

In the knowledge economy, what you know is at least as important as who you know. That's why the Chief Knowledge Officer has a key role in sustaining a firm's competitive advantage.

THE RISING STAR

of the Chief Knowledge Officer

BY NICK BONTIS

The subject of intellectual capital has been discussed by many organizations, and defined by some. Yet very few individuals understand intellectual capital, and almost no one has been able, formally at least, to put a value on it. That's why knowledge management (KM)—how an organization makes use of its intellectual capital—is one of the greatest challenges facing senior managers today. Job titles such as chief knowledge officer (CKO) and chief learning officer (CLO) have been appearing in annual reports and career ads with increasing frequency. Moreover, these pioneering individuals have been given the unenviable task of channelling an organization's knowledge into initiatives that are expected to become a source of competitive advantage.

This article provides senior managers with a comprehensive overview of knowledge management. It also describes how a chief knowledge officer can leverage his or her company's intellectual capital. The article consists of three sections: a summary of the latest statistics on knowledge management; an outline of the CKO's main responsibilities; and a description of the challenges that senior managers face in implementing and sustaining an effective knowledge management program. The latter includes a 10-step guide that will enable managers to meet those challenges.

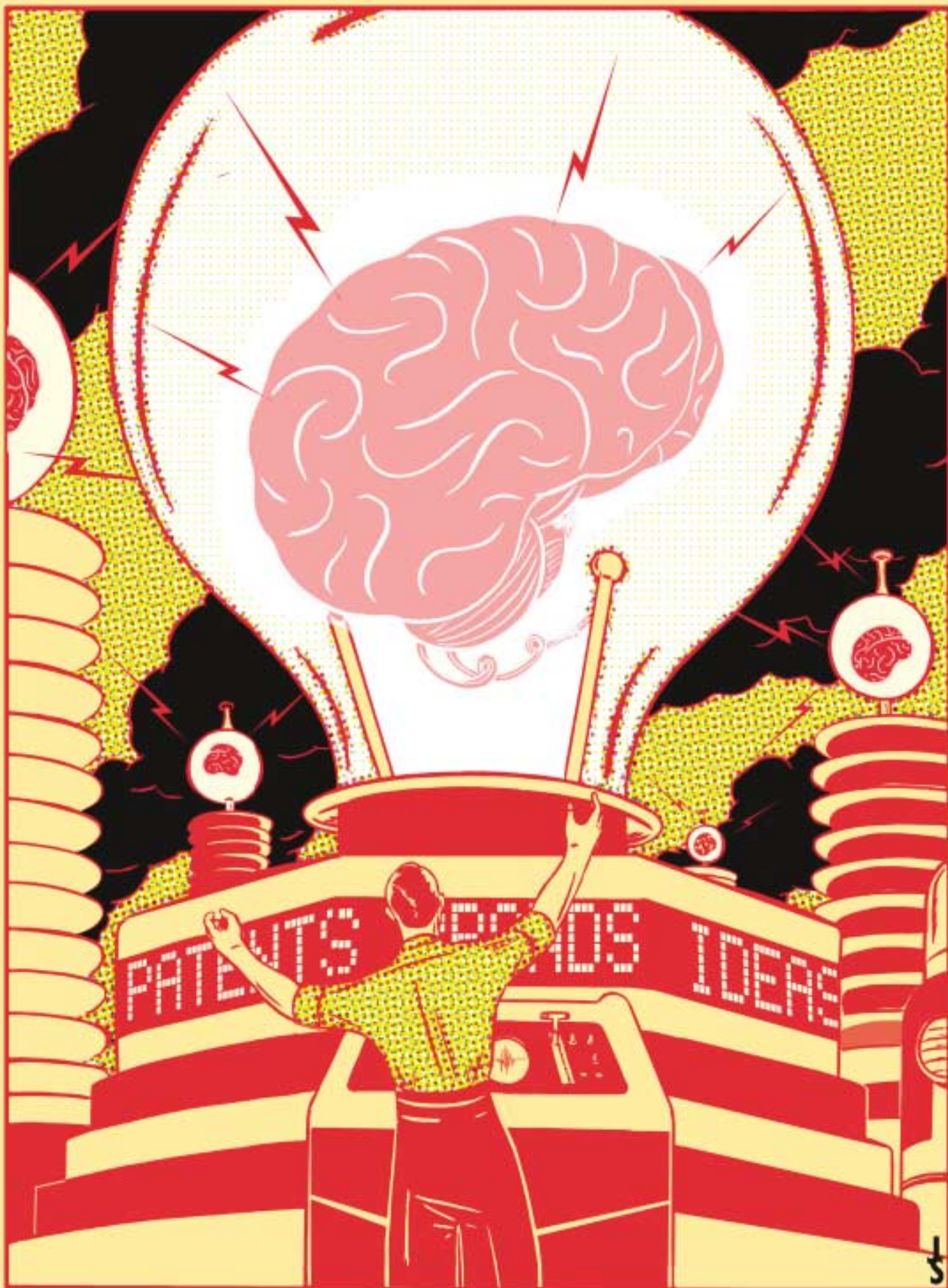
STATISTICS TELL THE STORY

IDC, an international research organization, has reported that Fortune 500 companies wasted \$12 billion by dupli-

cating knowledge work in 2000, e.g., simultaneous search costs, parallel research projects. (All amounts are in U.S. dollars unless otherwise indicated). At the same time, recent studies conducted at the Institute for Intellectual Capital Research in Dundas, Ontario provide strong evidence that knowledge management programs are not only becoming more prevalent but are resulting in tremendous cost savings. Just consider these facts:

- 25 per cent of Fortune 500 companies currently have CKOs;
- 80 per cent of Fortune 500 companies currently have KM staff;
- From 1997-2000, the Ford Motor Company saved \$914 million, mainly due to effective knowledge management programs; Chevron has saved \$650 million since 1991, while Texas Instruments has saved \$1 billion since it launched KM programs in the mid-1990s.
- The Canadian Centre for Management Development launched a formal cross-country KM training program for senior federal government officials in 2001;
- Health Canada administered a KM diagnostic to identify its knowledge bottlenecks in 2001;
- 95 per cent of CEOs polled at the 2001 World Economic Forum in Davos, Switzerland, said that KM was critical to organizational success; and
- 91 per cent of Canadian business leaders polled by Ipsos-Reid in 2001 believed that KM practices have a direct impact on organizational effectiveness, and one-third of Canadian

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organizations that have not undertaken a KM initiative expect to do so in the next 12 months.

The CKO is highly regarded in the boardroom, and many of the initiatives above have been driven by competent KM leaders ("CKO Wanted, Evangelical Skills Necessary: A review of the Chief Knowledge Officer position," *Knowledge and Process Management*, August 2001, 29-38). I have met many individuals at KM conferences who carry business cards with the word "knowledge" in the title. I have even met individuals with creative titles such as "Idea Percolator" and "Imagination Evangelist."

I have interviewed more than 25 CKOs from around the world and found that they had two principal functional backgrounds: 1) information systems personnel who were able to understand which technologies can contribute to the capture, storage and sharing of knowledge, and 2) human resources professionals who were able to understand value alignment, incentive mechanisms and social networking behaviour, all of which encourage deliberate knowledge exchange. The CKOs claimed that in order to succeed in the future, they would need 1) more slack time for dreaming, thinking and talking, and 2) more high-level support from CEOs and board members.

THE CHIEF KNOWLEDGE OFFICER

Being named the CKO of an organization requires that an individual embody all that is good in knowledge management. Thus, the CKO often acts as a symbol or an icon that other individuals in the organization look to for guidance. A CKO's most important responsibility is to leverage the intellectual capital an organization creates. There are four ways that a CKO fulfills that responsibility, and each one influences the firm's knowledge-sharing activities. A CKO must:

1. Promote stability in a turbulent business environment;
2. Enable the speedy delivery of productions or services;
3. Create high efficiency in the knowledge value chain by the sharing of resources and realization of synergies;
4. Enable the separation of work so that specialization is feasible.

The theoretical justification for knowledge sharing rests on the fact that knowledge is not a scarce resource. Thus, it does not suffer from decreasing rates of return like most

finite (or scarce) resources. Rather, knowledge benefits from increasing rates of return. In other words, it behooves us to share it in order to realize its potential for creating synergies throughout the organization. For example, if I have two diamond stones and I give you one, we will each have half of the original total.

However, if I give you half of my knowledge, we may end up with more than double the original total if we share and build it together.

While the world's codified knowledge base (i.e., all historical information in printed books and electronic files) doubled every 30 years in the earlier part of this century, it was doubling every seven years by the 1970s. Information library researchers say that by the year 2010, the world's codified knowledge will double every 11 hours. A vote for the future value—and job security—of the CKO is surely safe with such a prognostication. The following statistics indicate why the CKO will become a mainstay in the boardroom:

- Over half-a-million knowledge-intensive, high-tech jobs currently remain unfilled in America;
- 42 per cent of Fortune 500 companies anticipate appointing a CKO within the next three years; and
- 33 per cent of Fortune 1000 companies report that knowledge management activities are already under way.

Recent studies conducted at the Institute for Intellectual Capital Research also support the hypothesis that the CKO position will soon be commonplace. The Institute surveyed representatives of 53 executive search firms in Canada and the United States about their perceptions regarding CKO placements. The responding headhunters conducted specialized searches in a variety of areas, including accounting, finance, IT, engineering and among top executives. Forty-five per cent of those surveyed were indeed familiar with the position of CKO. More importantly, 72 per cent of the respondents expected CKO searches to increase significantly in the future. The implication is that although searches for CKOs have not yet taken place in great numbers, the executive search industry is preparing for increased demand. Another explanation for the results to date is that most CKO appointments thus far have been made from within, and no external search firm was retained. In any case, we are at the lowest point on a fast-rising trajectory.

Further results from the study predict that CKOs will not

be aligned with any particular organizational function, and their staff will be dispersed throughout the organization and involved in different business processes. Forty-seven per cent of the headhunters predicted that CKOs would have working experience in IT and be placed primarily in high-tech industries where most of the work is knowledge-intensive.

The study also revealed that CKOs should be responsible for driving organizational learning's return on investment. To do this, a CKO must be capable of taking a critical approach to the training methodologies used by the HR staff. Research shows that LOD (learning on demand) or JIT (just in time) training on the multimedia desktop significantly increases the mastery and retention of content by 40-70 per cent over traditional, lecture-based learning models. The CKO and HR staff should audit the training methods to see that modern, effective technologies are being used. Training and development staff also benefit from instant feedback and evaluation when desktop LOD or JIT methodologies are utilized. Employees receive instant feedback and reinforcement while benefiting from reduced anxiety and fear of failure.

KNOWLEDGE MANAGEMENT TRAINING

Not surprisingly, many leading high-tech companies are either embracing LOD/JIT training or planning to adopt it in the near future. In many cases, however, the CKO will meet with resistance from the CIO or other senior IT managers who recognize the enormous resources that multimedia (especially audio and video) steals from networks starving for more bandwidth.

One module that can complement LOD/JIT training programs is the Tango simulation, administered by the Swedish company Celemi (www.TangoNow.net). First developed by Dr. Karl-Erik Sveiby, the Tango simulation introduces participants to the concepts of valuing and managing intangible assets such as intellectual capital. I have used Tango for both corporate and MBA audiences and can say that it is a great way to introduce many of the concepts of intellectual capital and knowledge management to individuals in an interactive, enjoyable manner. Tango teams are asked to assess the value of the intangible portion of their organization and increase it by balancing

investment among a variety of choices such as:

- acquiring the correct staff mix for implementing strategy;
- ensuring that the right chemistry exists between staff and the client;
- completing challenging projects successfully;
- undertaking research and development; and
- adequately training staff.

THE CHALLENGES FOR SENIOR MANAGEMENT

CEOs are responsible for justifying the value of knowledge constantly being developed in their organizations. While this intangible may never be evaluated in the financial terms that accountants and financial analysts are accustomed to, its strategic impact should never be in question. From the capture, codification and dissemination of information, to the acquisition of new competencies through training and development, to the re-engineering of business processes, one very important thing is apparent: Present and future success will be based less on the strategic allocation of physical and financial resources and more on the strategic management of knowledge assets.

What does this mean for senior managers? It means that the capacity to manage knowledge is a critical skill, and perhaps the critical skill of this era. The capacity of an enterprise to create wealth will be based on the knowledge

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and capabilities of its people. If there is one distinguishing feature of the knowledge economy, it is the ascendancy and primacy of intellectual capital. In developed countries especially, there has been a shift from a manufacturing to a service economy. Firms that thrive in this new environment see themselves as learning organizations, and they continually try to improve the quality of their intellectual capital.

Much of the writing on intellectual capital approaches the subject from an accounting and financial perspective. Many researchers are interested in answering the following questions: 1) Why are some firms worth so much more ►

than their book value? and, 2) What exactly comprises this intangible asset referred to as intellectual capital?

In 1962, economist Fritz Machlup concluded that 34.5 per cent of the gross national product of the United States was produced by the information sector. A decade and a half later, researcher Marc Porat raised that figure to more than 46 per cent. Today, many of the largest knowledge-intensive organizations are valued at billions of dollars, in some cases even before they have sold one dollar's worth of product or service.

The concept of "Tobin's q" illustrates the significance of knowledge in an organization. Developed by Nobel Prize-winning economist James Tobin, this ratio measures the relationship between a company's market value and its replacement value, that is, the cost of replacing its assets. Companies in the software industry, like Microsoft for example, where intellectual capital is abundant, tend to have a Tobin's q ratio of 7-to-1 or greater; firms in the steel industry, noted for their large capital assets, have a Tobin's q ratio that is closer to 1-to-1.

One of the purest examples of intellectual capital valuation exists in the consulting industry. McKinsey & Company, one of the industry leaders, does not employ traditional marketing methods; its clients come knocking on its door in their quest to find the best analytical knowledge available. McKinsey generally sells its intellectual capital in teams of five consultants, each led by a senior partner.

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Remarkably, clients are willing to pay for the transfer of this knowledge at an average annual rate of \$500,000 per consultant or higher.

In 1989, Charles Handy suggested that the intellectual assets of a corporation were usually worth three or four times its book value. No executive, he observed, would leave his cash or factory space idle. However, when CEOs were asked how much of the knowledge in their companies was actually used, they typically said only about 20 per cent. A recent study by the Gottlieb Duttweiler Foundation, a Swiss think tank, corroborates this view. It

found that most companies use just 20 per cent of the knowledge available to them.

INTELLECTUAL CAPITAL: WHERE IS IT?

Intellectual capital encompasses human capital, structural capital, and customer capital, which is also referred to as relational capital. Human capital is the stock of knowledge that exists at the individual level in an organization. Since this knowledge resides primarily in the minds of employees, it is often thought of as tacit, and thus difficult to codify and transfer.

Some would argue that all of an organization's knowledge exists only in the minds of employees. However, it is not that simple, since organizational knowledge also exists in other forms, for example, the firm's processes, strategies and tactics. Structural capital is the knowledge left behind when employees go home for the evening.

The essence of structural capital is the knowledge embedded in the non-human storehouses and routines of an organization. It exists outside the employee, but inside the firm. Structural capital consists of the mechanisms and structures of the organization that can help support employees in their quest for optimum performance. An employee can have a high level of intellect, but if the organization has poor systems and procedures, its overall intellectual capital will not reach its fullest potential. An organization with strong structural capital offers a supportive culture that allows individuals to try, fail, learn, and try again. In addition, using the appropriate technologies to organize intellectual assets can turn individual know-how into group knowledge.

Relational capital comprises customer and supplier relationships, knowledge of market channels, and an understanding of the impact of governmental or industry associations. Although many managers recognize the importance of relational capital, they often have a difficult time tapping into the wealth of knowledge that exists in their clients and suppliers. The knowledge embedded in an organization's network of relationships is a powerful vehicle for success. The recent popularity of CRM (customer relationship management) software tools attests to the underlying value of relational capital. Understanding what customers want can be the difference between a leader and a follower.

A MANAGER'S GUIDE

The emphasis on knowledge management and intellectual capital has grown tremendously during the past decade, but these concepts have certain limitations. Researchers have done a fair job of identifying where intellectual capital resides in an organization. But most managers are more interested in learning how to measure and leverage this knowledge. Accountants and financial analysts have tried to develop metrics to measure these intangible assets, but the metrics are typically company-specific, do not easily conform to Generally Accepted Accounting Principles, and are not general enough for the Financial Accounting Standards Board, the Canadian Institute of Chartered Accountants or the Securities and Exchange Commission to adopt.

Despite these challenges, senior managers can begin to manage their intellectual capital by following the 10 steps below.

1. Conduct an initial knowledge-management diagnostic. Such an examination may include designing and administering a survey using Likert-type scales to get a snapshot of the existing level of intellectual capital as well as the bottlenecks in effective knowledge flows. (Contact the Institute for Intellectual Capital Research, www.bontis.com/ic, for further information on KM and IC diagnostics.)
2. Make knowledge management a requirement for training and evaluation, and assign personal targets for intellectual capital development by honouring storytelling and communities of practice in your organization. (Contact www.tomoye.com for communities of practice software.)
3. Formally define the role that knowledge has in your business and industry. Find and secure the greatest resources for intellectual capital inside and outside your firm, from sources such as industry associations, academia, customers, suppliers and the government. (Refer to www.brint.com for various resources.)
4. Recruit a leader to be responsible for developing intellectual capital. This person must have a varied background in human resources, strategy and IT. (Refer to sample CKO job postings on www.kmci.org.)
5. Classify your intellectual portfolio by producing a knowledge map that will show where people and systems knowledge reside in the organization. For example, you could create a central database in which all competi-



tive intelligence information can be accumulated and accessed. (Contact Chronicle Technologies, www.chrontech.com, for a sample of such software.)

6. Use document management systems that allow for on-line collaboration among your employees, and develop corporate yellow pages to profile experts. (Contact www.appareo.com, www.opentext.com and www.tacit.com for such software.)
7. Be sure to incorporate a reward and recognition program that provides incentives for employees to share knowledge on KM platforms. (Contact www.Knexa.com and request a demonstration of the IntraKnexa platform.)
8. Consistently conduct intellectual capital audits to re-evaluate the organization's knowledge accumulation. Use monetary values if possible, but do not be afraid to develop customized indexes and metrics. (See www.skandia.se, www.celemi.se and www.carlbro.dk for sample intellectual capital statements.)
9. Identify gaps that must be filled. Start benchmarking your turnover and training ratios. (Contact www.saratoga-institute.com for a comprehensive database.)
10. Prepare and publish the organization's knowledge portfolio in an addendum to the annual report and publish it for internal management purposes. (See various models reported in "Assessing Knowledge Assets: A review of the models used to measure intellectual capital," *International Journal of Management Reviews*, March 2001, 41-60.)

We have a long way to go before we can be seen to be effectively managing our corporate knowledge, but the concept of knowledge management is here to stay. So too is the position of chief knowledge officer. The war for talent and the acceleration of technological innovation accentuate the issue. The evidence is clear: Corporate KM programs have proliferated in recent years and KM education is following suit. The formation of a network of academics and practitioners who understand and support intellectual capital may be the first step toward survival in a new business environment, one ruled by intellectual capital. ■

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