Preserving Knowledge by Ensuring Its Flow

Interview with **Frank Lekanne Deprez,** director of ZeroSpace Advies and senior lecturer, Nyenrode University, the Netherlands

In face of the upcoming retirement boom, companies need to favor loosely structured schemes for preserving critical knowledge. Leveraging the three types of I.Q., encouraging communities, and stimulating organizational forgetting are proving effective ways of passing knowledge from generation to generation.

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How can companies identify the knowledge they need to conserve when those who possess it retire?

Sometimes the knowledge that needs to be preserved is obvious. By 2006, half of the NASA workforce will be eligible for retirement[1], and if these people's knowledge is not preserved, it might mean they'll never send a rocket into space again! Still, retirees are nevertheless leaving a lot of knowledge behind. The problem is that remaining company members do not necessarily know how to look at it. Take the example of a well-known manufacturing company that wanted to share blueprints worldwide. Hard copies were digitalized and search mechanisms added to facilitate use. But in the end, the drawings were never used. Why? Because no one had talked to the engineers who had drawn the blueprints and who had left "post-it" notes (that obviously hadn't been scanned) all over them! The result was corporate memory decay. Another part of the issue is educational trends. Between 1982 and 2001, top schools that train for the oil industry (i.e. Colorado School of Mining, Texas A&M) registered an 81% drop in enrollment[2]. Other telling figures: on January 19, 2005[3] in the Netherlands, the Shell Corporation called for 170 engineers and geologists, but the Dutch University of Delft only generates 30 such people yearly. Indeed, Shell used to own valuable oil reserves, but value depended on future drilling. Various early 21st century business decisions led Shell to outsource and downsize the population of workers with this knowledge. Suddenly, they no longer had enough technical and operational competencies to take care of their valuable oil reserves. The situation is similar in the aviation industry, particularly when it comes to maintenance, and also in the health sector. One major airline, for example, recently lost more than 1,200 veteran maintenance technicians to early retirement. That's more than 25,000 years of specialized experience fixing some of the world's most sophisticated airplanes. Finally, research by Hamilton Beazley[4] identified that just 30% of expertise is explicit, whereas 70% resides in people's minds (and personal hard disks!). Preserving that kind of knowledge takes more than "brain drain" strategies and putting information and knowledge into company databases.

What does it take?

Some people do have truly unique abilities, and certain combinations of people—so-called "hot teams"—cannot be reproduced on demand. But one means of preserving implicit knowledge is by leveraging all three types of I.Q.: Individual and/or Collective I.Q. (ICQ), organizational I.Q. (OIQ), and emotional I.Q. (EQ). The first refers not only to individual intelligence but also to the collective intelligence that stems from interactions. In a nutshell, the whole is more than the sum of its parts—which is the whole point of working together! Second of all, organizational I.Q. (or memory) refers to what comes out of shared past experiences. This is ...

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... the communal form of implicit knowledge ("folk knowledge"[5]). Lessons learned and good practices are part of this. Finally, the emotional quotient stems from often-powerful feelings that people associate with shared experiences and that generate unique, hard-to-copy products, services and processes. The combination of these three types of I.Q. will flourish in an environment of trust in which people are willing to share their personal 70% of knowledge. Retaining critical knowledge requires flow between the multiple generations of knowledge and people.

How can an organization ensure this flow?

Flow implies sharing, but sharing knowledge does not come naturally; on the contrary, people tend to be hostile to the idea[6]. They will only share if they trust one another—"trust builds trust"—and to truly benefit an organization, sharing must be supported. It's a matter of managing a wide breadth of support instead of a wide breadth of control! Indeed, informal systems for sharing are often more effective than more formal ones. Communities are a highly effective way to preserve and transmit knowledge. Whereas teams dissolve once their project has been completed, communities go on. They thus help create lasting value. A community is primarily a way of communicating with and organizing other people who share the same interests, goals and purposes. A community emerges and thrives until it is no longer useful, of interest, or required[7]. Communities produce value through day-to-day exchanges of information and knowledge. When it comes to high tech environments, communities are particularly effective. IT company EDS (87th of Fortune 500 companies, 117,000 employees, $20 billion turnover) has a vast architecture for sharing and innovation across its global force, which includes the Techlore technical knowledge repository and 114 communities of practice with over 28,000 members ! In the field of high tech, today's knowledge may already be out of date. So stock approaches (i.e. capturing information and knowledge into shared data bases) are a good first step but inadequate for the creating value. The previously mentioned manufacturing firm provides a typical example.

Another means of preserving and transmitting information and knowledge is through search and find systems that can detect specific information in e-mails, hard disks or any other digital source. Nowadays, people are highly likely to exchange valuable information in casual e-mails. But you can tell the search and find engine what type of information you are interested in—i.e. a specific item on knowledge management or future investment opportunities—and it will track it in e-mails, power-point presentations, Word documents, hard disks etc. This obviously raises ethical issues, but the process itself is a means to preserve less tangible knowledge.

What else should companies focus on in their aim to preserve critical knowledge?

On forgetting! We stress learning and preserving, but it is at least as important to be able to forget, and perhaps more so. A lot of organizational change projects are unsuccessful due to people's inability to forget old ways and bad habits. Many potential careers were damaged when the dot.com bubble popped, because no one could forget that people had taken a risk and been unsuccessful. In those days Chief Information Officers (CIO's) kept their title: Career Is Over! This issue of failure in itself is one that needs to be reconsidered. Old quality programs used to keep track of failures in an aim to learn from and not repeat them. Nowadays you will probably not find an openly accessible—and shared—"worst mistake" file in any company! But this too is valuable knowledge…

Organizational design is another key issue, and it will be even more important as time goes on. We need incomplete designs that can be added to, to favor the flow of critical knowledge. Nowadays we see both age and experience discrimination, but "old" is often a question of mentality rather than an age. Older workers can connect with younger ones as mentors or teachers, and experience should be seen as a springboard. On the other hand, multi-tasking is second nature for today's young people, and Motorola, for instance, has made good use of "reverse teaching" (younger people teaching their elders). Organizations should take advantage of this capacity. ■

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