
The Need to Preserve Employee Know-How

When faced with crises such as losing key talent, downsizing, lay-offs and buy-outs, managers often stand by helplessly, shrug their shoulders, and lament the sheer volume of wisdom that is walking out the door. People inevitably feel the pain that the departure of their colleagues causes. Sometimes that pain is immediate, as someone must step in and absorb the daily work of the departing employee. Often times, however, the true pain comes when no one who remains in the organization knows how to carry on in their absence.

Many people can recognize their colleagues in these situations: Sue can quickly spot early warning signs in systems that could potentially take down the entire IT network; Mike successfully coaches a plant manager through a union avoidance campaign; and Allison's peers scratch their heads at how she is able to produce such high quality financial analyses. But do you know what to do when these key employees move on to other jobs, or worse, when they are let go due to cutbacks and lay-offs?

If any attempt is made to transition knowledge, it is often focused on documenting rules and steps required to perform a set of discrete tasks and objectives. If all organizational wisdom boiled down to standard operating procedures and rote steps, shouldn't companies be able to outsource or automate the job in question? The answer, obviously, is that not all knowledge required to perform well is always at our fingertips. Experienced employees add value because they have built up a repertoire of experiences - situations and responses over time - which they rely upon to perform well under conditions of high stakes, stress, and conflicting information. The first step to preventing the loss of organizational wisdom is to recognize that experienced talent knows and does things differently from others in your organization.

Recognize what Key Employees Know that Other Do Not

Every organization is made up of exceptional team members that just seem to know what to do to get results. Over time, these employees have developed on-the-job expertise or wisdom. That is, they excel at doing many of the following tasks:

- Sizing up situations and determining the best action to take
- Knowing what information is critical in a situation and what can be ignored
- Thinking through "what if" scenarios to uncover what could go wrong in a situation
- Identifying potential pitfalls and errors and developing strategies to avoid them
- Using tricks of the trade or short cuts to get the job done more efficiently and effectively

What an experienced person knows and does is often "hidden" to the rest of us. People who have developed expertise in a certain area exercise mental short cuts in how they approach their jobs. When asked directly about what they do and why, some experts cannot always articulate their reasoning processes. That is, they have become so good at performing certain tasks and functions that they may not be conscious of how they are able to perform so well or what procedures they use. Researchers refer to this "hidden" information as tacit knowledge, which is what enables experienced people to make sound judgments and decisions.

So how can HR professions help harvest the wisdom of experts and transfer it to others?

Techniques for Harvesting Employee Wisdom

Over the past 40 years, researchers and practitioners have developed cognitive task analysis (CTA) methods to uncover expertise and share that knowledge with others. While there are a variety of techniques that fall under the CTA moniker, these methods are typically qualitative in nature. CTA practitioners use semi-structured interview guides to elicit information demonstrating expert performance on the job. Unlike other types of task and behavioral analyses, CTA focuses on cognitive thinking skills. The goal of the CTA interview is to elicit stories, examples, and lessons learned that demonstrate how an experienced person processes information, problem solves, and make decisions differently from less experienced personnel.

Some of the ground breaking CTA work has been done by practitioners working with the armed forces. Just take the campaigns in Iraq and Afghanistan as examples. Units deploying into combat zones need to learn rapidly from experienced soldiers and commanders on the ground. For example, when insurgents in Iraq began developing and planting improvised explosive devices (IEDs) or “road side bombs” along major military transportation routes, the military quickly began interviewing experienced veterans to learn how to recognize the signs, cues, and patterns of potential IED threats.

While the military has used CTA for decades, the methods are not as well known inside corporations, non-profit, and government organizations. With the impending wave of baby-boomer retirements and the need to onboard faster and more efficiently than ever before, there is a great opportunity to embrace these approaches. In the following case study, one organization facing a severe economic crisis used these methods to preserve and transfer expertise within an IT department.

Losing Experienced IT Professionals: A Case Study

A manufacturing organization, needing to respond to the bleak financial projections for the first half of 2009, decided to decrease the size of the workforce by offering an employee buy-out program. In one department, three experienced IT systems administrators accepted the offer. Unfortunately, none of the remaining team members had any experience operating the systems for which the IT administrators were responsible. Given the economic conditions, the department knew that there would be no approval for replacing the departing staff members.

The department manager's goal was to minimize the service level interruption that would inevitably occur when the experienced system administrators left the organization. Furthermore, she knew she needed to maintain a minimum level of performance while her new system administrators came up to speed. So the manager set to work, charging the entire group with finding a way to elicit the wisdom of her team and transfer that know-how to others.

Creating the Strategy. With the help of HR, the team created a plan to harvest the wisdom of the IT administrators and implement a knowledge transfer program. The goal was to transition basic job responsibilities quickly, and to use the departing employees as coaches and trainers to raise the level of proficiency over several weeks. Their overall strategy is depicted below.

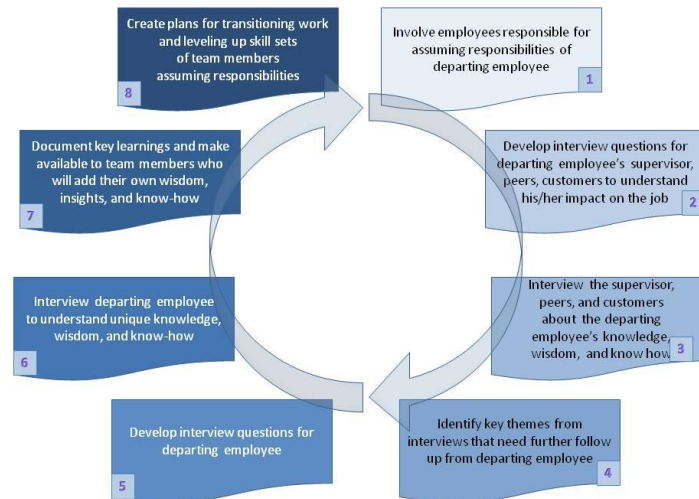


Figure 1. Wisdom Harvest Strategy Map

Conducting the Interviews. In steps 1-5, the team gathered information about what exceptional job performance looked like from several perspectives: supervisors, customers, and peers. They then used this information to outline the key responsibilities for which they would be held responsible after the job transition. The background information gathered in steps 1-5 helped the team understand the job context and the key performance outcomes. Thus, they were able to begin the interviews with the actual IT administrators knowing the basic standards and expectations for the job.

Step 6 consisted of a two-part interview process. In Part 1, the interview team confirmed the major job responsibilities gathered in previous steps. They then asked the systems administrators to identify job elements that were difficult to learn quickly, and that required tough thinking skills, complex judgments, and problem solving. This is a prioritization technique that helps interviewers avoid spending time discussing procedural steps, tasks, and routines that can be referenced elsewhere. This CTA method is known as a Task Diagram.

IT Major Job Responsibilities Requiring Complex Thinking Skills

1. Think about the key performance responsibilities for IT Systems Administrator job. Is there anything missing from this list? [Show information gathered in Steps 1-5]
2. Of each of the components identified, which ones require complex thinking skills? By thinking skills, we mean judgments, assessments, problem solving skills, decision skills. These are things that are hard to learn quickly or hard to learn by reading a manual or following a set of procedures.
3. For each of these components that require complex thinking skills, tell us why? What makes it challenging to perform this part of the job?

Figure 2. Task Diagram

During Step 6 Part 2, the team used questions adapted from the Knowledge Audit, another type of CTA method. This technique is designed to survey the dimensions of job know-how that are characteristic of seasoned experts. The dimensions and definitions are listed in the left column, and the right column lists the prompts. For each dimension, the interviewers asked for a story, example, or insight that revealed how the system administrators exercised their thinking, judgment and problem solving skills.

Step 6 - Part 2. Dimensions of Job Know-How	Sample Questions
<ul style="list-style-type: none"> Time Orientation. Knowing how a situation developed and what might happen in the future, so one can plan on how to respond or how to avoid problems before they occur. 	<ul style="list-style-type: none"> <i>Is there a time when you walked into the middle of a problem and you knew exactly how things got there and where they were headed?</i>
<ul style="list-style-type: none"> Systems Thinking. Seeing the whole picture, not just the pieces and parts, and understanding how different elements are connected and affect one another. 	<ul style="list-style-type: none"> <i>Can you provide an example of when it is important to pay attention to the whole picture? What are the major elements you have to know and keep track of?</i>
<ul style="list-style-type: none"> Paying Attention. Seeing warnings, red flags, or patterns that others may miss or not see. 	<ul style="list-style-type: none"> <i>Have you had any experiences where you noticed things going on that others didn't catch or see? What is an example?</i>
<ul style="list-style-type: none"> Tricks of the Trade. Knowing how to work as efficiently and effectively as possible without cutting corners or skipping important steps. 	<ul style="list-style-type: none"> <i>Are there any tricks or tips you've learned over time to get this job done faster, more efficiently, or to get better results?</i>
<ul style="list-style-type: none"> Innovating. Being comfortable improvising and recognizing opportunities to try new things that could have a big pay-off. 	<ul style="list-style-type: none"> <i>Can you think of an example where you have improvised or noticed an opportunity to do something better?</i>
<ul style="list-style-type: none"> Self Awareness. Being aware of one's own job performance and making adjustments so that the work is not impacted. 	<ul style="list-style-type: none"> <i>Can you think of a time when you realized that you would need to change your method or adjust your own style in order to get the job done properly?</i>
<ul style="list-style-type: none"> Atypical Situations. Recognizing when a situation is out of the ordinary or when something that is supposed to happen does not occur. 	<ul style="list-style-type: none"> <i>Can you describe an instance when you spotted a deviation from the norm, or knew something just wasn't right in a situation?</i>
<ul style="list-style-type: none"> Misleading Information. Knowing when their might be an error in equipment, software, or information sources, and taking steps to check for accuracy. 	<ul style="list-style-type: none"> <i>Have there been times when your information systems, equipment or tools pointed to one course of action, but your gut told you to do something else? Or a time when you had to rely on experience to avoid being led astray by potentially wrong information?</i>

Figure 3. Knowledge Audit

Developing a Knowledge Transfer Plan. Because the whole team was involved in the process, they knew exactly what it had to do to raise their proficiency. They reviewed their notes, rated the difficulty, frequency, and importance of the tasks they would need to learn, and outlined an eight-week plan to transition basic responsibilities. They also developed targets and metrics for performance during the transition.

In their remaining weeks, the departing employees created scenarios and use cases to train the team on the more complex aspects of the job that were unveiled in the interviews. However, the manager knew that there was not enough time to produce competent performers, much less very skilled ones. She used the interview data and the eight-week plan to justify spending resources on training and on hiring back one departing employee as a virtual coach. The former employee coached his old team remotely for a couple of hours per week over the course of 3 months. During this period, the proficiency level rose rapidly across the team to the point where external customers were minimally aware that a change of staffing had been made.

Harvesting Wisdom for Knowledge Management

There are numerous approaches to knowledge management in today's organizations. Regardless of the knowledge management model in place, any organization that is serious about retaining and leveraging the collective knowledge of its workforce would benefit from adopting these practices. The CTA methods outlined in this article are well documented and useful tools for capturing the expertise of individuals and teams. Many organizations have taught their employees to integrate these approaches with their development, mentoring, and succession planning programs. After all, tapping into the organizational wisdom of the workforce is a strategy that should not be deployed under crisis situations. If we discipline ourselves to leverage employee wisdom as a routine business practice, we will never find ourselves standing by helplessly again as our wisdom walks out the door.

Methods and questions from this article are adapted from Militello and Hutton (1998). Applied Cognitive Task Analysis (ACTA): A practitioner's toolkit for understanding cognitive task demands. *Ergonomics*, vol. 41(11), p. 1618-1641.