

# Plug the “Brain Drain”

## Strategies for knowledge management and knowledge transfer

By William Atkinson

It's no secret that supply chain functions today are engaged in what AMR Research has described as a “war for talent.” The name of a recent report from the MIT Center for Transportation & Logistics says it all: “Are You Prepared for the Supply Chain Talent Crisis?” The author, Ken Cottrill, points out: “Supply chain faces a severe shortage of talent at a time when the demands on the profession have never been greater... Companies must be more proactive in their approach to recruiting, developing and retaining the supply chain professionals they need to stay competitive.”

Meanwhile, we are witnessing major economic and demographic trends impacting the workforce, including downsizing as a result of the recession, as well as an unprecedented generational change as Baby Boomers retire. As these experienced staff walk out the door, they are taking with them years of knowledge and expertise. In effect, they are leaving with a key element of

the employer's competitive advantage.

A case in point: “At a recent customer meeting with NASA, we were discussing the fact that almost everyone who had worked on the development of previous manned space vehicles had already retired, and with them, a priceless wealth of knowledge and experience had been lost forever,” reports Andy Brown, business development director for IHS ESDU, which provides engineering solutions.

According to Michael Thompson, manager of electronic publishing for engineering association SAE International, the nation has a larger generation of workers who are set to retire, with a much smaller workforce left to fill their shoes in industries that have a growing, not a shrinking, demand for highly skilled workers.

### Multiple Leaks in the Drain

The rising demand for engineering talent is illustrative of this dilemma. Despite the recent recession, the US Bureau of Labor Statistics estimates that there is about a 12 percent growth in demand for engineering talent in the United States alone over about a 10-year horizon. Even with the recent economic downturn, the growth rate diminished slightly but didn't go negative by any stretch of the imagination. In fact, it is still about 4 percent. “If your knowledge walks out the door, you have to reinvent it or reacquire it, and that gets very, very expensive,” points out Thompson.

And the problem is more severe

than just retirements. “Over the last 20 to 30 years, we have seen repeated downsizing and outsourcing operations strip experienced midlevel staff out of many companies, and many of these people are leaving their professions, never to return,” says Brown.

A third element to the problem: Many skilled staff working in the US over the years are foreign-born, having come here for better employment opportunities. However, with the expansion of the “world economy,” many of these employees are returning to their native lands.

While large numbers of skilled staff are leaving the US, either via past downsizings, upcoming retirements or moves to foreign countries, the number of students in school who can replace them often is not keeping up. “Many companies are trying to fill the void by hiring graduates,” notes Brown. However, competition for the best and brightest is fierce. Adding to the problem is that many students who obtain degrees in the US come here from other countries to complete their education, and then return to their homelands for employment.

### Plugging the Brain Drain

So what are the solutions to the “brain drain”? Most of them revolve around a concept known as “knowledge transfer.” According to Thompson, knowledge transfer in organizations is the process through which one unit, group, department, division and even individual

**For a detailed look at strategies and tools for plugging the brain drain in your organization, see the on-demand Webcast “Addressing the Engineering Knowledge Vacuum” at [sdexec.com/242472](http://sdexec.com/242472)**

is affected by the experience of another.\* “We can think of knowledge transfer as organizing and capturing information for current and future generations,” he says. It is not merely a one-time communication, and it is not an e-mail or a memo. It is a way to capture and relate knowledge between and among individuals or groups in a manner such that the knowledge lives on.

According to Brown, companies must be systematic in knowledge sharing to realize the full benefits. “Building a collaborative culture requires a systematic approach to knowledge sharing, and leveraging knowledge for continuous improvement requires changes to a company’s culture,” he emphasizes.

Brown continues: “It is essential that companies begin their knowledge capture process as soon as possible.” In addition, they must be systematic in knowledge sharing to realize the full benefits.

For example, at NASA, in response to its engineering brain drain, the agency set up a network to promote learning and sharing among NASA’s engineers. “As a program- and projects-oriented agency, NASA recognized the need not only to gather best practices and review lessons learned, but it was also key that those lessons be shared throughout the whole organization and not just with individual project teams,” notes Brown.

### **Techniques for Knowledge Transfer**

According to Thompson, there are two ways in which organizations can pursue knowledge transfer.

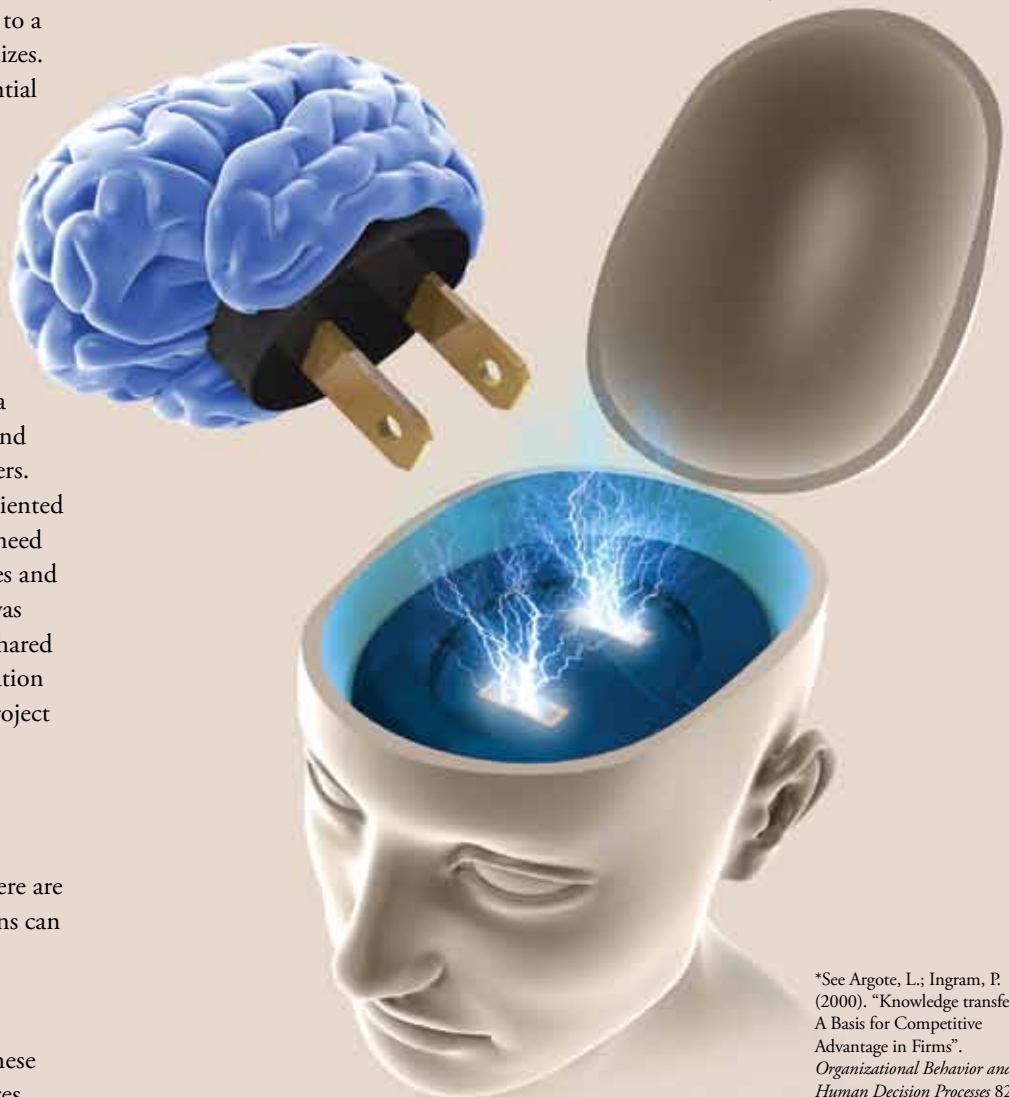
One involves formal and traditional processes that have been practiced for decades. These include documented procedures

such as instruction manuals, videos, archives, expert systems and job aids, such as flow diagrams, checklists, reference tables and decision trees. “Success here involves increasing documentation for every process and procedure,” he says.

The other involves more informal and less traditional processes. “What we have been seeing more in the last couple of years is the desire to capture the experiential knowledge of the workers who are about to retire,” he explains. “These are people who have built up knowledge over decades – knowledge that isn’t necessarily documented as part of a procedure or process.”

According to Thompson, mentoring is at the top of the list here. “Research indicates that this is the most impactful way to relate experiential knowledge, because, if done properly, it allows for a long-term relationship of trust and collaboration between the mentor and the mentee,” he explains.

Other related methods include storytelling, lunch-and-learns, critical incident reviews, lessons-learned debriefings and job rotations. With job rotation, individuals are identified on particular career tracks and are rotated on six-month cycles through an organization, so they have the benefit of partnering



\*See Argote, L.; Ingram, P. (2000). “Knowledge transfer: A Basis for Competitive Advantage in Firms”. *Organizational Behavior and Human Decision Processes* 82 (1): 150–169.



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— J. Kevin Perry, managing director for professional development with SAE International

with experienced leaders in different parts of the organization.

Thompson also cites some external opportunities for knowledge transfer. These include ERP systems, white papers, standards, and collaboration and training with suppliers.

Opportunities can be “sliced and diced” a different way, too. According to J. Kevin Perry, managing director for professional development with SAE International, there are four general opportunity areas to engage in knowledge transfer. These are mentoring programs, internal knowledge capture and share techniques, internal company training and externally sourced training. The latter can include training offered by universities, associations, vendors and alliances. “One of the keys to successful mentoring programs is first being able to successfully anticipate the retirement pattern and the impact

that the retirement pattern might have on your company, and then create a program to address it,” he adds.

### **Barriers to Knowledge Transfer**

While the need for formal and informal knowledge transfer strategies and programs is pressing, there can be barriers and challenges to knowledge transfer. One, according to Thompson, is the organizational culture and structure. Do these encourage knowledge transfer? And are time and money being set aside for specific initiatives devoted to transferring knowledge?

“If you’re interested in trying to have a more structured knowledge capture and sharing strategy, one solution is to try to get management to buy into a scenario where your prospective retirees are allowed to break away one day a week, allowing

them to create some knowledge assets, such as case studies or videotaped assets,” suggests Perry. If your company is not interested in doing this, you might consider referring these opportunities to other organizations, such as associations, universities or even consulting firms.

How can you get management buy-in? According to Perry, it would first be useful to try to document the impact of the anticipated retirements and the consequences of migration of knowledge and expertise that this is likely to create. Second, if you have an opportunity, benchmark with companies that are already engaged in successful knowledge transfer strategies, such as mentoring programs. Third, take this information, put it together in a plan, and furnish this to management with some kind of projected return on investment.

Brown agrees with the importance of creating a business culture that values and promotes knowledge transfer. “One thing you really need to put into place is a culture change that values knowledge capturing and sharing,” he says. “When I began my career as an engineer, it was quite common for a senior engineer, when you asked him why we’d done something, to respond with, ‘Because I said so.’” The reason for this cagey reply, he soon discovered, was that people feared for their jobs, and they didn’t want anyone else to know what they knew. “These days, though, you really need a culture that encourages knowledge transfer and knowledge sharing – to make it a part of everything they do,” he concludes. ■

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