult aspect of "trust-building" in legal firms is changing the culture of penalising mistakes and discouraging constructive conflict of opinion.

Managing "across differences" is one of the most difficult and important challenges any manager can face, says David Thomas ([Lagace](#), 2001), the first ever black professor at Harvard. Relationships across these lines, unless managers make an active effort otherwise, are less likely to be developmental. People on both sides are hesitant if not afraid to take risks for fear of inviting scrutiny. They might suppress their differences rather than discuss them openly, and the manager's feedback to the employee may be adequate but of limited value toward the employee's development. Most people manage for performance's sake rather than for development. Managers who manage for performance are more likely to be blindsided by events they should have foreseen and in many cases fixed—such as the sudden departure of a star employee for greener pastures or, more commonly, a sense of discouragement that festers when someone believes, with reason, that the organization is not in his or her corner.

When Robert Buckman implemented his knowledge sharing network in 1996 at Buckman Labs, he made sure as early as at the launch of it, that his staff will not only be rewarded for sharing their knowledge, but also penalised for not doing it ([Rifkin](#), 1996). Some writers, however, seem to disagree about the value of incentives – critics being no where as loud as in Australia. The reason for the aloofness of Australian businesses to provide incentives for knowledge sharing can be explained by the "cut-the-tall-poppy" syndrome.

To be paid for being smarter and more knowledgeable than the rest seems outrageous to regular Australians.

[Denning](#) (2000) warns that establishing incentives for individual knowledge sharing can create expectations of rewards for behaviour that should be part of the business conducting norm. Denning is building his results on two older studies by [Edwards](#) (1986) and [Powell](#) (1998). [Wright](#) (2001) and [Disterer](#) (2001) disagree, and maintain that a reward and recognition system can stimulate sharing, this despite mentioning that empirical studies have shown quite different results. [Milne](#) (2001) suggests that investing in incentives for knowledge sharing without investing in organizational learning and research will in itself not bring the results expected. Milne also stresses the difference between rewards (financial incentives) and recognition (non-financial awards). [Cameron and Pierce](#) (1997) study based on an extensive analysis shows that concluded that praise is a strong motivator for people and that tangible rewards generate more interest in work. A paper by the psychologists [Eisenberg and Armeli](#) (1997) further augmented the Cameron-Pierce analysis by showing how rewarding creative thinking in one area leads to increased creativity in other areas.

The fact is that if a law firm decided to start implementing any form of incentives to encourage knowledge transfer and utilisation within the firm, this could not be achieved without a major change in attitude of the management towards the junior lawyers. Both recognition and rewards are dependant on the Managing Partner(s) recognising the achievements of their subordinates. Another issue to be addressed here is the fact that knowledge is managed in teams, and law firms are highly individualistic cultures. It is often the complaint one hears that team-based rewards and recognition mean in practice that some members of the team had a “free ride” at the expense of others.

Before any incentives program is implemented, management must form a very clear opinion of what behaviour they are rewarding. Generalisations and vague definitions are of no use here, as they will further confuse the issue. One cannot reward what one cannot measure, so a metrics framework for evaluation must be in place before incentives are implemented. All those involved must be aware of what the framework is, so that no unrealistic expectations are created, and no disappointments ensue.

1.4. Measurement:

Measurement is by far the most difficult of KM practices, as well as being the most crucial in terms of success of the KM venture. Without measurement, there is basically no way of proving to the management whether the particular venture has succeeded, and what its ROI was.

[Firestone](#) (1998) defined Knowledge Management metrics as a mix between “quantitative” and “descriptive”. *“In knowledge management measurement, we are trying to select and/or formulate those concepts useful in measuring and influencing knowledge management performance. Some concepts will prove useful because they directly relate to core notions about the goals of knowledge management, and in that sense, have normative significance as performance criteria. For example, providing for the growth of knowledge is one of the goals of knowledge management. The abstraction “growth of knowledge,” is therefore a normative concept we may seek to metricize, and establish as a performance criterion for knowledge management. Other concepts may at first not seem directly related to the goals of knowledge management. But, insofar as they represent causes of the core concepts, or possible side effects of the knowledge management process, we will still need to measure and perhaps to metricize them, in order to explain, predict, influence,*

or properly assess progress on the performance criteria. These other concepts provide descriptive criteria for knowledge management (...) Though at first blush it seems that we should be less interested in descriptive than in normative metrics, this is not the case. Some descriptive metrics, in fact, are likely to make the KMS "go round," and to be determinative of many of the normative metrics. These descriptive metrics then, provide a second set of knowledge performance metrics, a set whose members derive significance from their role in determining the course of the KMS, not from their direct normative significance."

In a similar vein, [Liebowitz and Suen](#) (2000) state that there can be direct measures and indirect measures in knowledge management, the first being size oriented and the other function oriented. Some can be even human oriented, as they attempt to quantify intellectual assets. Other names in the field of knowledge management metrics are Leif Edvinsson of Skandia, [Baruch Lev](#) (1997) [Nick Bontis](#) (1998).

A paper by APQC ([Lopez](#), 2001) state the four stages of a knowledge management project and the appropriate measurement tactics to be used at each stage. These stages are:

STAGE 1: Enter and Advocate - The value of embarking on the KM journey needs to be understood by management--more in theory at this stage than in quantitative numbers. The most effective way of convincing them may be to find the greatest areas of "pain" within the firm: redundant efforts, areas where knowledge is lost, and points of frustration in the firm's employee base. It is important to expose the need for knowledge management at this stage, uncover KM needs and expose areas of lost time, effort, and therefore money. Making comparisons with firm's that have successfully implemented KM can also convince skeptics.

STAGE 2: Explore and Experiment - In this stage, measures can appear in three main categories: anecdotal (war stories, success stories, etc.), quantitative (growth), and qualitative (mainly extrapolation from anecdotal). Measurement of financial returns or results should not be undertaken at this point except as byproducts of other concurrent efforts. Focus should be on meaningful measures that concentrate on exploring the various opportunities in the firm for implementing knowledge management practices, developing the firm's knowledge management strategies, measuring the progress toward organizational awareness, and experimenting with different knowledge management concepts.

STAGE 3: Discover and Pilot - The key here is to begin to ensure that direct business value is perceived by the firm as a result of the knowledge-enabling projects. It is important to establish a mechanism to capture the hard and soft lessons learned in the knowledge management pilots, as these will be the building blocks for the later KM stages. During the acceleration of knowledge management scale-up, establishing measures for the various components of a knowledge management initiative is beneficial. These measures include process dimensions, culture dimensions, content dimensions, information technology dimensions, and people dimensions.

STAGE 4: Expand and Support - In this stage, it becomes necessary to evaluate the fitness of the knowledge areas in relation to the whole organization. Evaluating a knowledge area project might require examining many areas of fitness that, in aggregate, help the organization determine whether the projects in its KM portfolio are of high impact and beneficial to the success of the company. Criteria may include proficiency, diffusion, codification and innovation.

[Abramson](#) (1998) in an article published by the CIO, asked whether KM makes financial sense? Executives who want to spend their company's time and money on knowledge management, he said, need to generate financial numbers to back up the obvious logic of the endeavor. Should the board be banking instead on knowledge management as a long-term strategic asset, analogous to investing in pure research that will someday lead to innovations and increased efficiency. Naturally, there's no consensus. Some experts are willing to calculate bottom-line impact and deliver a dollar-value ROI for managing knowledge, he argues, while other consultants believe this young management field lacks the sophisticated tools to measure such an apparently esoteric endeavor. In support of the first view, Teltech (!!!!!) derives the numbers from its clients' own estimates of time and resources saved because of information gained through its service. For example, a client may alter research plans because Teltech's outside experts--retired engineers and other technical workers, consultants and academics--suggest alternatives, wave red flags about upcoming problems or show that the research has already been done elsewhere.

Another example of a successful KM metric is British Petroleum. Essentially BP embeds Knowledge Management within the everyday work process by making it a normal part of doing business. At the beginning of any project they conduct a 'Peer Assist' (alternatively known as 'Prior Art'), where they get knowledgeable colleagues together to consider all that BP - Amoco knows about this particular subject. 'Learn During' involves a version of the US Army's well-known 'After Action Review' (AAR). BP use the AAR after each 'identifiable event' rather than at the end of a project, thus it becomes a 'live' learning process that constantly informs the direction of the project. The third part is what BP call a 'Retrospect,' which is a team meeting designed to identify 'what went well,' 'what could have gone better' and 'lessons for the future. By ensuring that time is made available within the actual project and that this learning process does not become extra work, BP have managed to make it a normal part of doing business. The results have been real tangible business benefits visible in dollar terms that have turned around critics; "the Schiehallen oil field, a North Sea field considered too expensive to develop until a team spent six months pestering colleagues to share cost-saving tips. They were called wimps for not rushing out to "make hole"-but the learn-before-doing approach saved so much time on the platform (at \$100,000 to \$200,000 a day, not counting drilling costs) that they brought the field into production for \$80 million less than anyone thought possible ([Smith](#), 1998).

[Firestone](#) (2001) identifies the terms "benefits" and "costs", and how they relate to the organizational goals. Corporations try to achieve their goals and to produce benefits by performing business processes. Business process activities may be viewed as sequentially linked and as governed by validated rule sets of agents, i.e. their knowledge. "KM, like other business processes, helps or harms corporations in attaining goals and producing benefits. In order to measure its impact, it is necessary to view it as one of a corporation's business processes, making an impact on other business processes, and, through them, on movement toward or away from corporate goals and/or objectives. In attempting to measure, analyze, or forecast its likely benefits, we need to trace the impact or forecasted impact of the introduction and operation of KM initiatives on knowledge processes. We then need to trace this impact through knowledge outcomes and other business processes, to its further impact on corporate goals and benefits. Assessments of this kind are not easy or straightforward. But they are necessary if a claim about the likely benefits of a KM project is to amount to more than nonsense or hyperbole." In another, more

comprehensive paper, [Firestone](#) (2000) provides a copious list of specifications for knowledge management metrics.

By 2002 things have changed a little. Fairfield, speaking at the 35th Annual Hawaii International Conference on System Sciences, stated that IT professionals are finding that more of their IT investments are being measured against a knowledge management (KM) metric. Those who want to deploy foundation technologies such as groupware, CRM or decision support tools, but fail to justify them on the basis of their contribution to KM, may find it difficult to get funding unless they can frame them within the KM context. Determining KM's pervasiveness and impact is analogous to measuring the contribution of marketing, employee development, or any other management or organizational competency, (Fairfield, 2002).

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