

DND Photo HS 2004-6075-15 by Master Corporal Colin Kelley



Knowledge sharing on operations. HMCS *Toronto* sails at the lead of a starburst formation as the aircraft carrier USS *George Washington* takes the centre, Northern Arabian Gulf, 20 June 2004. This is an example of collaboration and knowledge sharing in action.

## **DEFENCE KNOWLEDGE MANAGEMENT: A PASSING FAD?**

by Lieutenant-Colonel John Girard

Defence is a complex, high consequence of error, capital-intensive, knowledge-dependent, national security instrument.<sup>1</sup>

**A**uthor's Note: At a recent meeting, a general officer suggested that Knowledge Management was just another passing fad. It was thought that he, and perhaps some of his colleagues, did not understand what knowledge management is and why it should be a priority in the Defence Department, so it was decided to articulate why knowledge management is important. Equally, it is hoped to stimulate debate on the subject and challenge the naysayers to explain their views.

### **WHAT IS DEFENCE KNOWLEDGE?**

**T**he majority of academics and knowledge management authorities make a distinction between the three related, but discrete terms: data, information, and knowledge. The three terms are hierarchical in nature, with data being the foundation upon which information builds to a pinnacle of knowledge. Occasionally scholars use the collective noun 'knowledge' to group together the three blocks of the knowledge pyramid. For example, in *War and Anti-War*, the futurist authors Alvin and Heidi Toffler use the term knowledge as "defined broadly to include information, data, communication

and culture."<sup>2</sup> The result of such an unfortunate assemblage is the fallacy that practices such as data processing, information management, and knowledge management are synonymous.

Today, several cognitive theories exist that take into account the pyramid of data, information, and knowledge. Some research suggests the hierarchy should extend beyond these three basic building blocks. Systems theorist and professor of organizational change Russell Ackoff sees a hierarchy that extends the pyramid to five levels by adding understanding and wisdom. Verna Allee's Knowledge Archetypes enlarges the original three to seven by adding meaning, philosophy, wisdom, and union.<sup>3</sup>

The Canadian Forces (CF) view of this cognitive hierarchy is somewhat different from that of academia. Current doctrine suggests that there are four elements: data, information, knowledge, and understanding. At the low end are individual sensor observations, or data. This *data* may be processed to develop a common relevant situational awareness, or *information*. Through cognition, one may determine the desired

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end state, including a commander's intent and concept of operations. This is *knowledge*. At this point, a commander uses judgement to decide what should be done. This is *understanding*, and at this point he or she may take action.

The first three components of this cogitative hierarchy are identical in each of the models, and collectively become the knowledge creation process. Typically, these are the steps completed by the staff to assist the commander. The next step or level of the hierarchy – understanding – is ultimately the domain of the commander. The commander uses his or her judgement to decide on the appropriate action. Unlike the very mechanical knowledge creation steps, this stage tends to be more of an art than a science. The jump from knowledge to understanding builds on the knowledge already created. However, most commanders rely heavily on experience and intuition – in other words more tacit knowledge than explicit knowledge.

Doctrinally, the CF hierarchy culminates at the level of *understanding*; however, there may be merit in exploring Ackoff's final level, *wisdom*. This almost utopian level presupposes a near perfect understanding of the environment, and tends to be a stage achieved by those few commanders who have extensive experience and finely honed intuition. Those military commanders who mastered the art of warfare truly achieved the "knowledge edge" and were feared by their opponents and heralded by historians. The notion of achieving the knowledge edge in operations is a relatively new concept driven by today's innovative leaders. The knowledge edge was designed primarily with operations in mind; however, it applies equally to other areas of Defence.

## WHAT IS DEFENCE KNOWLEDGE MANAGEMENT?

An agreed definition of knowledge management has eluded scholars and practitioners alike since the term first entered our lexicon. Virtually every paper penned on the subject includes a reworked definition, and the debate continues. In the end, it is not the definition that is important but rather the outputs and outcomes of the process. That said, there would appear to be a need for a definition within the Department of National Defence.

In a 2002 joint letter entitled *Future Directions for Information Management in DND/CF*, the Chief of the Defence Staff (CDS) and the Deputy Minister of National Defence stated that knowledge management was: "An environment that facilitates knowledge discovery, creation and innovation, and which fosters the development of a learning organization."<sup>4</sup> This description encapsulates the vision of what they expected to see in the future.

According to the Defence Terminology Bank, the draft definition of knowledge management is:

An integrated systematic approach which when applied to an organization enables the optimal use of timely, accurate and relevant information; it also facilitates knowledge discovery and innovation, fosters the development of a learning organization and enhances understanding by integrating all sources of information, as well as individual and collective knowledge and experience.<sup>5</sup>

Like many other knowledge management definitions, this one is somewhat complex. A concise phrase is desirable – one that immediately communicates the meaning and yet is not constraining. Perhaps a better definition would be simply: "Knowledge management is the creation and sharing of knowledge within Defence". At the end of the day, it is up to individual leaders to decide how to create and share knowledge within their organizations.

## WHY KNOWLEDGE MANAGEMENT?

The focus thus far has been to define the component and concepts of knowledge management. Using an analogy of the knowledge pyramid, the concentration has been on the data foundation or facts about knowledge management. The next part builds on this important foundation by adding relevance or purpose – in other words, layer two of the pyramid, analogous to information.

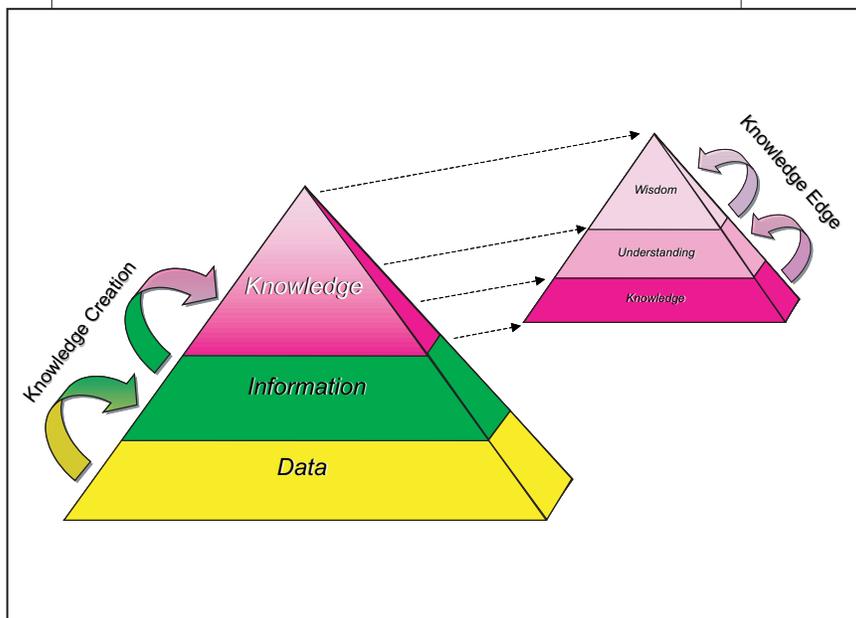


Figure 1. The Knowledge Edge

Having defined the components of the knowledge pyramid and reviewed knowledge creation and transfer concepts within DND and the Canadian Forces, we may now focus on the question, “Why manage knowledge?” Academic and business leaders alike agree that: “In an economy where the only certainty is uncertainty, the only sure source of lasting competitive advantage is knowledge.”<sup>6</sup> Experts suggest countless reasons for knowledge management within enterprises, such as globalization,<sup>7</sup> deregulation,<sup>8</sup> technology,<sup>9</sup> downsizing<sup>10</sup>, and information overload.<sup>11</sup>

Though interesting from a professional development point of view, the fact that academia or ‘Corporate Canada’ applies something called knowledge management may only be of passing interest to DND. All too often, the public sector has tended to jump on the bandwagon of the newest hype spawned by business schools. Blind faith in seemingly promising quick-fix solutions can and frequently does lead to unfortunate, though all too predictable, failures. The newest management magic formula has often required significant investment without any benefits, either real or perceived.

So why is it that DND and the CF would wish to consider knowledge management? Surely, this is just another overrated and underdeveloped business process looking for a home, which will unquestionably go the way of the dodo bird. Perhaps, but this seems highly improbable once given the facts. For at the same time Aristotle was considering the categorization of knowledge, Sun Tzu wrote, “If you know your enemy and know yourself, you need not fear the results of a hundred battles.” And, at the same time, that knowledge management gurus were selling their wares to business leaders across North America, we heard General Tommy Franks, Commander-in-Chief of US Central Command, saying “... as has been the case since Sun Tzu said it, precise knowledge of self and precise knowledge of the threat leads to victory.”<sup>12</sup> It is clear that for centuries, enlightened defence leaders, like academics and business leaders, have appreciated the value of knowledge.

In fact, there is little need to venture to Iraq in 2003 or Asia in 400 B.C. to hear visionaries speak of the need for knowledge. Embedded in the CF *Strategy 2020* vision statement are the following words of wisdom:

The Defence Team will generate, employ and sustain high-quality, combat-capable, inter-operable and rapidly deployable task-tailored forces. We will exploit leading-edge doctrine and technologies to accomplish our domestic and

international roles in the battlespace of the 21st century and be recognized, both at home and abroad, as an innovative, **relevant knowledge-based institution**. With transformational leadership and coherent management, we will build upon our proud heritage in pursuit of clear strategic objectives. (Emphasis added)<sup>13</sup>

Similarly, the Army Commander’s Vision, which serves as a basis for the Army Strategy, includes the following statement:

Using progressive doctrine, realistic training and leading-edge technologies, the Army will be a **knowledge-based and command-centric institution** capable of continuous adaptation and task tailoring across the spectrum of conflict. (Emphasis added)<sup>14</sup>

Such passages are not penned without considerable debate. These vision statements are a true reflection of where commanders expect their organizations to be in the future. Clearly, leaders within DND and the CF have acknowledged the importance of moving from the information era to the knowledge age.

One need not look very far to see excellent examples of knowledge management in action. Arguably, DND and the CF constitute one of the most experienced knowledge organizations in Canada and for good reason, given that many knowledge management processes are already commonplace in Defence. For example, DND and the CF have a proven ability to externalize knowledge through the application of lessons learned and after-action review processes. Equally notable are the numerous ways DND and the CF ensure that tacit knowledge is preserved and transferred within the organization, through mechanisms such as battlefield studies and on-the-job training programmes.

The point is that knowledge management is nothing new for Defence. In fact, we trace the origins of knowledge management back to 20 October 1871. On that day, officers of the first Canadian Permanent Force units met in messes in both Kingston and Quebec.<sup>15</sup> Their meeting spaces are reminiscent of the *ba* concept, a revolutionary knowledge concept being imported from Japan.<sup>16</sup> A *ba* is simply a social space where Japanese executives meet to share knowledge. Such a novel concept is exactly what our forefathers expected of the military mess – a trusted environment where one could share experiences and perhaps tell war stories, but more on that later.

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## WHY KNOWLEDGE MANAGEMENT NOW?

Perhaps the real question is: 'Why now'? If the CF is already a recognized knowledge organization, why then invest in a knowledge strategy? There are three major reasons why this is the time to institutionalize knowledge management within the Defence Team.

### Times Have Changed

Building on the old cliché that "things just aren't the way they used to be," it is critical that the CF acknowledge that much of what we do has changed dramatically in the past decade or so. Since the fall of the Berlin Wall, almost everything we do has changed – the tempo of operations is higher, the level of certainty is lower, and there are new and emerging threats. As part of the peace dividend the Canadian Forces is much leaner than it was in 1989. Add a new doctrine of manoeuvre warfare and it becomes apparent that we are operating in a new environment. In short, the world of Defence is very different than it was only a few years ago.

From a knowledge management perspective, this new world order demands new ways to ensure we create and transfer our collective knowledge. In the old world, we had the luxury of deliberate redundancy – that is, many positions had understudies or assistants who were invaluable in capturing and retaining our organizational memory. In the 1990s, the financial realities of the new world forced us to adopt a leaner, more efficient organization. Though more economical, these new structures are thinner, more brittle and less conducive to tacit knowledge sharing. A second example surrounds the social spaces that were once an extremely important part of the military fabric. Ironically, as we downplay the value of our messes, many other non-military organizations are introducing into their organizations the concept we abandoned, with the hope of improving knowledge sharing – witness the *ba*.

These examples, and others, should not be construed as criticisms or failures. The reality is that organizations change over time and we must develop processes and techniques that work in the current and future versions of the organization. There is little value in lamenting days gone by, other than to learn from our experiences. Rather, we should look for creative solutions to ensure that our knowledge creation and sharing is at least as good as it was before. In many cases, we should be able to exceed the standards of yesteryear since times were never as good as we remember them.

### Transformation

In *A Time for Transformation*, the 2002-2003 Annual Report by the CDS, General Henault stated: "For Canada, the question is not whether to transform the Canadian Forces, it is how best to achieve the required transformation."<sup>17</sup> The important message from a knowledge management perspective is that the evolutionary change that we have

lived through in the past decade will be replaced by revolutionary transformation in the future.

The CDS advised that "we must transform the way we perceive and think"<sup>18</sup> and that "we are moving from an industrial, hierarchical mode of thinking to a world powered by collaborative human networks."<sup>19</sup> This is the essence of knowledge management, connecting people with people to foster an environment where we can create and share knowledge. General Henault continued by stating:

We must learn to think, behave, and act as a node in a collaborative network that includes our warfighters, all three military environments, our civilian colleagues in the department and broader public security portfolio, as well as our allies. If the defining feature of the industrial age was linear, vertical thinking, then the defining feature of the information age is lateral, horizontal thinking.<sup>20</sup>

Knowledge management will be one of the prime 'enablers' of transformation.

### Technology

Technology has changed the way we do many things. In most cases, it has improved our lot, though there remain some areas where one might argue that technology, or at least our management of technology, has not added value. On the positive side, we see an ability to fuse reconnaissance, surveillance and intelligence in ways simply unimaginable only a few years ago. By 2008, the target integration model date for C4ISR<sup>21</sup> (command, control, communications, computers, intelligence, surveillance and reconnaissance), commanders will have immediate access to vast stores of processed, timely and relevant knowledge with which they can make decisions.

However, there are a handful of examples where more work is needed. Fifteen years ago, DND and the CF had a robust and ordered staff duties system that demanded the highest standards of writing and administration. We had highly regimented filing systems, which permitted the rapid retrieval of documents and extremely efficient ways to 'Put Away' or 'Bring Forward' all codified knowledge. We knew how long to keep each type document and had systems for pruning unnecessary or obsolete correspondence.

Today, most non-operational correspondence is by e-mail, and few organizations can boast of an electronic 'filing' system as robust as the paper management system that it replaced. Many would undoubtedly argue that technology is the culprit. In hindsight, we now know that technology alone does not solve these sorts of problems and that technology, like all other resources, must be managed to be effective. The same will also hold true in the future as we consider technological approaches to knowledge management.

**ENABLING DEFENCE KNOWLEDGE**

The final section of this paper considers how one may more fully ‘enable’ defence knowledge management. Returning to the knowledge pyramid analogy, this section represents the knowledge level of the pyramid and focuses on preparing commanders to make decisions and then take action. Specifically, this section describes a model for defence knowledge management that will aid leaders in implementing knowledge programmes within their sphere of influence.

At present, a number of models exist that attempt to describe the ‘enablers’ of knowledge management. To develop a model for defence knowledge management, several well-known models were reviewed, including the *Enablers of Transfer*<sup>22</sup>; *Knowledge Management: the Architecture of Enterprise Engineering*<sup>23</sup>; the *European Network for Knowledge Management*<sup>24</sup>; and the US Department of the Navy’s *Balanced Knowledge Management* model.<sup>25</sup> These four models provide a comprehensive overview of current thinking, both from an academic and from a practitioner’s view. Equally, these provide a brilliant balance between profit and not-for-profit organizations, as well as North American and European ideas.

Five ‘enablers’ – Technology, Leadership, Culture, Measurement, and Process – are common in three of the four models. A detailed review of the remaining four ‘enablers’ – Organization, Infrastructure, Learning, and Content – reveals that the essence of this latter cluster is in fact embedded within the former.

Having determined the five ‘enablers’, the next step was to find an icon with which the Defence Team would associate. The new model is based on an Inuit structure called the Inukshuk. The Virtual Museum of Canada describes an Inukshuk as:

Like a person. An arrangement of stones, often resembling the shape of a human. The Inukshuk is used as a navigational aid, as a marker for hunting grounds and caches of food or supplies, in hunting to lure geese and corral caribou, and as a way to mark sacred ground. These stone cairns embody strong spiritual and ancestral connections and have been erected by Inuit on the Arctic tundra for many generations.<sup>26</sup>

The Canadian Museum of Civilization suggests that Inuksuit (plural form) vary in size and function:

Inuksuit vary not only in size and shape but also in their functions. One was to drive herds of game to where they would be killed in numbers. Another was to guide the hunter travelling on land, or on the sea or ice within sight of land. There are places in the Arctic where networks of Inuksuit reach from the interior to the sea, and along the coast in both directions. Some Inuksuit were built to serve as message centres. They could indicate, for example, dangerous places, the depth of snow, the direction of the mainland from an island where seals or fish could be taken. These Inuksuit were designed to be messages fixed in time and space. Others were personal notes left on the landscape – perhaps for a wife to follow her husband at a later date, or as an expression of grief marking the place where a loved one perished.<sup>27</sup>

The Inukshuk, as shown in Figure 2, is an excellent model of Defence knowledge for a variety of reasons. First, Inuksuit are well-known symbols in Canada and play an important role in our history and tradition. Second, most Inuksuit resemble people, to remind us that it is people who play the most important role in knowledge management. Unlike its distant cousin *Information Management*, knowledge

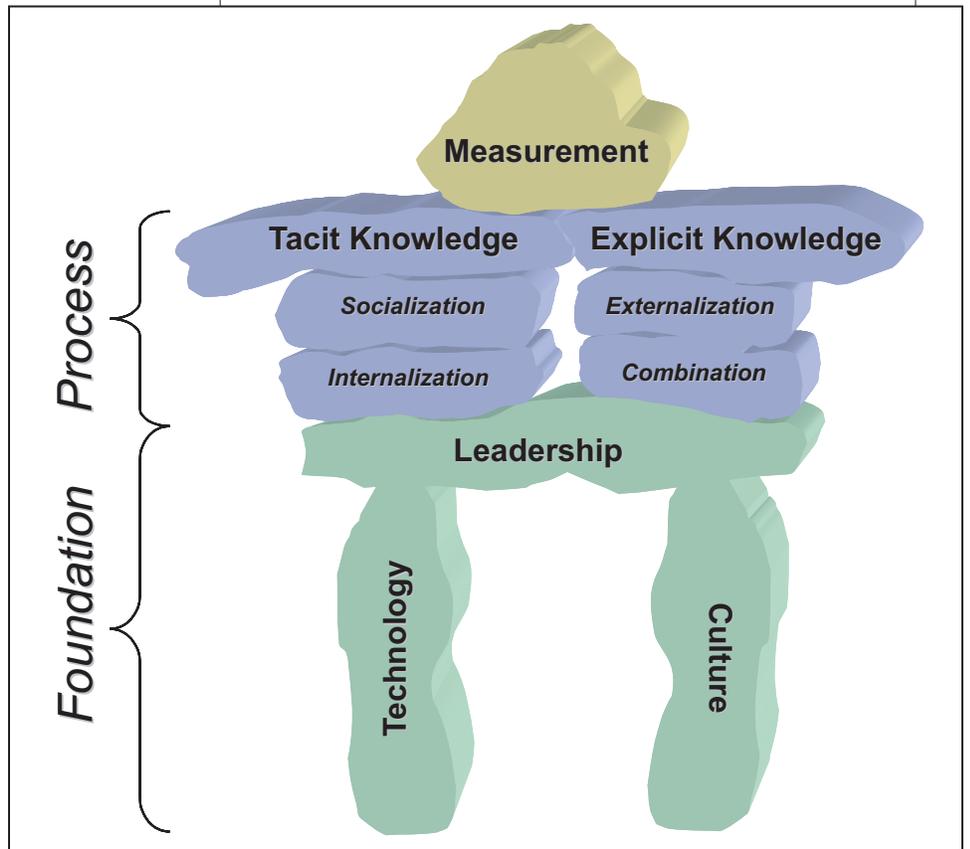


Figure 2. Inukshuk: Defence Knowledge Management Model

**“Technology has changed the way we do many things. In most cases, it has improved out lot, though there remain some areas where one might argue that technology, or at least our management of technology, has not added value.”**

management is simply not possible without people. Finally, while most Inuksuit are similar, they are nonetheless distinct from one another, much as each knowledge management implementation will be unique.

The Inukshuk is built on a foundation of technology, leadership and culture. Like a real Inukshuk, the model requires an appropriate balance of each or the structure will tumble.

If a particular aspect of knowledge management implementation has strong leadership support and robust technological basis but fails to consider the cultural implications then it is almost certainly doomed to failure.

**Technology.** Technology is an enabler of knowledge management; however, it is not synonymous with it. From a Defence perspective, technology is a double-edged sword and we must ensure that technology is an enabler for knowledge management, not an impediment. At present, some would argue that technology causes more problems than it solves. Many will argue that desktop video conferencing, streaming video and instant messaging are more effective ways to share than more conventional means such as e-mail. However, today our infrastructure does not support such enabling technologies.

**Leadership.** Our current military doctrine of manoeuvre warfare complemented by a mission command-style leadership is the ideal environment for knowledge management. We must ensure we ‘walk the talk’ and provide resources, including time, to grass roots knowledge initiatives. Some of the most effective knowledge tools and processes are driven from the grass roots but they require time to become truly effective. A good example of this is a community of practice, which is inexpensive in terms of cost but which must be cultivated through the support of leaders.

**Culture.** Culture is an often misunderstood concept in knowledge management circles. Clearly, there are many dimensions to culture. However, one of the most significant challenges, from a knowledge management perspective, is the culture of security within DND and the CF. Moving from a ‘Need to Know’ culture to a ‘Need to Share’ culture is not a trivial task. Many leaders have commented on the need for organizations to share information and knowledge in the post 9/11 era. While appearing before the Standing Senate Committee on National Security and Defence, Lieutenant-General Macdonald, Vice Chief of the Defence Staff stated:

During the 14 months of its [the Canada-US Bi-National Planning Group] existence, its accomplishments and current projects include: ...and

perhaps most importantly, **working to transform information sharing between our two nations from a need-to-know to a need-to-share paradigm.** (emphasis added)<sup>28</sup>

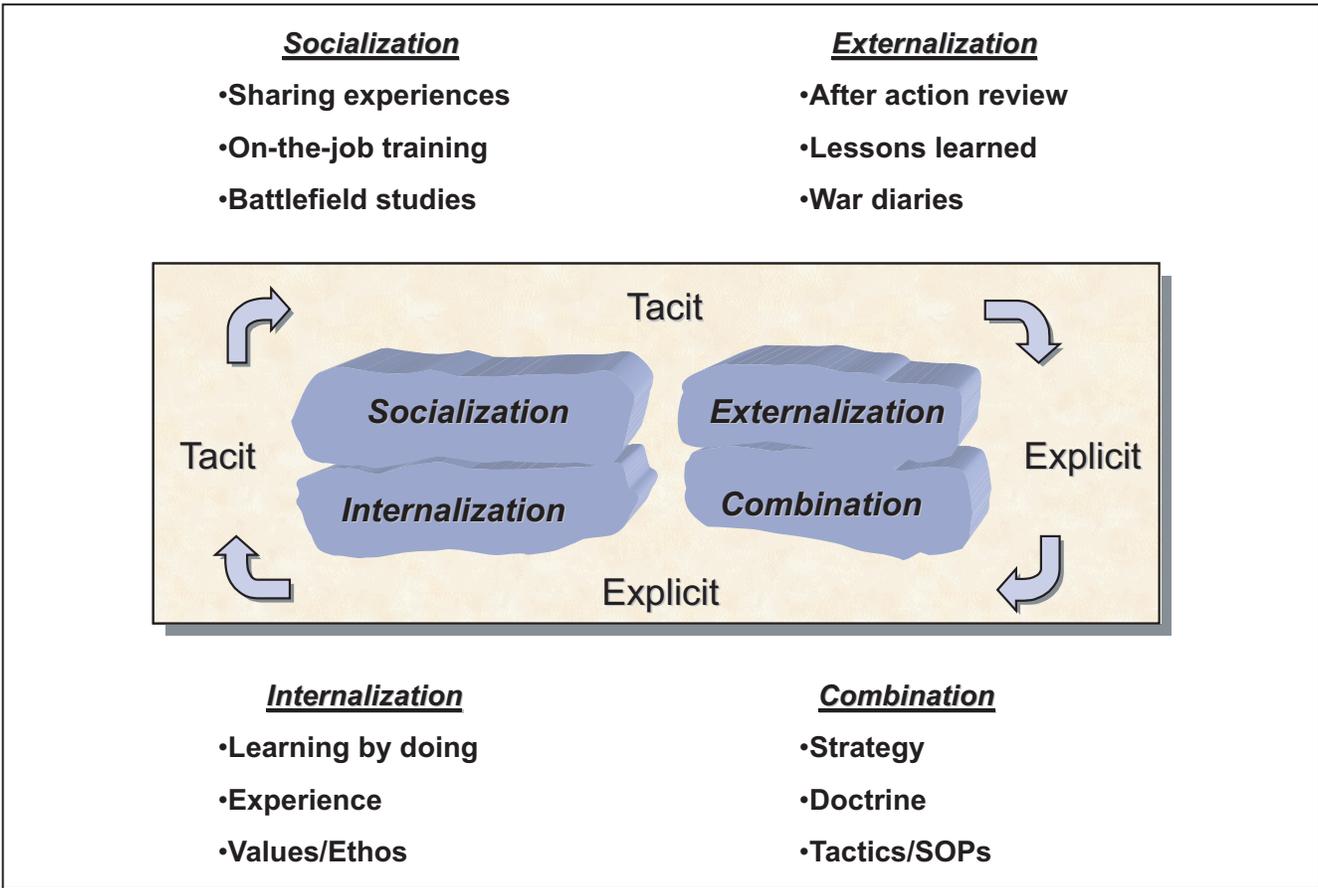
Such a profound statement clearly demonstrates the understanding of our senior leaders of the importance of supporting a shift to a need-to-share culture.

Once a robust, balanced foundation of technology, leadership, and culture is in place, one must apply one or more processes to create and share knowledge. A successful knowledge environment encompasses both tacit and explicit knowledge. Most western cultures tend to emphasize the explicit component. We like to write doctrine, tactics and procedures and then assume that all will have the knowledge to complete the necessary tasks. Alternatively, those from the East rely more on the tacit dimension, and we must strive for a balance between the two. The Inukshuk model helps to establish this relationship in a practical way as the stones represent the four ways in which one may create or transfer knowledge as illustrated in Figure 3.

**Socialization – Tacit to Tacit.** Through social interaction, people may gain knowledge that is highly personal and difficult to formalize. One of the best examples is the sharing of experiences through war stories. Properly prepared, these stories are a very powerful way of transferring tacit knowledge from one person to another. When a more experienced soldier, sailor, or air force member recounts a real-life experience to a younger colleague they share more than just the simple facts of the story. Frequently, we witness significant emotions as the veteran shares the difficult and trying conditions lived. The listeners can feel as if they were present at the event. This process of socialization is an important part of our military heritage, but could be improved. Imagine if all Majors and Master Warrant Officers were trained to tell stories effectively, and we used this tool regularly. This paper, for example, ends with a story that illustrates how one may apply the components of the Inukshuk in an operational setting. It is left to the reader to decide if storytelling is an effective tool.

**Externalization – Tacit to Explicit.** Externalization as a concept of knowledge transfer or creation is foreign to most Western thinkers, with the exception of the military. Within the military construct, we strive to create or transfer tacit knowledge to the explicit form. Our lessons learned and after-action review processes are good examples of how we try to codify tacit knowledge.

**“In an economy where the only certainty is uncertainty, the only sure source of lasting competitive advantage is knowledge.”**



**Figure 3.** Process: Knowledge Creation and Transfer Examples

**Combination – Explicit to Explicit.** Through the process of codification, one person may document specific knowledge into some form of repository so that many others may access that knowledge. An organization developing and formalizing Best Practices provides a classic example of the transfer of explicit knowledge. In a Defence setting, this is what we try to achieve using strategy, doctrine and standard operating procedures.

**Internalization – Explicit to Tacit.** The premise of internalization is knowledge created through an amalgamation of codified explicit knowledge and fuzzy tacit knowledge. An example of this is DND’s relatively new value-based ethics program. We have articulated a series of principles and obligations with the hope that all Defence team members will internalize these important notions and know at an almost instinctive level how to react when confronted with a difficult situation. Over time, the aim is to get most people to base their actions not on a specific obligation, but rather, through the internalization of what they will know is right and wrong.

This brief review of the knowledge creation and transfer processes highlights that all of the above processes are used within DND and the CF, at least to some extent. The most important point is that we must carefully consider the best way to create and transfer knowledge within our organizations.

A sound defence knowledge management plan must be driven by a defence strategy and based on results. The measurement of the impact of knowledge management programmes is often troublesome in that many of the benefits are intangible. How, for example, can the real impact of war stories be measured? Sometimes commanders intuitively know something is working well; however, it is often necessary to demonstrate the more tangible benefits of a programme, especially when funding is required. To this end, each knowledge management programme should include a statement of expected results from which we may gauge success.

**A STORY – TWELVE HOURS OF KNOWLEDGE**

The final section of this paper builds on the previous sections by describing knowledge management in action. The fictitious scenario that follows illustrates what we should expect to see in five years. All of the technology exists today, though some may not be currently available in the Canadian Forces. However, this is not a story about technology; it is a story about connecting people with the knowledge they need to make decisions or to take action. It is a story about the power of combining technology, leadership, culture and process to develop a knowledge environment. Though not everyone will agree with all parts of the story, most will agree that the people described in this story are much better connected, ergo more knowledgeable, than many members of the Defence Team today.



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**This *fictitious* story describes the power of knowledge management in action.  
It was created with the kind permission of the *Maple Leaf*.**

# Twelve hours of Knowledge: How knowledge sharing helped Op SAGE

(Ottawa) On Monday 29 October 2007, the Canadian Forces' Humanitarian Emergency Relief Team (HERT) arrived in Haiti to help the island nation deal with the aftermath of a natural disaster. The Emergency Relief Team was the first international force to answer Haiti's call for assistance. This speedy response, called Operation "Sage", was made possible by connecting people with people to share knowledge. Their story is outlined below.

On Sunday, the Commanding Officer (CO) of the CF Humanitarian Emergency Relief Team awoke to the ringing of his personal data assistant. It was 0615, and his Operations Officer had just sent him a priority e-mail. The note contained a news feed describing a hurricane which suddenly changed course and was heading toward the small Caribbean island nation of Haiti. The CO was surprised by the news as he and his team had been watching the storm for a number of days and most experts believed the storm would not reach land.

After reading the note, the CO opened his tablet PC, inserted his Public Key Infrastructure (PKI) card and turned on his computer. Within minutes, through a wireless connection, the CO's personal 'knowledge space' appeared, which included a dashboard showing the status of his unit. The dashboard was a collection of critical data and information maintained by his staff. The presentation of knowledge in an intuitive manner allowed the CO to quickly decide if he needed to take action or make any decisions. He was delighted to determine that his command group was available, less one officer who was leading a reconnaissance team on another Caribbean island.

Next, he read news from several sites reporting on the conditions in Haiti and the weather forecast for the next 72 hours. Sensing that this might be a mission for his Team, he created a collaborative workspace for the contingency operation. The content of the workspace was based on the lessons learned from previous missions. After each mission, an After-Action Review identified the deficiencies and helped redefine the requirements of the workspace.

Returning to his 'knowledge space', the CO typed the words *CF operations Haiti* and quickly rediscovered that the CF deployed to Haiti in 1997 and 2004. A synopsis of each operation was available, as well as a series of links. To ensure this information was readily available to the other members of his team, he dragged the links into the contingency collaborative workspace. He also saw a list of experts on Haiti, including a policy officer from Western Hemisphere Policy, a member of the intelligence staff, a lawyer from Director of International Law, and others. He added the list of names to the collaborative workspace.

Next, he opened the staff list for the 1997 operation, but he did not recognize any of the names; in any case, he dragged the link to the staff

list into the collaborative workspace. He decided to connect to the CF People Finder application to see where the 1997 battle group commander was now. Before being given access to the application, his profile was reviewed to see if he should be given access to the sensitive data. This is a relatively new improvement to the People Finder. In the past, he would have had to contact ADM (HR-Mil) to gain access to the information. However, in 2005 it had been decided that a more trusted environment was necessary to support operations. To guard against potential abuses, a sophisticated algorithm monitors all accesses to the People Finder and will lock out, and report, abusers.

The CO determined that the battle group commander retired in 2006 as a brigadier-general, but he remained a member of the Supplementary Reserve and had agreed to be contacted for operational reasons. The CO added these details to the collaborative workspace. When he clicked on the 2004 staff list, he was surprised to find that a Staff College friend of his was the deputy commanding officer of the operation. Using People Finder, he determined that his friend was in Ottawa. This fact was added to the workspace.

The CO saw a small flashing icon beside his friend's name, indicating that he was online. When he clicked on this icon, an Instant Messaging (IM) box appeared and he typed a quick note. He asked if his friend had heard about the storm and received a quick response saying "AFK – WIMU 10" – which is shorthand for "I am away from my keyboard. I will instant message you in 10 minutes" (such shorthand being used when one is using a cellular telephone or other hand-held device).



Eye of the hurricane over Haiti



A muddy scene in the National Support Element camp, Port-au-Prince, Haiti, 25 March 2004.

While waiting for his friend to return the Instant Message, he clicked on a link to the Lessons Learned Library. The genesis of the library was an idea from a Community of Practice in 2005. With members from a variety of organizations that collect and analyze lessons – for example the Army Lesson Learned Centre, Director General Safety, Flight Safety, etc. – the community thought it would be a great idea to share information amongst each other. The Director Knowledge Management built on this great idea by sponsoring a project to consolidate the various sources. Today, with a click of a button, the CO is able to search a variety of knowledge stores.

The Lessons Learned Library produced some very important information. First, the CO noted that during the 2004 operation, the battle group had problems using floppy disks to store data. It turned out that the sand from the island was corrupting the magnetic medium. Their solution was to use Universal Serial Bus (USB) thumb drives in lieu of floppy disks. Next, he discovered that in 1997 there

had been a problem with the Status of Forces Agreement (SOFA) for the neighbouring country of Cuba. Other issues were also highlighted, all of which were moved to the collaborative workspace and flagged for the Operations Officer's attention. The SOFA issue was a priority so it triggered an automatic message to the Operations Officer, who reviewed the message and prepared a note to the lawyer identified by the CO as an authority in the area.

It was now 1000 and the CO's Staff College friend sent him an Instant Message. He asked his friend a number of questions about the previous operation. After a few minutes, the CO received a message from the Chief of Staff Joint Operations in Ottawa suggesting a Warning Order was being developed and would likely be signed off before noon. The CO parted company with his friend and they agreed that if anything else developed they would 'talk' again.

The CO sent an Instant Message inviting the Chief of Staff into the collaborative workspace and he

provided an overview of his morning. The Chief of Staff remarked that he did not know how they did it in the old days. He suggested that the CO drive from Kingston to Ottawa for an afternoon classified briefing. They agreed to meet at 1600. The CO signed out of his 'knowledge space' to tend to some personal issues before departing for Ottawa.

At 1120, the CO received a priority message on his cellular phone. The message was from the collaborative workspace and it stated that the Joint Operations Chief of Staff had just uploaded the warning order. The CO signed into his 'knowledge space', received the order, added some additional information and forwarded a message to his Operations Officer who knew exactly what to do based on standing operating procedures.

At 1200, he grabbed his tablet PC along with a few other necessities and began the drive to Ottawa. At 1315, he was hit head-on by another vehicle and died instantly. At 1400, the Chief of Staff was notified of the tragic accident. After ensuring that all necessary arrangements were in place to help the CO's family, the Chief of Staff returned his attention to the operational mission at hand. Clearly, a new CO had to be appointed as the Prime Minister had just announced that the CF would be despatching the Emergency Relief Team within 24 hours.

The selection of the new CO was simple. Since 2006, CF policy had been that all command positions must have identified successors. The nominated successor is informed of his or her selection and therefore is able to mentally prepare for transition. In this case, the successor was aware of her assumption of command in ten months, and she had begun preparing to be a CO. Knowing that she would be the next CO, she had been thinking about the storm and wondering if the Team would be involved. She had also been thinking what she would do if she were CO. She remembered visiting the Emergency Relief Team in Kingston and being briefed on contingency plans.

The new CO was informed of her new position at 1500. As she lived in Ottawa, she was able to meet with the Joint Operations Chief of Staff later that day. In the meantime, she was given access to the collaboration space and was able to review her predecessor's work. She too knew the battle group commander from 2004 and decided to make contact. The two agreed to discuss the impending mission. As soon as they met face-to-face, the CO realized that her friend was uncomfortable about something. Soon he began to describe the details of a tragic incident on the

island. The sharing of this experience would turn out to be very important in the days ahead. In fact, the story was so powerful that the CO never forgot the words of wisdom from her friend. After the operation, during the after-action review, she noted that the war story had been instrumental in saving the lives of several soldiers. That is the power of sharing knowledge.

At 1815, the CO met with the Chief of Staff, just 12 hours after her predecessor first heard about the disaster. She told him that she

was up to speed and ready to go. The Emergency Relief Team deployed the next morning.

The speed of response for Operation "Sage" was the result of the CO's ability to rapidly connect to the data, information and knowledge they needed to make decisions and take action. This is the essence of knowledge management. This is a story of the synergy of technology, leadership and culture; this is a story of the power of sharing.

**"This new world order demands new ways to ensure we create and transfer our collective knowledge."**

**MORAL**

The moral of the story is that knowledge shared is knowledge doubled. Just 12 hours after the story commences, the new CO is ready to speak to the Chief of Staff Joint Operations about her unit's imminent mission. One wonders why some people within Defence would not wish to operate in such a knowledge environment.



**NOTES**

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DND Photo HS2004-6075-03d by Master Corporal Colin Kelley

HMCS *Toronto* flying her Sunday pennant (large Canadian flag) while she sails in the Arabian Gulf, 3 June 2004.