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ACTION-RESEARCH ROUNDTABLE

LOST & FOUND

A SMART-PRACTICE GUIDE TO
MANAGING ORGANIZATIONAL MEMORY

CSPS Action-Research Roundtable
on Organizational Memory
Chaired by François Guimont

By Peter Stoyko and Yulin Fang

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A WORD FROM THE SCHOOL

THE CANADA SCHOOL OF PUBLIC SERVICE (the School) has embarked on a new journey. In support of the Public Service Learning Framework, it is helping departments across the Public Service strengthen and accelerate individual learning, organizational leadership, and innovation. As part of this effort, the School is working to ensure that smart practices in public management and leadership, whether found at home or abroad, do not remain unknown, but are captured and shared across the Public Service.

The Roundtable on Organizational Memory tackled a challenge that deeply affects all public servants. Crucial knowledge and experience are being lost within the Public Service of Canada due to retirements, organizational change, and shifts in personnel. The guide you are holding addresses that challenge by offering strategic insights and useful advice about smart practices that combat organizational memory loss. Individuals and organizations within the Public Service can use this guide to help preserve the core knowledge that is critical to achieving results.

I sincerely thank the Roundtable's Chair, François Guimont, President of the Canadian Food Inspection Agency, for his commitment and leadership. I also applaud the contributions of the Roundtable members who volunteered their time and expertise out of their belief in the importance of promoting the spread of knowledge within the Public Service. Finally, I would like to thank the members of the Roundtable Secretariat for their research and organizational efforts.



Ruth Dantzer
President,
Canada School of Public Service

A WORD FROM THE CHAIR

LOSS OF VITAL KNOWLEDGE AND EXPERIENCE IS taking its toll on Canada’s cherished institutions—the Public Service of Canada in particular. Veteran employees are retiring in unprecedented numbers. Continual change and organizational churn are now the norm. New technologies allow us to generate and store vast amounts of information, but also to misplace vast amounts of information. We, as an institution, are forgetting important lessons from the past.

All of this is happening at a time when the Public Service is most dependent on “deep smarts” to best serve Canadians. The world is moving faster and becoming more complex. Citizens’ expectations have risen. Emergencies have tested our preparedness and ability to respond quickly. The Public Service must rely on its wits to seize the initiative and control its destiny. For these reasons, the Clerk of the Privy Council has launched a renewal exercise for the Public Service. Preserving organizational memory is a key part of this effort.

This guide was created to help you meet the challenge head-on. Preserving knowledge is a core responsibility of every manager. A wealth of actions are available, from simple tactics to large-scale initiatives. Here, you can learn to diagnose your own workplace and to develop a tailored strategy to follow through. You can immediately do your part to turn the tide. There are no longer any excuses for doing nothing.

The title of this guide, “Lost & Found,” highlights the two sides of organizational memory loss. Losing knowledge and experience can threaten organizational capabilities. Yet the act of preservation can be an opportunity; new insights

and ways of doing things are often discovered along the way. We are optimistic that this tumultuous time is the beginning of a new era of public service excellence.

On that note, let me thank the Roundtable members for their inspiring contributions. These people came together because of a shared commitment to the Public Service of Canada and its proud heritage. Our dialogues were an extremely rewarding experience that I shall not forget. I would also like to thank Peter Stoyko and Yulin Fang for their careful research and thought-provoking writing.



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A

How Vulnerable Is Your Organization To Memory Loss ?

Consider the following questions about your work and work place.

- Do you have difficulties finding the information you need to do your job effectively?
- Is a large share of the people in your organization reaching retirement age?
- Do files routinely get misplaced within your work unit? Do you have major difficulties retrieving files older than five years?
- Does your organization experience high rates of employee turnover?
- Does your organization underinvest in the training and development of its people?
- Has your organization undergone a major reorganization in recent years?
- Do your colleagues have difficulty describing the history of your organization or past initiatives?
- Are lessons learned from projects and on-going activities rarely gathered and discussed?

If you answer yes to one or more of these questions, read on. This guide will help individuals and organizations better manage their knowledge.

1

THE MANAGEMENT OF MEMORY

INTRODUCTION

Thanks for the Memories

Transport Canada faced a dilemma in the late 1990s.¹ As was common in many workplaces, the department's workforce was heavily populated with older workers who were reaching the end of their careers. Of greatest concern, 70 percent of the department's regulatory and safety inspectors would be eligible for retirement by 2008. These are the people who make sure that the country's transportation system—land, air, and sea—operates to high standards of safety. Much specialized knowledge and expertise was about to walk out the door, depriving Transport Canada of much of the “memory” that gives it the capacity to regulate.

Several factors made finding a solution difficult. The transportation system had evolved considerably

during the inspectors' careers. Vehicle technology had become extremely complicated. The volume of trade and travel had grown by several orders of magnitude. The travel and transportation industries had been continually restructuring to deal with the pressures of global competition. Numerous regulations had been added over the years. All things considered, the amount and complexity of the inspectors' knowledge had become enormous.

To make matters worse, many inspectors were not used to reflecting on their knowledge and teaching it to others. When asked about the most important lessons that needed to be shared, many drew a blank. They “didn't know what they knew,” so to speak. The inspectors had to be prompted, but

interviewers were unsure about the questions that needed to be asked. The interviewers “didn’t know what they didn’t know.” If the right question were to be asked, the answer would rarely be simple. Answers might depend on circumstances or subtleties that could not be easily explained. Even if the inspectors had the ability to share their knowledge with colleagues, that sharing would not be easy, because the inspectors were scattered across the country. Face-to-face opportunities to share insights were few and far between.

The situation was further compounded by a scarcity of funding since the mid-1990s, when a tall wave of fiscal austerity measures swept across government. It was unclear whether all of the inspectors would be replaced by younger workers. It was not always clear that younger replacements would be available. Heavy workloads meant that older inspectors did not have much extra time to devote to sharing and preserving knowledge. This lack of resources also meant that any solution developed would have to be frugal.

The need to manage the risks involved was clear. Take the issue of airline safety. A series of high-profile mechanical failures in commercial airplanes early in the new millennium raised concerns that safety was being compromised within the industry as a whole. Expert inspectors were needed to make sure that companies were not attempting to gain an unfair market advantage that put lives in jeopardy. What could Transport Canada do?

As might be expected, the impending loss of large amounts of brainpower and knowledge was not amenable to a “quick fix.” And so Transport Canada adopted a variety of techniques.² A pilot project featured dialogue sessions between experts and interviewers. The dialogue approach allowed both sides to explore a field of practice, identifying and codifying critical knowledge. By 2003, 64 experts within the department had transferred much of their vital knowledge. A guide was created so that all Transport Canada employees could systematically preserve subject-matter expertise. Initiatives were launched to facilitate better ongoing connections between inspectors across the country. These “smart practices” (and many others) helped turn the tide in the outflow of knowledge from the department, although a great deal of work remains to be done.

Losing Our Minds

The Transport Canada case illustrates the impending “dementia” being faced by organizations across the Public Service of Canada. Of the 2002 Public Service workforce, 29 percent plan to leave by 2007. An estimated 45 percent will leave by 2011.³ By that time, one in twenty public servants (5.5 percent) will leave each year. This exodus will be even larger in specialized and high-skill occupations. For example, 75 percent of the 2001 population of executives plan to retire by 2011. Simply put, the Public Service is losing its minds.

Loss of organizational memory is not caused solely by retirement, however. In the first five years of the new millennium, roughly 40 percent of all federal public servants were employed in departments and agencies that underwent large-scale mergers or break-ups.⁴ Moreover, frequent internal restructuring has been the lot of most large departments. Knowledge often falls through the cracks amid this organizational churn. People are reassigned, documented knowledge is reorganized (or disorganized), and reorganization duties and distractions take up a larger share of work time. In a few cases, managers mistakenly interpret attempts to preserve organizational memory as resistance to change.

In recent decades, the public sector has also begun to use more contracts with external organizations and more serial, short-term employment contracts, providing budgetary flexibility. However, once a particular contract is completed, much of the knowledge and experience stays with the contractor. Turnover of employees has the same effect. As a result, the Public Service has been externalizing a large portion of its organizational memory, creating a dependence on outside actors for knowledge and experience, and for preservation of that knowledge and experience. Indeed, in some cases, public servants are being briefed by consultants about the history and policies of their own ministries,⁵ a situation that could open the door to undue forms of outside influence.

Employee mobility within the Public Service complicates matters. The principle of *rotationality*—the regular movement of senior officials between organizations and positions—can help or hurt the preservation of knowledge depending on how

the moves are managed. Unfortunately, too many officials leave little of their knowledge in their old posting, and they spend little time picking the brains of those whom they are replacing. A recent report on internal movement of workers in the Public Service found pockets of immobility and hypermobility, suggesting that, in many places, the conditions for preserving memories are not ideal.⁶

These trends have brought the issue of knowledge preservation to the fore. In a 2001 survey, federal and provincial public servants rated the “loss of experience and corporate memory” as the second most important personnel-related challenge facing their work unit within the next three years.⁷ Only “burnout and fatigue” from high workloads ranked higher. These work and time pressures are not unrelated. Preservation of organizational memories requires significant investments of time and energy—something in short supply.

The implications of this organizational “amnesia” may go beyond the loss of competencies and declining effectiveness. Indeed, the historical record of the state as an institution is under threat. Because the history of the Canadian state is an integral part of the history of the Canadian people, the costs of such losses would be immeasurable.

On Second Thought

The foregoing account may give the impression of a crisis of organizational memory. But “crisis” is too pessimistic a view. A certain amount of employee turnover and reorganization is unavoidable and healthy. Not all knowledge is worth preserving. An organization that is too fixated on its past can calcify, becoming rigid and inflexible at a time when adaptability is the order of the day.

The challenge of preserving organizational memory provides an opportunity to reflect on



past experience and to rethink the way things are done. Processes can be simplified and streamlined to make them less dependent on the expertise of particular individuals. The collection of information and knowledge can be more closely aligned with organizational objectives. New ways of organizing and accessing documents can be implemented. The current situation is a wake-up call for better management of knowledge and information.

Managing an organization's memories is not a mysterious art. Nor is it a specialty practiced only by a small cadre of learned experts. To the contrary, managing organizational memory is simply a feature of good management. It is something that all managers are expected to practice as a matter of course. For those who are wondering what this practice entails, this guide offers some clarification and advice.

WHAT IS ORGANIZATIONAL MEMORY?

Any complex concept risks being misunderstood. Organizational memory is no exception. It is worth pausing here to clarify some of the key myths and misconceptions associated with this field of management. Readers may be surprised to discover that the study of organizational memory and its preservation has a long history.

Organizational Memory 101

We normally think of memory as a function of individuals, not collectives. Yet an organization can be thought of as a vessel that preserves all sorts of mental materials over time. Data, information, knowledge, values, ideas, and meaning can all be shared and shepherded by groups of people.

At the most basic level, organizational memories are “the means by which knowledge from the past is brought to bear on present activities, thus resulting in higher or lower levels of organizational effectiveness.”⁸ As this definition suggests, organizational memories may be good or bad. They are good when they lead to performance gains, fewer mistakes, quality improvements, stable and robust competencies, and informed decision-making. They are bad when they lead to bias against necessary

change, conformist tendencies, an unhealthy fixation on past mistakes, and a reluctance to consider worthwhile ideas from elsewhere. In other words, memories are not themselves a source of intelligence, but exist to serve intelligent thinking.⁹

So what, specifically, are the benefits of preserving valuable knowledge?

Decision-making tends to be more effective when it takes into account past experience and existing knowledge. Moreover, decisions are often more persuasive when they speak to an organization's experience. Many organizational capabilities depend heavily on the application of knowledge, experience, and expertise. Reinventing and rediscovering knowledge is wasteful, and so preservation and reuse of knowledge can be a major source of efficiency. Shocks and changes to the organization can be less disruptive when links to the past are preserved. Attempts to better manage an organization's knowledge can enhance collaboration and coordination across organizational boundaries. Indeed, new ideas can result from attempts to gather and integrate knowledge that is scattered across an organization.

The ultimate aim is the creation of an organization that learns—that is, one that continually reflects upon experience, draws key lessons, and applies those lessons to the betterment of the common good. The ideal view of organizational memory is best articulated by Gareth Morgan, who likened the organization to a hologram.¹⁰ The plate used to create a holographic image contains the full image in each part of the plate. Thus, if the plate becomes damaged, then the full image can be reconstructed from parts of the plate that have not been damaged.

It follows that a “holographic organization” also has this redundancy of information and expertise. If part of the organization is removed, or if key individuals leave, then the knowledge is retained because it can be found elsewhere. Several factors produce this effect. Sharing of knowledge is pervasive within networks and teams. Successful units within the workplace are emulated. Technologic infrastructure makes it easy to store and retrieve information. The organization's culture serves as a sort of “DNA” that runs throughout the organization, preserving shared meanings and values. Indeed, culture becomes the lens that people

in a workplace use to make sense of much of the organization's knowledge and information. In all of these cases, Morgan suggests, the "whole" is built into the "parts" of the organization.

A learning organization also draws constructive lessons from the crises and emergencies that it encounters. Yet these fleeting (and sometimes chaotic) experiences are often left unexplored. Much can be done to take stock of what worked and what did not, so that the organization moves into the future better prepared.

Being Selective and Thoughtful About Knowledge Retention

In the short story "Funes the Memorious," Jorge Luis Borges writes about a man with an absurdly detailed memory.¹¹ The man, Ireneo Funes, sees nothing but detail and remembers everything. As a result, Funes is unable to see the forest for the trees. He cannot generalize and recognize broader patterns, nor can he forget trivial details. Funes is able to learn languages quickly and notices every star in the sky at a glance. "I suspect, however, that he was not very capable of thought," the story's narrator recalls. "In the teeming world of Funes, there were only details, almost immediate in their presence."

The plight of Funes underscores two simple truths about organizational memory. First, even if an organization could retain everything, such a capability would be a curse, not a gift. The resulting memory would be, to use Borges's words, "like a garbage heap." And second, learning is not simply the collection of raw facts, however relevant they may be.

Effective memorizing involves preserving the relevant and discarding the irrelevant. Organizations are, by their very nature, collectors and filters of information. Dysfunctional organizations filter haphazardly, unable to align memories with work activities and larger goals. The stockpiled information is a disorganized jumble that remains unused or, worse, distracts people from their work.

Filtering and aligning are not simple undertakings. The definition of "relevant" is not always clear. Today's relevant information may be irrelevant tomorrow—and visa versa. Some anticipation of future information needs is in order.

Moreover, what seems irrelevant to one person may be critically important to the work of another. Being sensitive to the information needs of others within the organization is essential.

Profound learning involves reflecting on information and experiences—thinking about observations in sophisticated ways and drawing out the useful lessons. This is something Funes is unable to do.

The cultivation and preservation of organizational knowledge are most beneficial when applied to create new capabilities instead of simply preserving old ones. Indeed, memories handled incorrectly can be a source of rigidity and conservatism within an organization. Organizations that use memories to create, rather than simply to dictate the future, become flexible and dynamic.

Not All Knowledge Can Simply Be Stockpiled

It is fashionable to speak of organizations having "knowledge assets" and "intellectual capital."¹² These terms underscore the potentially great value of the knowledge contained within an organization, much like the value of other resources (funding, raw materials). Intellectual-capital "audits" are used to systematically identify untapped knowledge that has been left to languish. Such attempts can be useful, especially in determining which knowledge is at risk of loss.

But there are limits to viewing knowledge and information as simple assets. The meaning of information and knowledge is not universally recognized and can be contested. Organizations contain people with diverse opinions and interests. The meaning and worth of a particular piece of knowledge can therefore be the source of intense disagreement. The language of assets gives the impression of a value-neutral commodity. This impression is simply not accurate. For preserved knowledge to be useful, it often has to be crafted into persuasive messages that speak to a broad constituency—messages that speak to the lived experience and values of the organization as a whole.

Knowledge can grow stale. The subject may no longer be relevant. The expertise needed to decode and use the technically complex knowledge stored in certain documents could become lost. Or the

context in which the knowledge was codified may be forgotten, making the meaning of the knowledge difficult to interpret. Information and knowledge are most useful when designed to last—that is, designed with some sensitivity about future use.

In the public sector, access to an organization’s knowledge and information is typically stratified. Security, secrecy, and privacy imperatives mean that some information must be managed exclusively by a smaller subset of an organization. This is not a failure of information management. On the contrary, these limitations ensure that the information serves crucial objectives. In some cases, the free flow of information may have to take a back seat to higher priorities.

Information overload can be a problem. Large stockpiles of knowledge can easily overwhelm the capacity of an individual to interpret. The

capacity of any single person to absorb information is finite. Too much information can paralyze decision-making or lend a false sense of security to decisions made. Simply providing access to large amounts of knowledge is not effective. Organization and prioritization are required to prevent an “information smog” from settling over the workplace.

The effectiveness of applying memories often depends on the nature of the work environment. If the context is highly dynamic and unpredictable, then lessons from the past are unlikely to be useful. A stable and orderly environment is more conducive to leveraging past experience. Failure to recognize the impact of the environment can lead to inappropriate applications of knowledge.



Managing the Way an Organization Forgets

The severity of knowledge loss is not fixed; it can depend on timing. For example, if talent and knowledge are lost at a crucial point during a project, the adverse consequences can be severe. The corollary is that loss of knowledge can have trivial implications at the point that a one-off project or goal has been accomplished. The management of memory involves sensitivity to vulnerability over time.

Ideally, managers need to anticipate losses of talent and knowledge. In reality, such attempts at forecasting are inevitably limited. After all, an employee need give just two weeks notice before departing—sometimes even less if the departure is acrimonious. A great deal of memory preservation involves a form of triage. Nevertheless, preservation measures need to be at hand so that they can be implemented at a moment's notice.

When knowledge loss occurs, recovery and redevelopment are options. Using outside contractors for the job can be a cost-effective option, but can also create perverse incentives. A few public servants leave government employment to join or establish consultancies, sometimes taking government knowledge with them and eventually selling it back to government. This situation can inadvertently exacerbate the problem of organizational amnesia.

Preventing loss of talent is not merely a matter of implementing specific retention measures. There are also limits to the effectiveness of material incentives. Talent retention can involve creating an engaging work environment and an organizational culture that values individual contributions. The resulting social bonds generate high levels of loyalty, morale, and commitment. Many managers prefer the tangible “hard” fixes of technology and incentive systems. However, effective memory retention involves managing “soft” factors as well—for example, interpersonal relations. Now is the time to take a holistic approach. It takes a great deal of hard work to build such a culture within large Public Service organizations.

HOW CAN KNOWLEDGE BE BETTER MANAGED?

Official Responsibilities

Who is responsible for shepherding an organization's knowledge?

Everyone has a role to play and everyone should exercise some initiative. But managers shoulder a special responsibility for leading change. They are uniquely situated to identify threats, opportunities, and solutions to organizational memory challenges. Managers are also better able to cultivate an environment that is conducive to the preservation and sharing of knowledge. Indeed, case studies have found that the level of management attention to the challenge is the most important factor distinguishing success from failure.¹³

Senior decision-makers within the Public Service and the government agree. The Management Accountability Framework (MAF) captures the essential elements of sound management in a model that all senior managers are held accountable for. One of the essential elements is labelled “learning, innovation and change management,” which includes the specific responsibility of “corporate knowledge and corporate memory captured and managed as strategic resources.”¹⁴

Unfortunately, public managers as a group have not been living up to their responsibilities in this regard. As Parliament's Information Commissioner puts it, “There is a consensus that information management in the government of Canada has declined alarmingly over the past three decades. There are numerous reasons for this decline, including the conversion from paper-based to electronic records, the reduction of resources and staff dedicated to documentation and information management, and a lack of training throughout the public service for individuals who are not expected to be their own information manager, and who are expected to understand and apply all of the related legislation and policies.”¹⁵ This situation has spawned a new round of reforms aimed at compelling public servants to fulfil their duty to document their actions.

The first reforms involved a revision of the official Policy on the Management of Government Information (2003). The policy holds Deputy Heads directly responsible for the management of information within their department.¹⁶ It also stipulates that other senior executives are accountable for championing, coordinating, and assessing information management practices, as well as enforcing the duty to document. Ensuring that all public servants uphold this duty becomes even more crucial as the *Federal Accountability Act* (2006) expands coverage of the *Access to Information Act*.¹⁷

Taken together, these reforms make clear that all managers—senior executives in particular—must change the way in which they treat their organization’s information and knowledge. The Information Commissioner has even raised the possibility of severe penalties for a failure to improve.¹⁸ As a result, management and executive communities have taken special notice of the MAF requirements to improve information and knowledge management.

The task of preserving knowledge requires an infrastructure—for example, information systems and professional development programs. Without a “reinforcing environment,” knowledge preservation and use remain *ad hoc*. Senior executives have a responsibility to ensure that the necessary environment is in place. The average line manager rarely has the authority and know-how to build such a support mechanism alone. But line managers do have a responsibility to liaise with specialists to ensure that memory development is aligned to the needs of the workplace.

Who are these specialists?

Information technology managers who ensure that information systems cater to users’ needs are at the forefront. Human resource managers also play a direct role by helping with succession planning, individual learning and career development, and employee recruitment and retention. Some organizations have staff members whose specific assignment is the preservation of memories. These “knowledge managers” and librarians champion the cause and are able to teach others about state-of-the-art approaches. Line managers are often responsible to orchestrate this entourage, because specialists often live on isolated islands within an organization.

The Difficulties of Maintaining Organizational Memories

If preserving and using memories is so advantageous, why have modern organizations had so much difficulty mastering these skills?

There is no simple answer to that question, but researcher David DeLong provides some clues.¹⁹ DeLong writes that the costs of losing knowledge are not always obvious, and do not necessarily accrue immediately. Some costs remain entirely hidden. Levels of productivity and quality may decline. Mistakes may increase. And yet these costs are not always attributed to the loss of knowledge, making it difficult to promote investment in knowledge preservation.

Even if preserving organizational memory is accepted as a priority, knowledge may be long gone before what has been lost becomes clear. The memories most vulnerable to loss may not even be obvious.

In many organizations, no single particular person is even responsible for preserving memories. If knowledge management is part of everyone’s job description in a vague or generic way, individuals may not feel a sense of “ownership” (direct responsibility and accountability) of the problem. Moreover, even if the problem is properly diagnosed and responsibilities are understood, solutions are not always at hand.

Historically, clerical workers have played a key role in maintaining documentary records and freeing up time for others to share knowledge. In an attempt to reduce costs, the number of such support staff in the workplace has been trimmed over the last few decades. Today, computer technology is expected to fill the clerical role. Computers are certainly ideal for storing enormous quantities of information, but their presence does not guarantee that the right information is saved, let alone in a well-organized and easy-to-retrieve manner. Users of technology often store documents with little thought of how to ease access by others. Oftentimes, storage is downright reckless.

Complacency can compound the problem. The abundance of information available from outside sources (such as that made available on the Internet) gives people the mistaken impression that

relevant knowledge is widely available if needed. As a result, preservation of in-house knowledge is often neglected. Studies show that people tend to value information sourced externally more than that sourced internally because they are less aware of the limitations of the external information—for example, its accuracy and methodologic rigour.²⁰ This view is unfortunate because outside information can be a poor match to an organization’s unique circumstances.

The nature of knowledge itself can also create management difficulties:

- Not all information is created equal. It needs to be scrutinized for accuracy, undue bias, relevance, and methodologic rigour. When lack of scrutiny permits faulty information to circulate as knowledge, mis-learning can be the result.
- Some knowledge is inherently difficult to capture by codification into documents (see “Knowledge That Is Difficult to Capture”, next page). Sharing such knowledge tends to be more difficult and time-consuming, requiring techniques such as lengthy apprenticeships.

Finally, an organization’s incentives often discourage the sharing of knowledge, promoting hoarding instead.

WHAT IS THIS GUIDE ABOUT?

The challenges and opportunities outlined so far underscore the necessity of effectively managing organizational memories. How is this management effected?

This guide is devoted to helping readers develop tailored management solutions. And while no single document can claim to have all the answers, this guide nonetheless offers a solid foundation and the tools for developing more advanced approaches.

Memory preservation is a collective endeavour. Accordingly, this guide is most effective if used by an entire team. Joint exploration of the topic can trigger innovative ideas and solutions closely tailored to an organization’s specific circumstances. The hope is that this guide will stimulate broader dialogue about the importance of knowledge preservation and use.

B

Knowledge That Is Difficult To Capture

Some have likened the knowledge within an organization to an iceberg²¹: much is codified into documents and easily communicated between colleagues. This is the visible knowledge. But a much larger amount lies beneath the surface, out of view. What types of knowledge are difficult to identify, capture, and communicate?

- The know-how and know-what of “tacit knowledge” are inherently difficult to communicate because they are integral to one individual’s experience, skills, identity, and style. This knowledge can be extracted only by long-term exposure to the individual.
- Making sense of “situated knowledge” outside of the original context is difficult. Even if somehow captured, this type of knowledge may not be amenable to meaningful interpretation.
- Particularly complicated, vague, or uninteresting knowledge may be difficult to comprehend and retain.
- Knowledge that has been embedded within processes or machines—particularly computer software—is rarely easily apparent to users.
- Knowledge that is dispersed throughout an organization in a highly decentralized way is difficult to assemble and share.

Capturing some of these forms of knowledge is impossible—and oftentimes unnecessary. Still, when these forms of knowledge are vital to an organization, they can sometimes be preserved with great effort.



2

D I A G N O S I N G T H E W O R K P L A C E

TIME TO REFLECT

Christopher Pollitt put his finger on a major tension affecting public organizations.²² On the one hand, senior leaders promote a culture of hurried and continual change. This urgency causes officials to cobble together readily available information and advice in an *ad hoc* way. The knowledge thus circulated is the most convenient, not necessarily the best or most appropriate. On the other hand, many officials operate in a state of “bureaucratic inertia,” relying on standardized operating procedures and long-held ideas. Stale knowledge fails to be replaced. In other words, a culture of “instant” answers clashes with a culture of comfortable routine. Little thought is given to a careful analysis of the past so as to better prepare for the future. As a result, fads come and go while opportunities for enduring and meaningful improvement slip by.

The MAF and other measures make it clear that this situation will not be allowed to persist. Organizations cannot continue to avoid taking time to diagnose their knowledge needs and develop a more systematic approach towards preservation and use. Moreover, managers cannot simply “dip a toe in the water” when it comes to managing knowledge systematically. Strategic and sustained action is required.

To that end, chapter 2 presents a strategic framework and diagnostic instrument to help public servants better grasp the knowledge needs of their organization. These tools will help managers and staff to develop a shared understanding of the challenges ahead and the actions needed to achieve tangible results.

THE STATE OF ORGANIZATIONAL MEMORY

From the start, it must be emphasized that managing knowledge is integral to the ordinary management of an organization. Many daily tasks have implications for how knowledge is used. Pausing to reflect on these implications is worthwhile. What does it mean to manage knowledge strategically?

Applying Strategic Leadership

Books on management present many different (and divergent) definitions of strategy. For example, Henry Mintzberg shows that the word “strategy” has been used in reference to plans, ploys, patterns of behaviour, and approaches to thinking, among other things.²³ For present purposes, a “strategy” systematically accounts for factors that contribute to success or failure in attempting to reach important objectives. The implementation of a strategy should produce concrete results to which managers can point as evidence of change.

This definition raises a host of considerations for would-be change leaders. The first is clarification of the main objectives. Next is anticipation of, and preparation for, risk. Important stakeholders and their roles in the change process have to be determined, as do ways of overcoming undue resistance and obfuscation. Timing matters, and so leaders must consider the main “inflection points” that will demand calculated action. The resources to be deployed must be reviewed. All of these items must be looked at in terms of the internal workings of the organization and the environment in which it operates.

The main objectives for knowledge management can vary from one organization to another. A recent Statistics Canada study found that many managers articulate their organizational memory goals in these terms:

- Identify and protect the strategic knowledge within the organization.
- Promote the sharing or transfer of knowledge.
- Improve worker retention and prevent

loss of knowledge attributable to worker departures.

- Integrate knowledge within the firm.

But all of these goals exist to serve higher order objectives, such as the achievement of competitive advantage, or in the case of the public sector, to better serve Canadians.

Preserving knowledge also requires that change leaders think about other strategic factors in a particular way. That is, they need to carefully consider organizational dynamics and interconnections. “Systems thinking” analyzes an organization and its environment to determine how causal connections, interpersonal dynamics, hidden influences, underlying assumptions, and relationships of interdependence, among others, fit together. These systematic factors can all be mapped and altered with the right interventions.

The next page features a strategic framework for achieving fundamental organizational goals by actively building knowledge within several critical areas. Each area represents a type of knowledge important to the Public Service.

How can each knowledge area be cultivated? A number of management enablers can help to build the knowledge base. The framework also lists these enablers.

Considerable thought should be given to the specific actions that each item in the framework entails within a particular organization. Ideally, an organizational unit should come together as a group to think through the framework. Some people may have unique insights on the various strategic considerations. Such an exercise also helps the group reach a shared understanding of the challenges and the actions required. Dialogue is key.

Engaging Others in Dialogue

A dialogue is an open and candid conversation about things that matter to a group. The main aim is to collectively develop a shared understanding and agenda for change. Leaders can encourage such conversations by creating a safe space in which people feel comfortable speaking in an authentic and personal way without fear of adverse consequences. Participants are then encouraged to share their

C

Strategic Framework



insights while suspending judgment as others share theirs. Collectively, the group members actively listen and, over the course of the discussion, begin to see their workplace in fresh ways. Most importantly, dialogue involves seeing a world full of possibilities and jointly creating something new: first, a shared understanding and shared objectives; then an agenda for action; and finally, a group commitment to achieve.

Of course, the foregoing is the ideal. Group discussions (especially at work) inherently tend to be coercive because of power imbalances, fear, personality conflicts, and dysfunctional habits of conversation, among other things. Unsurprisingly, most conversations at work tend to slide into debates in which people attempt combatively to argue a point and to bring others to agreement.

Another possibility is that the conversations take the form of formal meetings in which a chair continually intervenes to suppress conflict and impose conclusions. Those forms of conversation have their place. However, they are unlikely to result in more than a superficial understanding of the workplace.

To create the right conditions for a productive dialogue, a leader can do a number of things:

- Design the space. That is, set aside enough time in a place that is free from distractions.
- Set a few ground rules, such as asking participants to not interrupt one another.
- Model the desired behaviour and remind people to listen actively and suspend judgment. It is surprising how rarely people think about how they listen and interpret information.

Simply drawing attention to the need for an open mind, while reinforcing that message throughout the conversation, can do wonders to put people in the right spirit.

With the foundation laid, the leader can now explain his or her perception of the nature of the

challenge and invite others to contribute their thoughts. A focus on an objective and specific exercise should eliminate the need for formal procedural rules. Expect a free flow of ideas—one that can get messy sometimes, but that will ultimately enrich all involved.

The pages that follow contain a questionnaire to guide the conversation. Each person in the dialogue group should complete the questionnaire separately. Once everyone has completed the questionnaire, an opportunity to compare answers should be provided. If a particular group of questions rates very low on the scale, the related knowledge area may well require attention. If people rate a particular item very differently, some time should be devoted to discussing the underlying cause of this difference in perception. A wide variation in score may suggest that existing arrangements fail to serve the needs of certain people in the work unit.

During the conversation, participants are expected to consider ways of overcoming the identified deficiencies. Some specific suggestions about how to reflect on the strategic framework are offered in the next chapter of this guide.



D

Diagnostic Tool: Management Enablers

For purposes of this diagnostic instrument, the term “work unit” refers to the people with whom you work on a regular basis, and “immediate colleagues” refers to everyone who comes under the authority of the senior-most supervisor to whom you directly report.

Leadership		To Little or No Extent		To a Great Extent	
1	Are knowledge management activities in your work unit aligned to the core business objectives?	1	2	3	4
2	Do managers in your work unit encourage the capture and sharing of practical knowledge?	1	2	3	4
3	Is the vision of your organization clearly understood among your immediate colleagues?	1	2	3	4
4	Do senior executives in your ministry support your work unit to better capture and organize knowledge?	1	2	3	4

HR Management		To Little or No Extent		To a Great Extent	
5	Do your immediate colleagues who are nearing retirement teach others about their knowledge and experiences?	1	2	3	4
6	When an immediate colleague decides to leave, is there an attempt to draw lessons from that person’s insights and experiences?	1	2	3	4
7	Are your immediate colleagues passionate and engaged in the work that they do?	1	2	3	4
8	Do the managers in your work unit make an attempt to plan for long-term staffing needs?	1	2	3	4

Information Management		To Little or No Extent		To a Great Extent	
9	Do your immediate colleagues collectively reflect on experiences in order to draw practical lessons?	1	2	3	4
10	In your work unit, are past knowledge and experience taken into account when making important decisions?	1	2	3	4
11	Is knowledge that is crucial to your work unit shared among your immediate colleagues?	1	2	3	4

Column totals

Page 1 total

Professional Development

To Little or
No Extent

To a Great
Extent

12	Are learning opportunities in your work unit aligned to the organization's objectives?	1	2	3	4
13	Do people in your work unit have access to the training and development opportunities needed to be successful in their work?	1	2	3	4
14	Do people in your work unit have opportunities to meet with others in their occupational group in order to share knowledge?	1	2	3	4

Technological Infrastructure

15	Is the knowledge and expertise needed to do your job easily accessible using available technology?	1	2	3	4
16	Do your immediate colleagues have access to the tools needed to do their job effectively?	1	2	3	4
17	Are documents within your work unit organized in a way that you find useful?	1	2	3	4
18	Do your immediate colleagues know the state of the art within their field of work?	1	2	3	4

Communication/Collaboration

19	Are people in your work unit encouraged to build networks for the purpose of sharing expertise and knowledge?	1	2	3	4
20	Do managers in your work unit share information needed for you to do your job effectively?	1	2	3	4
21	Is knowledge within your organization regularly shared across organizational boundaries?	1	2	3	4
22	Do your immediate colleagues regularly share information and expertise with other Public Service organizations?	1	2	3	4

Column totals

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Page 2 total

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Final Tabulations

Page 1 total

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Page 2 total

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Grand total

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Score

Interpretation

22-43

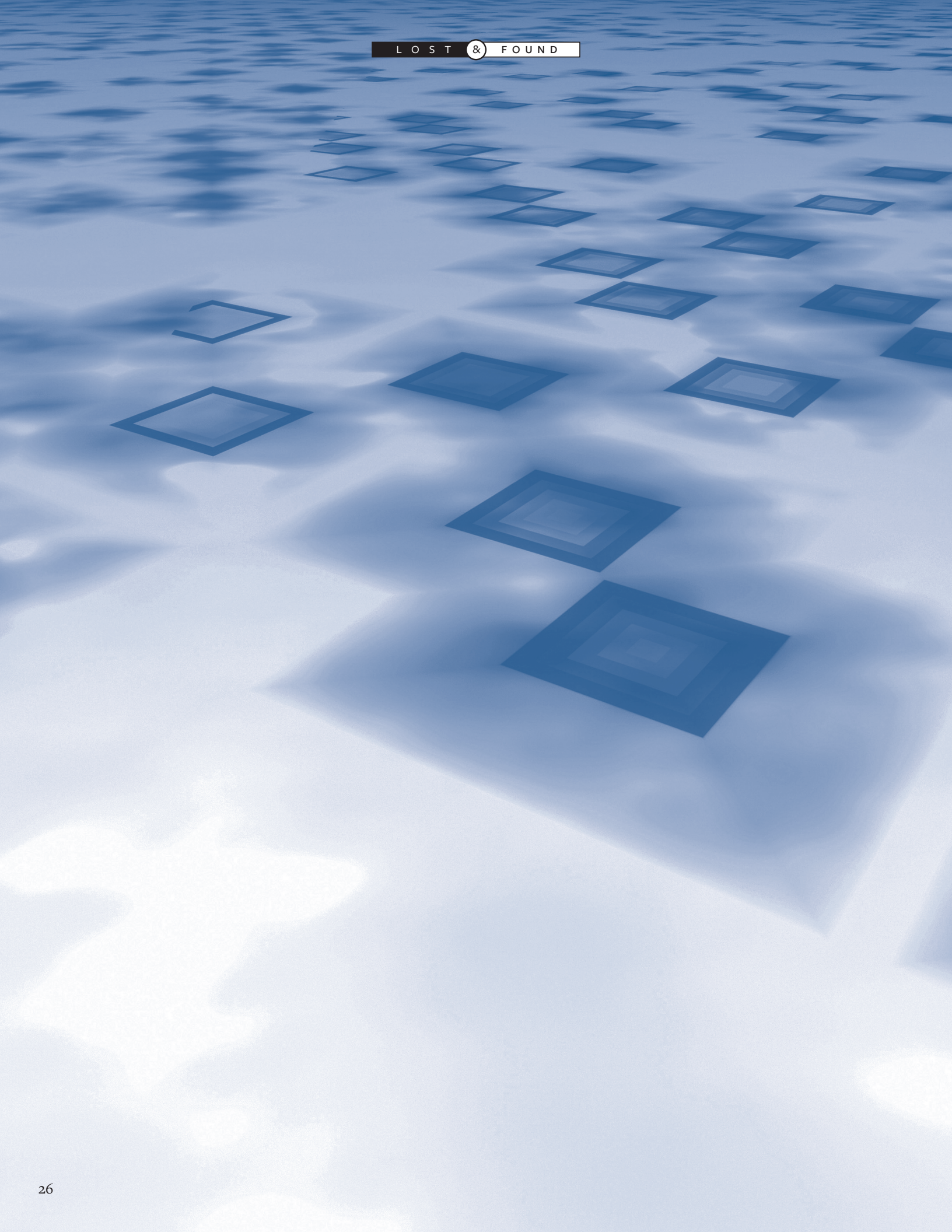
Severe memory shortcomings

44-65

Moderately conducive to knowledge retention, major room for improvement

66-88

Generally conducive to knowledge retention, minor room for improvement





3

T A K I N G A C T I O N

INTRODUCTION

Armed with a better sense of the state of the organization, it is now time to explore the interventions that can help the Public Service better manage its knowledge and expertise. Although most public servants will not have effective control over important organizational levers, recognition that leadership can be exercised at any level in the workplace is important. Indeed, available memory management practices range from simple tools easily implemented within a single unit, to large-scale infrastructure projects that require more substantial investments by an organization.

THE ROLE OF MANAGERS

If line managers are to play a lead role in efforts to preserve organizational memories, what are they responsible for? This question is not an idle one: Public Service managers are now being held to account for progress in this area.

The effort to build, maintain, and share organizational memories can be a difficult sell. The costs and benefits are not always obvious to those who control needed resources. Managers are well placed to secure necessary support and resources by raising awareness and developing a compelling justification for the investment. They also need to manage expectations about what is realistically possible.

Managers and their staff are uniquely situated to anticipate and plan for a work unit's future

knowledge needs. This planning involves periodic, systematic assessments of threats and opportunities, including identification of vital knowledge, of threats to knowledge preservation, and of alternative ways of working that make the most of knowledge. Managers can spearhead the forecasting of future needs and can take steps to ensure that relevant knowledge is available when needed. Preparations should be made for anticipated knowledge loss.

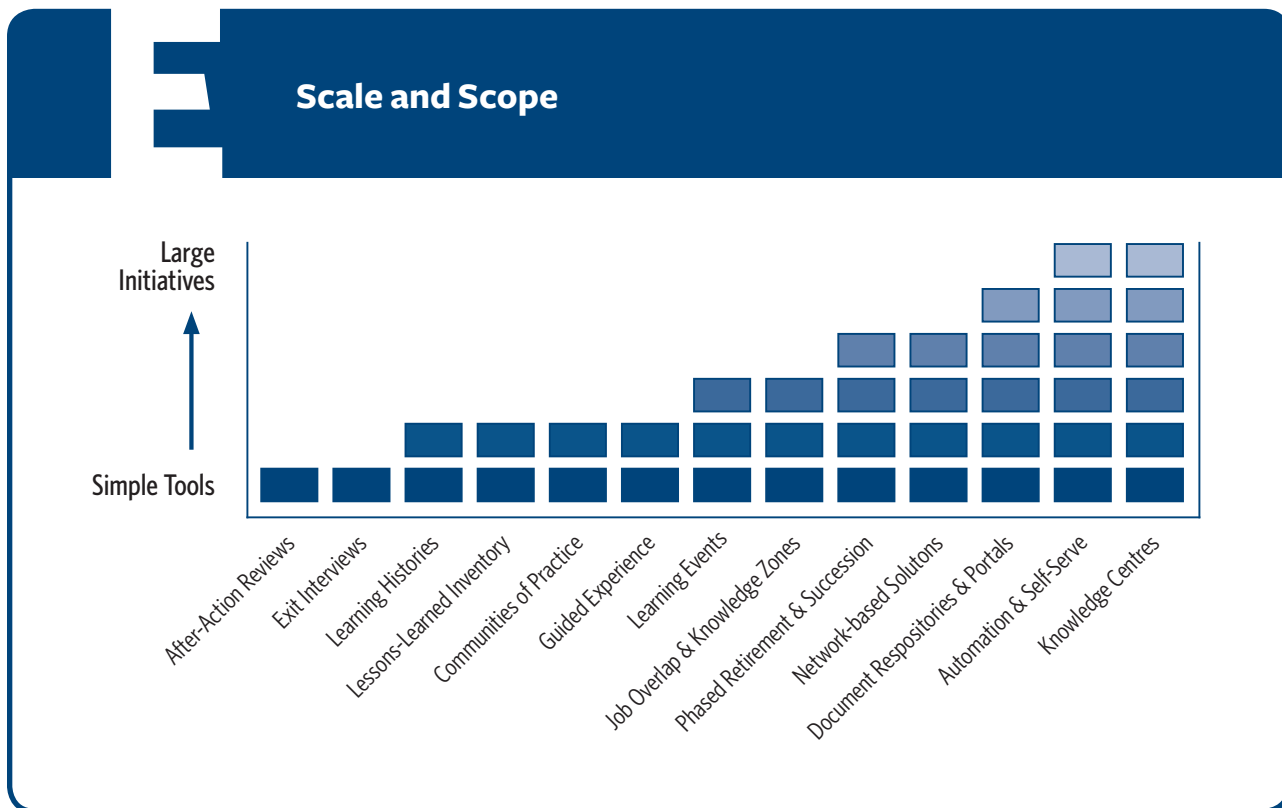
Plans for preserving as much knowledge as possible should be established well in advance. In the case of documented knowledge, (in electronic files and paper records, for instance), secure backups should be regularly produced to prevent loss from accidental disposal of originals. If crucial knowledge does become lost, managers should be able to quickly identify options for timely and affordable recovery.

Some memories are flawed. They may be factually incorrect or methodologically problematic. Managers play a pivotal role in ensuring quality control and encouraging others to scrutinize shared knowledge.

Part of every manager’s job is to support others and to make sure that adequate supports are in place. A certain amount of time should be devoted to giving employees the opportunity to preserve organizational memories. Accordingly, when project milestones are set, sufficient time needs to be budgeted at relevant points to reflect on experience and draw key lessons. Managers are also responsible for providing funds, time, and advice for professional development opportunities such as training, mentorships, and succession activities.

Managers are often able to use their authority and networks to gain access to knowledge and information. This access should be offered to others. In this respect, managers can actively work to serve their colleagues. Line managers play a linchpin role by bringing together the various parties responsible for creating a supportive environment and infrastructure.

Finally, managers are responsible for aligning incentives so as to encourage the sharing and preservation of knowledge. With the removal of



undue obstacles and encouragement for the regular reuse of information, staff should develop a personal stake in preserving memory and should do so without prompting.

GENERAL APPROACHES

When it comes to implementing actual practices, DeLong outlined a number of broad areas that need to be taken into consideration.

Knowledge sharing within an organization depends on the nature of the knowledge itself. Explicit knowledge is relatively easy to codify and teach. Tacit knowledge tends to require a more involved approach, with experiential and community-based stewardship being examples. Memory management inevitably involves this two-pronged approach to knowledge transfer.

Knowledge transfer practices also depend on the distances involved and the opportunities for face-to-face interaction. The geographic dispersal of the Canadian Public Service means that transfer strategies definitely depend on distance. Practices also differ markedly depending on whether the transfer is between experts, or whether novices are involved.

Information systems can be developed to capture and store knowledge and to facilitate sharing and communication. These information systems can be “high tech” (advanced computer systems) or “low tech” (physical archives such as libraries).

Processes to evaluate the existing base of skills, such as learning plans, can be put into place. Succession planning, employee retention, and career development processes help to offer workforce continuity and further build the pool of talent. At a broader level, the goal is to create a culture that so engages people in their work that knowledge preservation is a natural spin-off. Such a culture also promotes commitment and loyalty.

If knowledge is lost, recovery initiatives should be put into place. One approach can be to draw on the talents of retirees to regenerate knowledge.

SPECIFIC APPROACHES

Many techniques are available for preserving, organizing, and accessing organizational memories. The remainder of this chapter contains an inventory of smart practices in this area. A smart practice is a tested approach that has a proven track record of success in solving a problem. The description of each smart practice outlines key characteristics, comments on implementation traps and pitfalls, and discusses similar or related practices.

The figure that leads off this chapter shows how the practices are ordered according to the scale and scope of implementation. The practices range from simple tools to larger-scale initiatives. Managers can get an immediate start by implementing the tools, and they can then make a longer-term project of the initiatives that require greater resources and logistical support.

F

Management Enablers & Smart Practices

Smart practices within the inventory are rated according to their relevance to the main management enablers. Those who wish to further develop an area of management are invited to look to the most relevant practices for advice.


	Leadership	Human Resource Management	Information Management	Professional Development	Technological Infrastructure	Communication & Collaboration
After-Action Reviews	● ● ●		●	●		● ● ●
Exit Interviews	● ●	● ● ●	● ● ●			● ●
Learning Histories			● ● ●	●		● ● ●
Lessons-Learned Inventory			● ● ●		● ●	● ●
Communities of Practice	● ● ●	● ● ●	● ●	● ● ●	● ●	● ● ●
Guided Experience	● ● ●			● ● ●		● ● ●
Job Overlap & Knowledge Zones	● ● ●	● ● ●	●	● ●	●	● ● ●
Phased Retirement & Succession	● ● ●	● ● ●	● ●	● ● ●		● ●
Network-based Solutions	●	● ●		● ●	● ●	● ● ●
Document Repositories & Portals			● ● ●		● ● ●	●
Automation & Self-Serve	● ●	● ●	●		● ● ●	
Knowledge Centres			● ● ●		● ● ●	


● Somewhat Relevant ●● Moderately Relevant ●●● Very Relevant


G


Smart Practices Inventory

The following icons help to pinpoint specific types of information for each smart practice.

- 

Information
A general description of the practice and its main features
- 

Smart Practices
The activity types that fall within the practice, plus implementation tips
- 

Traps & Pitfalls
The risk factors that would-be implementers should be wary of
- 

Variations
References to related practices and practices with similar characteristics



AFTER-ACTION REVIEWS



HOW DOES A FLEETING EXPERIENCE BECOME a lasting memory? And, how does that lasting memory become a valuable lesson that is acted upon?

The answer to both questions involves personal reflection. Cognitive psychologists say that a person develops long-term memories by taking special notice of an experience and drawing a connection with other information already held in memory. When that reflection attempts to identify the practical implications, then change for the better occurs. Without reflection, the experience becomes a blur; a person is quick to forget or maintains only a vague recollection.

Reflection is just as useful to groups who want to draw lessons from immediate experience. That is the premise of an after-action review (or “lessons-learned workshop”), a process developed over several decades by the U.S. Army.²⁴ It involves assembling people into a dialogue group immediately after a project or event and discussing four questions:

- What did we set out to do?
- What actually happened?
- Why did it happen?
- What are we going to do next time?”²⁵

This dialogue session takes place over a relatively brief period, with most of the discussion devoted to the last question. That focus on the future makes an after-action review more practical than most other post-mortem exercises. Over time, the best lessons develop a spark of their own because they are put into practice.

These reviews are currently used extensively within the Canadian Armed Forces with the help of specialized staff called observer–controllers.²⁶ Many opportunities exist to implement similar reviews across the Public Service.



AS RESEARCH FROM PERRY AND COLLEAGUES notes, the ultimate value of this type of review is not the creation of a document or database of lessons.

The more enduring value comes from having a group regularly meet to share information and collectively build the analytical skill of reflection.²⁷ This form of collective experimentation works best once the process becomes a regular part of a group’s routine. Indeed, reviews that are one-off events tend to be a disappointment. Real results come with practice; bonds of trust and channels of communication develop over time.

One way to make the most of knowledge preservation is to ask additional questions²⁸:

- Who else should we tell?
- Who else needs to know what we have learned?
- What do they need to know?
- How are we going to tell them?
- How can we leverage what we know to drive organization-wide performance?”

Adding this extra consideration, with its subsidiary questions, expands the circle of learning beyond the immediate group. It also ensures that strategic communication results, and not just formulaic and ritual reporting up the chain of authority.

In practice, the length of time devoted to after-action reviews can differ markedly between groups. Some opt for relatively brief and focused meetings, especially if the group needs to make only minor tweaks to what it does. Longer, more exploratory reviews are often the norm as the group ventures into poorly known territory. The higher the stakes and the greater the uncertainty, the greater the need for more thorough reflection.



THE MAIN BENEFITS OF THE AFTER-ACTION review are its candour and focus. The willingness of people to engage declines if the discussion veers towards criticism instead of improvement—assigning blame instead of seizing initiative. It is also a mistake to construe this approach as an exploratory and meandering dialogue. Tight and focused discussions will prevent the group from circling the topic aimlessly. Facilitation can help. As one author puts it, the facilitator exists to “introduce the topic, keep the group focused, establish and enforce ground rules, monitor and maintain the schedule, transition from one question to the next, and summarize the resulting action plans.”²⁹ Thus, cultivating the facilitation skills of a team leader is an important determinant of success.



DARLING ET AL. DESCRIBE AN ANTICIPATORY reflection process called a *before-action review* based on the method already described. The main difference relates to the questions discussed³⁰:

- What are our intended results and measures?
- What challenges can we anticipate?
- What have we or others learned from similar situations?
- What will make us successful this time?”

This type of group-learning process helps to ensure that emerging threats and opportunities are anticipated and prepared for.



EXIT INTERVIEWS



WHEN A PERSON LEAVES A JOB BECAUSE of retirement or to take up another employment opportunity, much of that person’s knowledge is lost to the organization. In an attempt to compensate, many organizations conduct interviews with departing employees. Historically, this approach has involved questions to elicit feedback about job satisfaction and supervisors. The problems that are discovered can be addressed to reduce future employee turnover (or possibly to lure the departing employee back). More recent versions of the exit interview ask questions about a person’s networks, skills, and knowledge bases. They also afford the person an opportunity to reflect on the job and offer helpful advice about improvements that can be made.

Many large organizations have relied on standardized questionnaires that can easily be fed into a database. That method is ideal for generating statistics about turnover patterns, but it does little to preserve information. Thus, a qualitative questionnaire that acts as a starting point for a more expansive conversation about the person’s

experience within the workplace is preferable. This approach can produce a great deal of information, especially if the interview is recorded electronically. And that information tends to be precisely what a successor needs to hit the ground running.



AS DAVID SKYRME POINTS OUT, A CONUNDRUM lives at the heart of the exit interview process: “The less you capture knowledge on a regular basis, the more you need to capture it at exit, yet the less likely you are to have the mechanisms in place to do so or the leaver’s willingness to cooperate!”³¹

How can this conundrum be managed?

- Plan ahead by assessing the vulnerability posed by a departing employee at each position. This plan should inform the types of information collected. Safeguards should be in place to preserve information and knowledge that are critical to the operation of a unit. Likewise, sensitive documents must be identified and appropriately controlled.

- Collect information about mission-critical processes regularly. Failing that, when an employee hands in their notice, start the interview process early. Do not leave it to the last day. Last-minute interviews do not usually allow time for follow-up conversations. They subtly signal to the interviewee that the process is merely a formality.
- Finally, a certain degree of triage is almost inevitable, but is not an excuse for handling the process in a reactive and haphazard way. On the contrary, having a battery of interview questions at the ready, with enough time set aside to explore those questions in detail, is vital. Many managers mistakenly encourage departing employees to quickly finish short-term work obligations rather than to set enough time aside to secure longer-term continuity.

These points are a somewhat long-winded way of saying “Be prepared.”

What questions should be asked during a typical interview?

Given the diversity of jobs found within the Public Service, no list will fit all circumstances. However, the checklist that follows applies to most positions:

- **Contacts.** With whom do you work on an ongoing basis, (particularly those outside of the organization)? What is your history with these people? What is their contact information? Ideally, someone should touch base with important contacts to indicate a change of personnel, thus ensuring continuity.
- **Documentation.** What files are key? Where can they be found? Is any information crucial to what you do not yet decision-written down? Departing employees should cull and organize files to make their successor’s integration easier.
- **Ongoing activities.** What are the ongoing issues, commitments, and sensitivities related to your current work? Do any loose ends need to be tied up?
- **Improvement.** Reflecting on your work, how would you improve the way your job is structured? Are there aspects of the larger

organization that can be improved? The answers may help retain future occupants of the job.

- **Reason for leaving.** Why are you leaving? Are particular problems causing you to leave?
- **Signal follow-through.** The departing employee should be told that their advice is valued and will be acted on. The interviewer should consider what needs to be done (and when) to ensure follow-through.
- **Future contact.** Where can you be reached in case we need to contact you? Are you open to answering questions once your successor has settled into the job? Especially in managerial jobs, it is very useful for a new incumbent to meet face-to-face with a predecessor.

This generic list of questions should cover a lot of ground if asked in an interested and empathetic way.



IT IS OFTEN ASSUMED THAT EXITING employees are especially candid and forthright because they are leaving their worries behind. Unfortunately, exit interviews are susceptible to certain biases that have to be kept in check.³²

What are these biases?

Exiting employees tend to emphasize personal considerations over organizational ones. Disgruntled employees may attempt to mislead as a form of retaliation. People may withhold feedback to protect colleagues or their own long-term interests. Many interviews do not provide a person with enough time to reflect and, hence, may gather superficial and poorly thought-out answers. Interviewers often fail to communicate how the information will be used, and a departing employee may therefore withhold information because of a belief that it will not be used at all.

The quality of information tends to improve when the interview takes place well in advance of departure. Biases are minimized when the interview is conducted by a person perceived as neutral, such as an official within an organization’s human resources or personnel branch. Interviews should be flexible enough to capture the varied and idiosyncratic experiences of the person.³³ Interviewers can also openly disclose how the information will be used and reassure departing employees that their input matters.



AN INTERESTING VARIATION ON THIS THEME is the entrance interview. When a new staff member arrives, the organization rarely conducts a systematic interview with the aim

of acquiring and sharing new knowledge. Yet the information that results can be extremely valuable.

3



LEARNING HISTORIES



IN THE MOST GENERAL SENSE, A HISTORY is a written account of past events. This account, often in the form of a story, provides a wealth of information about where a group of people come from, where they are going, and what they have experienced along the way. A good history includes important episodes, and the lessons that can be drawn from those episodes. Histories are especially pertinent in the public sector, where the evolution of a policy issue has an important bearing on decision making in the present.

Many organizations now enlist the aid of professional historians and gifted writers to chronicle the formation of knowledge. One particularly successful approach is the *learning history*.³⁴ This account of the periods in an organization's evolution highlights times when important lessons were learned. The narrative is told from many perspectives, not just those of the people in positions of authority. Many insights can be gleaned by documenting the diverse (and sometimes conflicting) accounts of the people involved. Although a learning history is ultimately a document, it should be one part of an ongoing dialogue about where the organization is going.

Learning histories have several defining features³⁵:

- Conventional historical accounts are typically written from the perspective of an historian, often with the aim of confirming a particular hypothesis. Learning histories are more exploratory. They aim to create “reflectionable knowledge” in the form of

stories—that is, knowledge that encourages people to reflect on experience and draw meaningful lessons.

- Like all histories, a learning history is a description of actions taken during episodes that occurred in the past. Extra attention is placed on probing for the underlying assumptions that influenced participants. The aim is to improve the way that an organization's activities are framed. Documented assumptions can reveal a great deal about how an organization learns—or fails to learn.



THE FOUNDERS OF THIS APPROACH— Art Kleiner and George Roth—documented a number of techniques that enhance the development of a history. Because the aim is to create a tale told jointly, the writers of the history should interview a diverse cross-section of the people involved with an organization or project. To ensure that these voices are not lost, Kleiner and Roth advocate using a two-column narrative: the left column documents the relatively objective aspects of the story, and the right column reports insightful comments and experiences as told from the perspective of particular individuals.

Kleiner and Roth also suggest that learning histories for an organization be written by a team composed of both insiders and outsiders. Insiders provide detailed, on-the-ground realism to the accounts. Outsiders offer detachment and a greater sensitivity to the reader. By using a team to compose the history, no single authorial voice and style are imposed on the account.



IN APPLYING THIS METHOD, BE QUICK TO guard against accounts that become too evaluative. The goal is to encourage open and candid contributions from interviewees. A fixation on assigning blame can elicit defensiveness in the participants, which can get in the way of constructing a history that provokes reflection.



OF COURSE, THERE ARE MANY ALTERNATIVE approaches to documenting an organization's history. Some areas of the Canadian state, such as the judiciary and military, are already documented extensively by outside experts. Not all public organizations have the

benefit of this recorded history. Indeed, in some situations, no insider is left to document important periods and decisions. This circumstance calls for archival research and other techniques used by professional historians. An excellent example of a more conventional history is the volume *75 Years & Counting* commissioned by Statistics Canada.³⁶

Some public-sector organizations also operate museums—for example, the Bank of Canada's Currency Museum. The museum collections are intended mostly for the enjoyment and edification of the public. However, the role of these facilities in preserving the history of the Canadian state should not be discounted.

4



LESSONS-LEARNED INVENTORY



DATABASES CODIFY AND ORGANIZE structured forms of information. A common method of preserving valuable experiences is to create a lessons-learned database or inventory. Individuals and teams draw lessons from experience, write them down, and input them as records. The records are then made available to others who face similar circumstances.

Lessons-learned inventories come in several forms, the most popular being these:

- **Q&A Databases.** The inventory of lessons is written as questions and answers. An excellent example is the U.K. government's *Infoshop* initiative,³⁷ a database of common questions and answers related to particular policy areas. The creators noticed that client queries tended to relate to a finite number of subjects. The queries were pooled, and the answers were made available using web technology. Indeed, Frequently Asked Question (FAQ) databases are a common feature of client-oriented Web sites.
- **Smart-Practice Inventories.** A well-written smart practice account not only describes

the practice, but also highlights risks and potential pitfalls so that adopters can avoid common mistakes. The practices are then posted to an on-line repository so that others can access them and add further lessons. The chapter you are currently reading is a good example. Another is the Best Practices Inventory developed by the Communications Community Office.³⁸

- **Smart-Practice Resource Maps.** Several private firms have taken smart practices a step further by visually mapping them. People can then see connections between the practices and find links to additional resources.³⁹

Ideally, all lessons are linked to relevant reference materials as a matter of course. Inventories of this kind have become much easier to develop with the advent of “wiki” technology; that is, Web-based inventories that are easy for users to edit, such as the open-access, non-profit Wikipedia encyclopedia. New features in wiki and similar technologies make it easy to maintain lessons learned in both official languages.



AS JOHN SEELY BROWN AND PAUL DUGUID note, the best type of lessons to gather are explanatory.⁴⁰ Directive lessons that lack explanation are of little use when something unanticipated occurs. What happens when the instructions no longer seem to apply? On the other hand, suggestive advice accompanied by full explanations equips people with insights about how things work. Then, if something unexpected happens, the problem solver can use the information to think matters through.

Seely Brown and Dugui also advocate articulating lessons in the form of stories.⁴¹ Stories bring diverse pieces of information into coherence by presenting them sequentially and in terms of cause and effect. Most importantly, stories make information easier to understand, remember, and recount. A good story is a joy to tell and is more likely to spread naturally throughout an organization.

Inventories work best when they complement the existing social context, such as work flows and work relations. As one researcher puts it, “People usually take advantage of databases only when colleagues direct them to a specific point in the database. For example, it is common for people to ask other people for information and to be directed to a specific point in a database for lessons or tools.”⁴² This comment suggests a need to actively involve end-users in the design of inventories, as well as to send regular reports to users about new additions (for example, as e-mail updates).

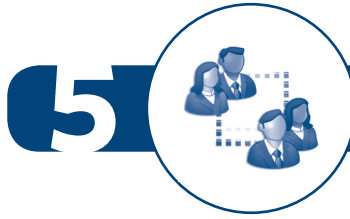


A TENSION IS INHERENT IN ALLOWING anyone to post lessons to an inventory while simultaneously attempting to maintain quality standards. Poor-quality inventories go unused. Yet, if the obstacles to posting are too numerous, then the inventory may not reach the critical mass of lessons it needs to be useful. Obstacles can sometimes be subtle, as the Ford Motor Company found out when it named its inventory a “best practice database.” Staff were reluctant to offer lessons, because they were not confident that theirs were in fact “the best.”⁴³ Most inventories are monitored by an editor or editorial team that offers a source of peer review and help. The care taken by the editor or editors is an important means of managing the creative tension in a communal inventory.



SOME PRIVATE-SECTOR FIRMS HAVE ADOPTED interesting approaches that push new lessons out to staff members. In one such arrangement, staff members who have learned something new send a brief voice message to all of their colleagues. Each person then reviews the message at a convenient time and place. Interested recipients can contact the originator of the message with follow-up questions. If enough people express interest, a group meeting is arranged. This method eschews passivity to ensure that valuable lessons and information are spread among people doing similar work. This approach works best when incentive systems provide adequate rewards and recognition to good contributors. Without such incentives, people are unlikely to contribute because of the added work involved.





COMMUNITIES OF PRACTICE



ETIENNE WENGER AND COLLEAGUES defined communities of practice as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis.”⁴⁴ Several characteristics set these communities apart from other work groups. Participation is voluntary; people become involved because of a professional interest and the value of interacting with peers who share that interest. Interaction within the group tends to be informal and focused on practical subject matter. No specific project goals are involved, nor any rigid procedural rules. The subjects discussed are focused on a “practice,” or a common type of work and shared repertoire (common methods, tools, techniques, and so on).⁴⁵ Coordination of the group involves supportive facilitation and the development of internal leadership.

Communities of practice preserve organizational memory by stewarding its field without becoming over-reliant on a single person: “They grow, evolve, and change dynamically, transcending any particular member and outliving any particular task.”⁴⁶ In this sense, a community of practice is not instrumental; that is to say, it cannot be directed unilaterally by an outside authority. Nonetheless, if a community’s subject is aligned to an organization’s business goals, then a high degree of relevance usually follows. For example, the Department of Justice wanted to ensure that it maintained high levels of expertise within several areas of legal practice and policy. The department helped to set up several communities, each corresponding to one of the areas at issue.⁴⁷



IN SEVERAL DECADES OF EXPERIENCE with these communities, a number of characteristic best practices have emerged. Not all of these characteristics have to be present, but with each additional one, the community’s likelihood of success improves.

- **Coordination.** Sustained stewardship by an enthusiastic and committed coordinator (or multiple coordinators) is the single biggest success factor. It helps if this person is a well-respected member of the community and has facilitation abilities. Strong communities are founded on an institution’s core values, are organized to grow, and develop a rhythm from regular interaction.
- **Multiple Forums.** Communities start with face-to-face interaction of a core group, ideally within a “safe space” where all feel comfortable expressing themselves openly and without fear. However, for a community to grow, an on-line space is usually necessary. Several user-friendly, Web-based software applications exist to facilitate community interaction between meetings, to archive community documents, and to circulate news items (among other things).
- **Sponsorship.** Communities work best when they receive various forms of support from the larger institution. Public recognition of the community’s contribution and the value of joining is a good start. Other possibilities include logistical support, notably administrative services (clerical and event-planning assistance, for instance), technological support to help with the community’s on-line presence, and learning support (such as coaching about how to engage in dialogue).
- **Participation.** To participate, community members need time and schedule flexibility, including time to engage in the occasional research or learning project. The community works best if it is able to accommodate varying levels of participation, from the highly active to the occasional drop-in.
- **Relationships.** The expertise, interests, and contact information for community

members should be widely known to aid in community recruitment.

- **Ideas.** The ideas discussed by the group are ideally a balance between the familiar and the cutting-edge. If a variety of perspectives are brought to bear on an issue, then creativity and rigour are the result. Outsider presenters are often included to introduce new ideas. The topics should be of interest to the community and to the organization as a whole.
- **Publicity.** If a community and its success are well known, then recruitment and participation levels are likely to grow.

By systematically cultivating all of the preceding characteristics, a community of practice is likely to grow naturally.



THE TEMPTATION EXISTS TO ENCUMBER A community with formal rules, roles, and objectives. These interventions often sap the enthusiasm that comes from employees volunteering their surplus time and energy. They can also undermine the relaxed and open flow of conversation. Thus, the community requires some autonomy. Its main role is to preserve an organization's brain trust and socialize new employees to a practice that the organization relies on.

Vigilance to make sure that a community of practice does not degenerate into a narrow coalition or clique is important. Open membership and transparent operation should be the norm.



SEVERAL OTHER COMMUNITY TYPES that serve similar roles can be found throughout the Public Service. "Functional community" is the term reserved for a set of federal public servants who share a similar profession or set of responsibilities. Originally, an occupational group had to meet a lengthy list of criteria to be eligible for functional community status, but these restrictions have been relaxed somewhat in recent years. Functional communities are also engaged in preserving occupational knowledge, and they are increasingly adopting many of the features of communities of practice. Distinguishing a horizontal team (also called an interdepartmental or cross-functional team) from a community of practice is also useful. A horizontal team comprises practitioners from various parts of an organization (or with varying roles, functions, fields of expertise) who collaborate to fulfil a particular objective within a set period of time. These teams are useful in circulating and mirroring information within the broader organization.

6



GUIDED EXPERIENCE



AN OBVIOUS WAY TO PRESERVE ORGANIZATIONAL knowledge is to arrange for learned employees to teach others within a formal course or presentation. This approach can be difficult for a number of reasons. Teaching is a skill and, to many, a vocation. A person with a wealth of experience and knowledge may nevertheless be poor at communicating that knowledge to others. The experiences of many people can be rolled up into a course taught by a professional trainer at the risk of

having crucial ideas lose their context and nuance. Thus, formal training is an important way to preserve knowledge, but it must be somehow augmented.

Certain types of knowledge cannot easily be turned into a curriculum and learned in a passive way. Peter Drucker refers to this knowledge as "deep smarts"—knowledge that must be acquired by doing. Yet experiential learning does not have to happen in isolation. Veteran employees can play an active role in helping others to develop expertise.



GUIDED LEARNING REQUIRES TIME, FIRST-hand experience, and coaching from a mentor. The ideal coach is someone with a lot of expertise, an understanding of the activities needed to learn a practice, and an empathic sensitivity to the protégé's learning needs. Beyond that, there is no such thing as a “correct” teaching or leadership style. Guided experience can take several forms:

- **Apprenticeships.** The oldest form of guided learning is the apprenticeship, a long period of on-the-job observation and practice under the supervision of a learned mentor. Not only does apprenticeship teach difficult-to-articulate know-how and skills, it also provides the apprentice with a role model. The role model is crucial because many vocations are about learning how to be and not just how to do something. Many highly technical fields require a period of apprenticeship before certification is granted. Certification helps to ensure that learning has taken place according to the high standards of a profession.
- **Action learning.** Generally speaking, action learning involves taking lessons learned in a classroom and actively applying them within the workplace. Learners are thereby held accountable for implementation. This approach is not only a means of effecting organizational change, it also presses those involved to learn from experience while facing change-management challenges.
- **Action-research.** Research is a vocation that involves many technical skills, but a great deal of benefit can be gained from bringing practitioners into a research process to take stock of organizational knowledge or to investigate a particular subject. The best applications of this principle marry two worlds: the rigour of professional evidence-based research with the know-how and front-line experience of practitioners. The result can be turned into a guide, manual, or course that can help new workers learn.
- **Guided projects.** A guided project is goal-driven, on-the-job training that takes place under the tutelage of an experienced colleague. Ideally, the protégé is set to

solving difficult real-world problems, not just elementary busywork. Research and experimentation can be undertaken here as well. The goal is to give an inexperienced employee a taste for difficult challenges and an intuition for how to cope.⁴⁸

All of the foregoing approaches involve significant investment of time and dollars, but these investments often pay for themselves in enhanced capacity and higher levels of employee loyalty and commitment.



THE MAIN OBSTACLE TO GUIDED EXPERIENCE is said to be the pursuit of a “quick fix” in an area of learning that, by its very nature, requires human contact and prolonged study. As Walter Swap and Dorothy Leonard point out, impatience for work-related learning that takes a long period of time is growing.⁴⁹ One assumption is that a technology fix or a crash course will suffice. Another is that an overlapping job assignment represents an inefficient allocation of labour. Thus, gaining support for guided experience is often a battle that requires a clear explanation of why shortcuts are a poor decision in the long run.



ONE VARIATION ON THE THEME OF GUIDED learning is the internship, which is usually defined as an interruption in school-based learning to gain work experience. The work experience allows a student to situate class lessons in a real-world context. Internships are excellent recruitment vehicles that can help initiate and socialize an individual into a workplace. Internship arrangements work best when combined with coaching—that is, when they are treated as a form of guided learning, and not just as a simple work experience.



LEARNING EVENTS



THE EXPERIENCES ACQUIRED BY EMPLOYEES over the years can be pooled into learning events of various kinds. Formal in-class courses can be designed and held on a regular basis. To minimize interruption of work, on-line courses can teach people from their desktops, especially if the lessons relate chiefly to the distribution of factual information. In-class and e-learning experiences can be combined to create a “blended” approach. One- or two-hour “brown bag” workshops and presentations might do the trick if a formal course is considered to be overkill.

A good example of a learning event specifically designed to preserve organizational memory is the orientation session, such as the government-wide orientations now offered by the Canada School of Public Service.⁵⁰ Similar sessions can be designed for a department, a work unit, or an occupational group.

One benefit of the learning event approach is the codification that occurs. Once a course has been designed and administered a few times, people other than the course designers may be able to teach it. If a single person holds a great deal of knowledge in a particular field, a learning event may be the ideal way to mirror that knowledge.

The ultimate goal should be to build learning events into the routine of a workplace. A beneficial spin-off is that staff are then able to develop their teaching and communication skills. When people gain confidence in their teaching abilities, there is a strong likelihood that teaching will become integrated in their work style. Opportunities for on-the-job learning then increase. Ultimately, a culture of learning emerges in the workplace.



A LEARNING EVENT DOES NOT NECESSARILY have to be conducted by a certified teacher. Indeed, using a retired employee to teach the course may be an ideal way to preserve or recover knowledge.

Of course, laypeople will have much to learn about the art and science of teaching. Many

professional teachers never fully master teaching skills. But these few pointers can improve the quality of a course:

- Telling stories and using concrete examples usually improves understanding and recall. Veteran employees often have a wealth of anecdotes and encounters to draw on.
- Exercises and dialogue sessions can be added to make an event more engaging. The passive nature of the lecture tends not to resonate well at a learning event.
- Turning an event lesson into a project or technique that can be implemented immediately on return to the job (often called “action learning”), is an excellent way to reinforce new knowledge. A good example is the Canada School’s Living Leadership Program.
- Involving practitioners in the development of the learning event instead of delegating the responsibility to a human resource specialist helps to ensure that the course includes concepts, techniques, and vocabulary that have meaning for the audience.

The foregoing list is not exhaustive. Seeking the involvement of a professional course designer is ideal, provided that the actual design remains highly tailored to an organization’s needs.



LACK OF TIME IS THE BIGGEST BARRIER TO participation in learning events. Many public servants routinely plan for more learning than they can actually manage. Urgent priorities and busy schedules often get in the way. Or sometimes people are required to make up the lost work time, which can discourage training and development choices. The government’s official learning policy requires managers to provide adequate opportunity for learning, which means scheduling the necessary time.

Another danger is relying too heavily on off-the-shelf courses and outside assistance. The point of a learning event to preserve organizational memory is to actively involve staff that already hold valued knowledge and experiences. Heavy reliance on outsiders is recommended only if knowledge has already been lost and must be recovered from another source.



THE WORKPLACE IS FULL OF DISTRACTIONS. Learning activities work best if held off-site, during retreats. Although retreats are often used by a group to plan, strategize, and inform, time can be set aside for at least a brief learning event. Ideally, retreats dedicated to learning are scheduled on a regular basis. One example is an annual event held at a time of year that is less busy for the particular work unit.

8



JOB OVERLAP AND KNOWLEDGE ZONES



ONE OF THE BEST WAYS TO PRESERVE KNOWLEDGE within the workplace is to make it redundant. If knowledge depends on a single individual, then the organization becomes vulnerable to long-term loss from employee departure or short-term loss from employee absence (such as for illness). Making sure that communication channels within the organization are open is a common way to prevent these losses. Still, certain forms of tacit knowledge can not be communicated through regular office activities.

Techniques that are better suited to mirroring valuable knowledge include team work—an obvious example. A less obvious example is job shadowing, in which a colleague follows another staff member during the workday to observe the job first-hand. Shadowing works best when limited to important meetings, key project stages and decision points, and other crucial episodes. The practice is ideal for the weeks and months before an employee retires. Job-sharing (or “job splitting”) is an alternative work arrangement in which more than one part-time employee shares a single position. The two individuals work different shifts during the week, although a small amount of overlap can be useful for sharing important information. An added benefit is that these arrangements can help to retain valued employees who are undergoing lifestyle changes, such as raising children or caring for elderly parents.

Another method is the creation of knowledge zones, a fancy term used to describe workstation

areas where people with interdependent jobs are co-located in clusters. Widespread use of communications technology such as e-mail has often been assumed to make the distance between people irrelevant. Not so. Certain types of knowledge can be shared only with face-to-face contact. By placing interdependent workers in close proximity, the likelihood and frequency of knowledge sharing increases.



IMPLEMENTING ARRANGEMENTS OF THIS KIND requires a focus on the workflows within a unit. It is rare for a group to analyze the way in which their jobs relate and overlap, but this type of analysis can help to improve the way a unit accomplishes its goals. It also places an emphasis on the flow of information, communication, and documentation within the workplace. Opportunities then arise to diagnose knowledge-sharing problems and take the steps needed to overcome them.

A much-neglected success factor is the design of the physical work environment. The design and arrangement of workstations can often be a barrier to regular interaction and the sharing of information. Workplace layout should accommodate informal interaction beyond the stereotypical conversation at the water cooler. Studies show that informal conversations can be a vital form of knowledge-sharing and joint problem-solving.



JOB-SHARING IS NOT RISK-FREE. SUCH arrangements add to the complexity of workforce scheduling. And sometimes, only one of a job-sharing pair has the answer to an urgent question. Some way of maintaining contact should be planned for emergencies.

Job-sharing and zone arrangements also sometimes make it difficult to pinpoint accountability for decisions. Some measure of collective accountability is therefore inevitable. All members of the group or pair need to adopt a sense of ownership over particular files. Greater transparency in workflow can also help.

Finally, interdependence has the potential to breed interpersonal conflict. If one person is doing a disproportionate share of the work, feelings of

resentment can arise. People working in close quarters can also become irritated if insensitive to the work styles and preferences of their colleagues. Managers need to be wary of these conflicts and provide a fair and open means of mitigating them.



A VARIETY OF OTHER TECHNIQUES ARE available for linking jobs and mirroring knowledge. A “buddy system” can give joint responsibility for a particular area, such as championing a good practice or attending an ongoing committee, to several individuals. That way, when one person is unable to attend a meeting, another can go in his or her stead. Information gained during the event can be shared afterwards.

9



PHASED RETIREMENT AND SUCCESSION



AS MENTIONED SEVERAL TIMES ALREADY, retirements are a major source of knowledge and expertise loss. Retirements are also occurring earlier in some people’s careers, particularly in the case of well-educated, professional workers—precisely those with the most important stockpiles of knowledge. The actual patterns are highly variable because of family demands, health issues, retirement of a spouse, changes in investment income, and other employment opportunities. Prediction of retirement on a person-by-person basis is therefore difficult.⁵¹

To further complicate matters, as Mark Hammer explains, the incentives affecting retirement decisions are somewhat paradoxical: the pension system and work pressures encourage early retirement, but the demand for professional labour encourages professionals to remain in the labour market.⁵²

One of the best ways to cope with the loss of a long-term employee is to make the retirement process more gradual. Retirement is traditionally thought of as a point in time, and not a phase. This

attitude is changing as people live longer and wish to contribute for a longer period of time.

Three types of phased retirement are common. The most popular involves working reduced hours past the point when retirement would normally take place. An alternative is to work at a transitional job (such as training others, being a mentor, and documenting experience) as the time of retirement approaches. Finally, an already-retired person can be hired back part-time or on contract—“re-employed,” in other words.

Phased retirement encourages a sizeable number of older workers (one third, according to best estimates) to work longer.⁵³ These workers also tend to be among the most motivated, because they are often the ones who stay from sheer interest in their vocation.

Sometime within the next ten years, the Canadian labour force will begin to shrink. Given the resulting labour shortages, some reliance on phased retirement will be inevitable. This change need not be a hard sell to retirees. People are living longer and

are increasingly willing to take on some limited work responsibilities during retirement.



ONCE A PERSON HAS RETIRED, THE WORK-
place memory of that person can fade quickly. Keeping track of retired employees, their field of expertise, and their willingness to accept post-retirement work assignments is therefore vital. A “retiree bank” can be used to bring people back as the need arises. This approach is especially useful because the forecasts of future knowledge needs used to plan phased retirements may be inaccurate. A person’s willingness to come out of retirement should be gauged during the exit interview.

A further step in this direction involves the establishment of an alumni or emeritus program. These programs actively maintain ties between an organization and retired veteran employees. For example, Statistics Canada maintains ongoing contact with retired statisticians. If a project could benefit from the advice of a particular individual, that person can be retained on a short-term contract.⁵⁴

Phased retirement programs work best when integrated with an organization’s recruitment and development programs. The ideal is to leverage the time of employees nearing retirement to promote the continuity of the workforce, and not simply to forestall a loss of capacity by using veterans to fill short-term needs. Indeed, relying on phased retirement alone to fill short-term labour gaps often serves to hide an organization’s vulnerability to employee turnover.



SOME EMPLOYEES WHO MIGHT HAVE STAYED beyond their normal retirement date will opt instead for phase-out work duties.

The result is a net loss of skilled labour. Fortunately these cases are in the minority. Care should be taken to make sure that the incentives offered do not unduly encourage premature phase-outs. Managers should also be vigilant about identifying particularly valuable personnel and jointly developing a succession plan to the mutual benefit of both parties.

Many phased retirement programs demand a great deal of time and energy from veteran employees. These demands pose a dilemma: experienced managerial and professional workers are precisely the ones who are most likely to be burdened with heavy workloads and job commitments. For example, many mentor relationships fail because veteran workers are not able to devote as much time as they would like. Unbalanced programs can lead to burnout instead of longer tenures.



A SOMEWHAT RELATED INITIATIVE IS THE retirement-transition support program.

People often avoid giving much thought to retirement until very late in their career. Because a person’s identity and emotional well-being are often intertwined with that person’s career, the transition to retirement can be particularly jarring for some. Employers can help their employees manage this transition with counselling and other learning supports. A program of this type often builds enormous goodwill and encourages ongoing contact between employers and their alumni.

10



NETWORK-BASED SOLUTIONS



WHEN THE TERM “KNOWLEDGE” IS MENTIONED, most people tend to think of know-how and know-what. But know-who is just as important. Organizations are populated by diverse individuals, each of whom may have unique knowledge and insights. The challenge is to finding out who these people are and how to contact them at need. A person seeking advice will often start with the members of their personal network in the hope that the right expert is just a few degrees of separation away.

As Cross notes, organizations are not simply overlaid with amorphous webs of contacts between associates.⁵⁵ Instead, networks of various types typically coexist to serve different purposes. Some networks are characterized by well-defined and routine contact because of interdependence between jobs or units. Some are constellations of workers with similar duties. Others are highly decentralized and far reaching, often because complex circumstances have brought people together at some point.

Networks should be encouraged because they serve a number of roles in the preservation of knowledge. Valued information and knowledge can be mirrored throughout an organization in the rich array of network relationships that develops. Rich networks often coincide with a greater likelihood that an organization is achieving a shared vision and culture. Networks prevent pockets of expertise from becoming isolated. Especially among managers, networks are vital for prodding different parts of the organization to act in concert. Indeed, networks can be better predictors of information flows than are the lines and boxes on a typical organizational chart.⁵⁶

Because no one person is likely to be the sole carrier of organizational knowledge, networks of individuals can be a powerful source of knowledge storage and retrieval.⁵⁷ It therefore follows that the organization can find ways to build contacts across work units and with relevant outsiders.



MANAGERS SHOULD BE DIRECTLY AND indirectly encouraging all of the following approaches to promoting and leveraging the power of networks:

- **Formal horizontal linkages.** When organizations make a concerted effort to collaborate, networks inevitably develop. The resulting inter-organizational relationships and meetings have been labelled the “matrix organization.”
- **Expert locators.** An alternative approach is to compile a directory of people with interests and expertise documented. Some liken this expert locator to the telephone company’s “Yellow Pages,” a common way for a person to find a service. An expert locator can be made accessible by easily modifiable, electronic means—an ideal situation, because the references will grow stale unless they are easy to update.
- **Meet-and-greet opportunities.** The professional development of a workforce is well served by initiatives that bring together related workers. Conferences and on-line discussion forums are two examples. They not only promote intellectual development, but also act as a vital means for jointly solving shared problems.
- **“Small world” networking.** Unrelated individuals who can potentially benefit from interacting are often just a single, mutual acquaintance away from each other—one degree of separation, so to speak. Managers can encourage staff members to actively mine their list of contacts by asking for referrals as a matter of routine.

Collectively, the foregoing mechanisms can help an organization to better utilize the knowledge it already has.



ALTHOUGH NETWORKS CAN PROVE HIGHLY valuable, they can also be a vulnerability. Networks are more vulnerable to employee turnover than are more formal arrangements. Vesting mission-critical information exclusively in networks is therefore not the best course. Managers should take steps to mirror such knowledge in other ways.



SOCIAL NETWORK ANALYSIS IS A PROCESS that collects contacts throughout an organization and enters them into a database. Organizational researchers can then use sophisticated statistical techniques to analyze an organization's web of informal interaction. By studying the resulting map, analysts can find groups of people who are "out of the loop" or who are forming exclusive cliques. This expensive technique is probably overkill for most organizations. However, if chronic internal communications problems are the norm, this form of analysis may be the best option.

DOCUMENT REPOSITORIES AND PORTALS



ONE OF THE MOST ANCIENT METHODS OF preserving knowledge is to codify it in documents and organize the documents in a single place—a repository.

Libraries are the most familiar form of repository. Some of civilization's largest losses of recorded knowledge have come from the destruction of libraries, such as the burning of the Library of Alexandria in the fourth century. In recent years, it has been less fashionable to treat libraries and reading rooms as a means of preserving knowledge, partly because of the expense. Yet libraries remain as useful as ever, especially when staffed with professional bibliographers who are versed in the art of tracking down obscure pieces of information.

The ubiquity of networked computers has recently boosted the popularity of on-line document repositories. On-line repositories work best when organized to make finding and accessing documents more intuitive. If relevant documents are not located within an organization, then a knowledge portal can be developed to point people to useful outside sources of information—or better yet, to pool the information itself on a single computer screen. Portals often include information services that continually update rapidly changing information.



DOCUMENT REPOSITORIES WORK BEST WHEN value is added to documents through an additional "refinement" process. This refinement can involve cleaning up the documents themselves and labelling, indexing, sorting, standardizing, abstracting, integrating, rating, or re-categorizing them. This latter work helps make a repository less of a jumble of ambiguously related documents.

The temptation to organize documents by subject is strong. But people often seek information using sophisticated mental classification schemes that are radically different from the subject viewpoint.⁵⁸ In organizing documents, some thought should be given to the context of long-term use and to the shared concepts current within an organization.

Adding a personal touch to repositories is strongly encouraged because relevant documents are often found through referrals. Most large government organizations have libraries that can be expanded to manage a more diverse collection of documents than the traditional stacks of books and articles from outside. Librarians, researchers, and bibliographers can offer suggestions to those seeking documented information.



PUBLIC SERVANTS WHO WORK IN OFFICES may have noticed how difficult it is to keep needed documents at their fingertips. The reason is the “files and piles” dilemma.

When filing a document, a person is usually in a far different frame of mind than when the same person is trying to find the same material. Consequently, documents occasionally get lost in large or complex filing systems. Conversely, the piles of documents on a desk have a loose chronological order, with older documents at the bottom and newer documents at the top. That rough order might help a person find a document until a lot of documents pile up, at which point documents routinely become lost in the big heaps.

A similar difficulty emerges with electronic documents. Documents are usually filed within metaphorical folders or piled in metaphorical in-boxes. In either case, documents can become lost even when a person has worked out an organization scheme.

How can the files-and-piles dilemma be overcome?

Historically, clerical workers devised elaborate schemes for classifying documents. This approach worked well, provided the right clerical worker was available to retrieve the material. Many government offices still work in this way, but the clerical workers available to manage the piles of paper that build up are fewer in number. Thus, many offices rely heavily on shared repositories of electronic documents that lack a well-developed set of protocols dictating how documents are to be stored and organized.

A good document management system will provide several ways to access documents. Searching and browsing should permit users to work with multiple organizational schemas—for example, type of document, subject, date, and so on). An even better approach involves using knowledge management software that can draw meaningful connections between documents. For example, the name of a document has been forgotten, but the author’s name can be recalled, then the software should be able to list all documents written by that author, ordered in a variety of ways (by date or subject, for example). In turn, the relevant document can be linked to all the people who have accessed it so that the people who share an interest in the

subject can be contacted. Then, in turn, additional documents of interest to that group of people can be identified. A system of this sort links documents in useful chains along several dimensions.



THE IDEAL RECORDS-MANAGEMENT SYSTEM is often called the “glass desktop,” “management dashboard,” or (less metaphorically) an “enterprise system.” These highly integrated systems put the information needed for decision-making at the fingertips of managers. Many strides have been made in developing technology that integrates information, but people still play the largest role in repackaging scattered information into a useful form. To date, the best enterprise systems pool vital indicators related to a particular business line or occupation—payroll figures or inventory levels, for instance. The eventual goal is to create systems that can monitor all of the “vital signs” of an organization, as well as gather intelligence from outside.



12



AUTOMATION AND SELF-SERVE



THE APPLICATION OF TECHNOLOGY TYPICALLY works best as a complement to human activity, not a replacement. That said, many standard and routine tasks can be automated, reducing an organization's reliance on a single individual. Automation also liberates individuals from repetitive (often monotonous) tasks. In some cases, an organization's clients can be empowered to serve themselves instead of relying on an intermediary. Today's burgeoning e-government applications are based on this self-service model. In all of these cases, information and knowledge become embedded within the organization's information systems.



WITH AUTOMATION COMES THE SPECTRE of machines replacing humans at work. This worry is often overstated, because automation tends to support the humans who perform various tasks within office environments. Yet, placating fears by involving people in the development of automated systems and implementing a no-layoff policy is often necessary. These approaches not only minimize the potential for labour strife, but they also encourage systems developers to draw from the experience of the people who best understand the work.

Implemented properly, automated systems eliminate drudgery and allow people to focus on higher-value, intellectually stimulating tasks. This side effect is often more important to the generation and preservation of knowledge than is the new information system.



ANY TECHNOLOGY PROJECT CARRIES A RISK that the resulting system will be insensitive to the needs and preferences of end-users. Worse, many systems force users to work in unnatural and non-intuitive ways—a situation sometimes called “configuring the user” (instead of configuring the technology to suit the user).⁵⁹ Automation projects are particularly susceptible

because developers can rely on off-the-shelf software solutions only to a limited extent. Usability trials attempt to increase sensitivity of the system to the user, but trials often come too late in the development process. A better approach is to involve end-users at every major stage in the project, thus pressuring the developers to be more sensitive to the actual workflow.

Another major challenge with automation is inertia. Automated systems are not usually able to accommodate large-scale changes with ease, and they therefore become a major source of rigidity. Automation is therefore best applied to operations with long-standing, stable, highly routinized operations.



A RELATED TECHNOLOGY IS THE “EXPERT” or “knowledge-based” system. These more advanced forms of automation incorporate expert know-how into the software itself. The system can then make low-level decisions without the intervention of an operator. Many advanced automated systems currently operate in this way. The challenge here is the added complexity and higher cost of making major system changes. Moreover, these systems are often oversold as forms of “artificial intelligence,” despite their somewhat limited analytical and decision-making capabilities.

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KNOWLEDGE CENTRES



A KNOWLEDGE CENTRE IS A DEDICATED organizational unit staffed by experts and fact-finders. These specialists seek out and share insights and experiences with the aim of solving routine problems and answering questions. The most common form of knowledge centre is the “help desk” or “hot line” usually associated with an organization’s information technology and customer service branches. These centres work best when centralization of information and knowledge lead to greater efficiency.



ORGANIZATIONS OFTEN OPERATE KNOWLEDGE centres as part of their customer-service obligations. A good example is the “Genius Bar” found in every Apple Computer store, which answers technical questions about the company’s computers. Such centres operate best when they also cater to internal queries. In many organizations, the knowledge centre also contains a wide variety of counselling services, particularly career counselling. Employees visiting the “one-stop shop” can have their work-related questions answered by someone in the know.

Many authors suggest combining knowledge centres with other centralized sources of information, such as libraries, training services, counselling services, and on-line document repositories. These “full service” centres are usually best suited to organizations whose staff members are concentrated in one location.



KNOWLEDGE CENTRES WORK BEST WHEN pooling relatively tidy batches of codified information that can be organized in a straightforward way—for example, questions related to customer service. These centres are poorly suited to capturing bits of quirky, atypical information. They are even less successful at providing advice for complex, infrequent problems. In such cases, the knowledge centre works best as a referral service that channels people toward experts with answers. Designers of a knowledge centre need to be

conscious of the limits to centralizing information; awareness of the local situation may be important in some instances.

Knowledge centres tend to flounder when they are treated merely as call centres. Investments in staff knowledge and analytical skills, first-hand exposure to problem-solving scenarios, and ready access to front-line expertise are all necessary to make the centre work. If first contact with the centre results in unhelpful or superficial advice, the questioner is unlikely to return in future.



GIVEN RECENT EMPHASIS ON SECURITY and emergency management, many governments are building “operations centres.” These specially-equipped facilities house specialists who can rapidly filter and channel information to key decision makers. When an emergency occurs, these places become the hub where major decisions are taken. In contrast with knowledge centres (which tend to traffic in organized information), “ops centres” pool knowledge and expertise in conditions of great uncertainty.

ENDNOTES

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