Chapter I
The Need for Knowledge Management

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INTRODUCTION

Why do we need to do knowledge management (KM)? Much has been published about transient workforces taking knowledge with them when they walk out the door and about the baby boomers causing a retirement stampede that will drain organizations of their experience. I agree with these needs, but are there other reasons? I am concerned that focus on worker transience and aging workers may hurt KM in the long term because these are event-based motivations. What happens if workers stop changing jobs and organizations on a regular basis? Incentive programs and perhaps enlightened management may reduce transience to a much more manageable level. Also, the next couple of generations after the baby boomers will not have the same impact when they retire as they are not larger in proportion to the other generations in the workforce. I am concerned that organizations will view KM as less important after these two event-based motivations are managed.

This short chapter explores other motivations for organizations to implement KM. These motivations include obsolescence/innovation (these two go together as innovation leads to obsolescence), work process evolution, and persistence of knowledge. The goal of this discussion is to provide a basis for all organizations to justify KM initiatives that are not just event-based.

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The Stories

The inspiration for this discussion comes from a road trip my eldest son and I took around the Western and Midwestern United States. During this trip, we stopped at the International Space Hall of Fame and Museum in Alamogordo, New Mexico. While there, we talked to a retiree from the space program. During this conversation, it came out that we were both engineers (he had served as a member of the capsule recovery team and a backup astronaut and my previous career before joining academia was as an engineer, manager, and project manager for a large nuclear utility).
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We got to talking engineering and he made the comment that it was too bad we could not get back to the moon. I, of course, agreed and expressed the desire for our government to allocate funds for it. He surprised me by saying it was not money that was the issue (although it would be if not for the following issue). What really prevents us from getting back to the moon is that we do not remember how to build Saturn V rockets, Apollo capsules, and Lunar Modules. It seems after the end of the Apollo program, management ordered all the plans put on microfiche and all but a few of the paper copies destroyed. This was done, however, when there was talk of going back to the moon and engineers went to retrieve the plans, the microfiche had decayed into unusable form, no usable paper copies could be found, and everyone who knew how to build the rockets, capsules, and modules were either dead or retired. Additionally, when the younger engineers began to reverse engineer these components, they were stymied because they did not understand the technology from that time; technology had advanced so much that the engineers had not been taught some of the fundamental issues faced by engineers of that time. In other words, we had forgotten the knowledge from the experience of solving the problems that prevented moon flights. (Note: the above is the opinion of the interviewee, but it does reflect what I have observed in the commercial nuclear industry.)

KM can be defined as the practice of selectively applying knowledge from previous experiences of decision-making to current and future decision-making activities with the express purpose of improving organizational effectiveness (Jennex, 2005). The above shows that the space program is an example of failed KM. They attempted to store relevant knowledge but when it came time to retrieve it, it could not be retrieved and applied to the current decision-making activity due to media volatility and a lack of capturing the relevant context that makes the critical knowledge usable.

We discussed this for awhile and it occurred to me that we are facing similar issues in other industries. The information technology industry is an example of where we have forgotten fundamental issues and their solutions. I was trained to program using the IBM PC and XT. Those who remember these machines recall that we were restricted to approximately 1 Megahertz CPU speeds, 56 Kilobytes of usable memory, and hard drive storage of 10 Megabytes. The techniques used at that time for memory management and performance optimization were invalidated by newer generations of computers that ran faster with more memory making it unnecessary to train current students in these techniques. Additionally, with today’s larger fixed drives (60 Gigabytes or more) there is no pressure on users to save only that which is necessary; the drives can hold it all; and if you need to move a lot of files there are Gigabyte sized flash drives. This is probably okay, but what happens if we need to retrieve something critical? If we save everything it becomes difficult to find specific files, I know I am guilty of this; I save all iterations of my papers and presentations and it is becoming difficult to organize my storage due to the thousands of files I am keeping (and often times gets me asking myself if I really need all these files). Several years ago, I would have used risk management techniques to determine what file versions I truly could not afford to lose with the result that I would have had a fraction of the files to search through.

Additionally, what if we have to use an older machine or operating system or file management system to retrieve files? I recall my Windows operating system corrupted a couple of years ago. I called the manufacturer’s help desk to see if there was a way to recover and was told to reformat using the recovery CD. This would cause me to lose my files and I asked about copying them. The help desk did not know how to do this, but while I was talking to them I was fiddling with the computer and started it in DOS. I remembered how to move files using DOS commands and...
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