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Introduction

The themes of age and technology are as familiar as the stock characters in a TV sitcom. There's the precocious computer-savvy kid who can run rings around her elders, the skeptical old curmudgeon who is prone to saying "back in *my* day," and the know-it-all young IT professional burdened with supporting an office full of people who don't know a computer from a toaster oven. These stereotypes pervade our culture and influence our thinking about age, technology, and change. Like all stereotypes, they contain a kernel of truth—and, like all stereotypes, they can be deeply damaging if taken seriously as the basis for decisions affecting individuals or organizations.

This book is intended to help decision makers within organizations get beyond the stereotypes and better understand the relationship between generations and technology: where the differences in attitudes lie and where they come from, what they mean, and how the digital age gap can be bridged.

It's also a book about what happens next. Organizations derive their unique value from people. The living culture of the workplace is shaped not by impersonal economic forces, but by the values of the people who participate in it. Today, management and leadership positions are overwhelmingly filled by members of a demographic cohort whose

attitudes toward computers and technology—the essential tools of today's economy—were formed mostly in adulthood. Over the next 10 to 15 years, their roles will change, their influence will recede, and the next wave of leadership will be drawn from generations with remarkably different approaches to technology and workplace culture. Managing that transition in ways that empower rising workers without sacrificing the accumulated knowledge and wisdom of the veteran contributors is one of the crucial challenges facing businesses, governments, and society. Organizations will either find ways to blend the generations in harmony, or else face conflicts that threaten cultural continuity and productivity.

This issue is critically important as we move into the second decade of the 21st century. Because of the birth dearth of the 1960s and 1970s, most developed economies face gaps in the number of workers heading into the prime years of their careers. To sustain current levels of economic output, employers will need to rely on higher levels of workforce participation from older people, effective recruitment and retention of younger workers, and higher levels of productivity across the board. Increasingly, organizations will look to sophisticated new information technology (IT) tools to drive those higher levels of productivity.

Unlike previous waves of automation, which standardized rote processes and reduced manual labor, the technologies that power the knowledge economy touch on the most intimately *human* work activities: communication, collaboration, learning, leadership, decision making, personal reputation, and trust. The benefits they promise to organizations that adopt them are entirely dependent on people incorporating the new tools as an integral part of their work routines and embracing the profound changes they portend for people's relationships to information, organizational processes, and one another. Without the active cooperation of people in the workforce, deployments of

these kinds of connected information work tools will not be successful.

Solving the generational puzzle is crucial to gaining necessary levels of cooperation from workers of all ages. Nearly two decades of scholarship has established the role that differences in generational attitudes play in all manner of social and workplace interactions. The three dominant cohorts in today's workforce—Baby Boomers (b. 1946–1962), Generation X (b. 1963–1980), and Millennials (b. 1981–2000)—exhibit fundamental differences in attitudes, priorities, values, and workstyles as a result of their different historical experiences, creating well-documented challenges for recruiters and managers.

Overlaid on the familiar lineup of generations is the *digital age gap*. Personal computers (PCs) first made their appearance in the late 1970s, and became mainstream work and consumer technology in the late 1980s. This demarcation cleaves the workforce into two distinct segments: those who saw a PC before they graduated from high school and those who did not. Generally speaking, all Millennials and most GenXers (especially those with elite educations) fall into the first group; nearly all Boomers and pre-Boomers fall into the second. This doesn't mean that all young people are tech wizards or that all older people are out of the loop—far from it. However, as we will see in later chapters, the point at which people have first contact with a computer, the Internet, mobile devices, and similar technology has profound implications for the way they learn and work in technology-mediated environments.

These differences interact with the other aspects of generational personality to make the implementation of certain kinds of collaboration and communication tools unexpectedly complex in the messy real world of human beings—to the undying frustration of results-oriented IT planners and strategists! Organizations may find that understanding and addressing *generational* differences rather than just *age*

differences provides much more effective answers to the mysteries of why some technology solutions succeed and others do not.

The following two anecdotes illustrate the challenges and opportunities that can arise by recognizing, or failing to recognize, generational factors in people's approach to work and technology.

TECHNOLOGY AS THE LOCUS OF CONFLICT

An acquaintance of mine, Russ, recently described his experiences trying to facilitate a working group of faculty and administrators in a major American university. The group, composed of professors, researchers, assistant deans, and department heads (all Boomers), was charged with preparing some new policies for the employment of graduate teaching assistants. The group set up an e-mail listserv to enable discussions and collaborate on the documents it was expected to produce. However, the volume of communication exploded, and soon group members were receiving between 50 and 75 e-mails per day, often on matters as weighty as what snacks should be served at the next meeting. Collaborating on documents was even more problematic. Versions proliferated, people became confused and frustrated, and management became a nightmare.

Russ proposed setting up a collaborative Web site for the group, using a simple, low-cost hosted service accessible from any Internet connection. The space offered a document repository, threaded discussion groups, real-time communication via instant message and online meetings, contact management, and a shared calendar. Even in 2004, this was by no means new or innovative technology, and mastering the few simple techniques of the software did

not seem beyond the capabilities of a group composed exclusively of people with PhDs.

Despite the manifest problems with the current system and the obvious benefits of the new capabilities, the group unanimously rejected Russ's proposed solution—by withholding their participation. Because hardly anyone used the site, it was not useful as a collaboration environment. The group cited the low level of utilization as a justification for their refusal to participate, and proudly clung to their dysfunctional e-mail system. Meanwhile, the committee's deliberations proceeded at a snail's pace, leaving important organizational issues unresolved and the disposition of hundreds of teaching positions (and research projects) in limbo.

If you take a purely mechanistic view of this situation, the behavior of the group makes no sense. Why would a group of extremely well-educated professionals choose to limit their efficiency and productivity by sticking with demonstrably inferior (and annoying) e-mail technology when a better choice was readily available?

Fortunately, what economists call the rational actor model is not the only tool of analysis available to us. The past 15 years have produced a rich assortment of studies on the distinct values and workstyles of the different generations. When these insights are applied to the scenario, a whole new layer of meaning is revealed. Indeed, the danger signs are everywhere. You have a group of highly skilled Boomer professionals accustomed to autonomy and control, whose power often stems directly from privileged access to information, suddenly being asked to share information out in the open. You have a group of high achievers, whose career success derives from recognition of their individual contributions, now forced to collaborate to produce an anonymous document for whose success they will receive little personal credit. And most of all, you have a group of prestigious subject-matter experts, who risk being exposed as

incompetents if they prove unable to master an extremely basic (if unfamiliar) set of practices and technologies.

The social incentives for adoption of this technology are diametrically opposed to everything we know about the generational workstyle of Boomers. It challenges their need for implicit social hierarchies based on hidden knowledge and relationships, personal autonomy and expression, and status-based exemption from control and supervision. No promise of convenience or threat of sanction could overcome the strongly engrained biases that have governed their entire work experience. The dysfunctions of the old process are a small price to pay for the comfort it affords its participants.

It's equally certain that none of the participants would see the issue in those terms. If you asked them why they didn't want to use the workspace, they would probably reply that it was "too much trouble" or "I don't like to work that way." Because the group was unanimously composed of Boomers, these assertions would likely go unchallenged.

But consider for a moment if there were a few younger members of the committee—say, a tenure-track Assistant Professor in her mid-thirties and a graduate assistant in his early twenties. Instantly, the issues over adoption of the technology would become far more complex and contentious. Familiar generational conflicts over authority, management style, values, and outlook would surface in the context of the relatively trivial matter of how the group shares information in a networked environment. It is not difficult to imagine how this sort of dispute could inhibit group productivity even further.

The example of this university committee is a microcosm of the struggles taking place within and between organizations of all sizes, in all walks of life. In this case, the task revolved around team collaboration and document creation. In other cases, it involves finding and using information, incorporating data and business intelligence into

strategic decisions, expanding the organization to reach out to partners and external resources, gathering and sharing knowledge, or creating new processes that simplify low-value tasks.

These knowledge-based activities—known hereafter as *connected information work*—are the building blocks of value creation in the knowledge economy. Customer service, new product and service development, sales and marketing, partnerships and supply relationships, and operational performance all depend on the ability of people to work effectively with information, processes, and one another. And increasingly, these activities are mediated by technology.

What the example shows is that it is not enough to say, "Here is our connected information work problem, here is a technology solution with the capabilities to solve the problem; therefore, we deploy the solution and our problem is solved!" This purely technocratic view lacks the power to explain or anticipate social and behavioral issues rooted in *generational* attitudes. Until organizations understand those kinds of issues well enough to address them through adjustments in practices and culture, they will encounter increasing difficulties in achieving the hoped-for benefits of their technology investments.

The inability to realize those benefits can lead to crippling disadvantages in speed, responsiveness, innovation, and insights. In the example, the unwillingness (and hence, inability) of the committee to solve its team collaboration problem with the best tools available led to a slower-than-necessary response to an important problem. Who knows how many opportunities the university lost to attract, retain, or promote the next generation of academic talent—the very essence of its value proposition—because it took months rather than weeks to develop a consistent policy in this area? How many other organizations will face critical challenges because of an inability to retain the knowledge of retiring workers, or bring customer information to bear

on sales engagements, or use technology effectively in any of hundreds of other areas?

TECHNOLOGY AS THE ENABLER OF POTENTIAL

Prashant is a 21-year-old electrical engineering major at the University of Florida, working on a summer internship for a county government agency in western Washington. I interviewed him as part of my general research on the attitudes of Millennials toward various consumer and workplace technologies, but found that his story illustrates the larger advantages that organizations can experience by tapping into the exciting combination of technological savvy and entrepreneurial enthusiasm that the Millennial generation brings to the workforce.

As in many organizations, internships in the county government are vaguely defined and depend a lot on the skills, interests, and initiative of the intern, along with the willingness of the supervisor to support the intern's ambitions. Prashant presumably could have spent his summer making photocopies and sitting quietly in meetings. Instead, he decided to conduct a survey of project managers in the organization to determine the best methods of rationalizing two database systems currently used by the department, removing unnecessary fields that are not useful to managers, and optimizing the business rules to ensure more accurate and up-to-date data for future planning.

This project grew out of an earlier assignment simply to refresh information in the database. In the course of that work, Prashant observed that some information in the system was not connected to an actual organizational need or business requirement. "For example, we discovered that there was a requirement for project managers to

file a monthly report, but it turns out that no one ever accessed these reports. They'd wait to see the quarterly ones instead," Prashant explains. "So why have that requirement when it's not useful? What I proposed is that we remove that task from the project managers and save them some time they could use on something else."

Did Prashant's supervisor devise this rather challenging assignment? Not exactly. "A lot of different projects that I'm involved in right now were not necessarily directed to me by my boss. I started out with one and ended up having so many questions that I would go to different people and then another project would evolve. For example, I am doing construction contract closeouts. I'm also doing research into sewer rates and sewer rate structures."

Prashant manages his time by alternating between his four highest-priority projects and setting deadlines for accomplishing particular tasks. This workstyle is self-directed, although Prashant expects and depends on frequent input from his manager. His engineering training and innate familiarity with computer technology allowed him to rapidly learn the technical skills he needed on the software, which gave him an opportunity to expand his role; his instincts for teamwork and consensus-building made it natural for him to solicit the necessary input from around the organization to build support for his efforts.

Prashant is a talented young man, but his skills and approach are not atypical of members of his generation. Observers of Millennials wax enthusiastic about their optimism, entrepreneurial spirit, ability to juggle a busy schedule, and desire to make a difference—characteristics not limited to the American-born members of this global generation. Prashant was born and raised in Nepal, but shortens the vast distance between himself and his friends and family with technology. He received what he describes as a typical education and rates his technical proficiency as a seven out of ten compared to his peers.

While the benefits of having someone like this as an employee might seem obvious, not all managers would be as indulgent of Prashant's entrepreneurial approach to his role, and not all IT departments would be comfortable with junior-level workers poking around at the business logic of a database. But government agencies in particular are likely to be hard-hit by retirements in the coming decade, and they will need to rely on the influx of motivated, talented, highly productive workers like Prashant to maintain continuity of service to their constituents. Consequently, the Boomer culture of the department was willing to accommodate the Millennial workstyle without imposing artificial management or technology constraints. What could have been a generational showdown over control, structure, access to information tools, and workstyles instead turned into a win-win situation for both the department and the intern—the kind of outcome organizations of any kind should hope for in managing across the digital age gap.

WHY SHOULD WE CARE ABOUT GENERATIONAL ATTITUDES TOWARD TECHNOLOGY?

These two examples are just the tip of a very large iceberg. The coming decades will see unprecedented demographic diversity in the workforce. Younger workers born after 1980 have grown up marinated in digital technology. It's integral to their workstyle and lifestyle, as are expectations of continuous change and challenge. Younger workers are always in demand for their up-to-date skills and lower labor costs relative to more established professionals. However, organizations that are socially or technologically ill-equipped to harness the talent of the Millennials will have difficulty attracting and retaining the skilled workers they need.

Older Boomers are nearing traditional retirement age, but their behavior is likely to be anything but traditional. Some Boomers may opt to wind down their working lives by transitioning out of high-pressure roles. The second decade of the 21st century is certain to see a continuing surge in the popularity of knowledge management as organizations scramble to document and retain the huge repository of skills, personal relationships, tacit knowledge, and cultural lore of their most senior workers before they walk out the door. Other Boomers (and pre-Boomers) may stick around well into their seventies and eighties, either out of choice or economic necessity. Many will be returning to the workforce or trying out new careers later in life. The social and technological requirements to enable the continued productivity of older workers are not only challenging in and of themselves, but are especially problematic if they must coexist with the vastly different practices necessary to motivate the Millennials.

Those who face the task of managing this change are likely to be younger Boomers or members of Generation X now heading into the prime of their working lives. As Generation X transitions into "Generation X-ecutive," they will need to find the right solutions to empower both younger and older workers, while retaining some semblance of governance over their organizations' IT infrastructure and costs.

When it comes to generations and technology, one size most certainly does not fit all. Generational issues around technology are largely unspoken and unacknowledged, but they can hamstring the efforts of organizations to get the most out of their investments in both people and information systems. Strategies that look good on paper may end up exposing underlying conflicts that paralyze productivity.

If an organization's most experienced professionals see new technology as a useless complication—or as a threat to their status and job security—even the best-designed

systems won't produce expected returns on investment. Nearly two decades of failed knowledge management, customer relationship management, sales force automation, and portal-based solutions testify to the problems that occur when IT initiatives fail to account for people's everyday work habits, underlying attitudes, and the engrained culture of the business.

At the same time, if younger workers become frustrated with a slow-going approach that denies them the opportunity to use their skills or restricts access to the basic tools they know and use in their outside lives, they may take matters into their own hands by smuggling rogue applications into the enterprise, creating security, management, and compliance headaches for IT departments and the business as a whole. Or, worse, they may simply leave for greener pastures, taking their skills and energy with them.

In a world of increasingly complex and immediate challenges, organizations need to blend the knowledge and experience of older workers *and* the talent and enthusiasm of younger workers. Finding the answers to this dilemma begins by *starting a dialogue about technology across the generations*.

Younger workers' embrace of collaborative technology, such as social networks and instant messaging, isn't just about enthusiasm for the latest-and-greatest gadgets. These kinds of technology are an expression of their generational approach to problem solving and creativity. Organizations with foreknowledge about the attitudes and workstyles of their younger workers can begin making the adjustments and investments to capitalize on their skills immediately upon their arrival.

Likewise, the perceived resistance of older workers to innovation is neither inevitable nor insurmountable. Retirees who never learned or used computers in their working lives have taken to the Internet as enthusiastic "silver surfers" in increasing numbers. The cause of older workers' rejection or slow adoption of technology and technology-related practices often has more to do with sociological

issues and workstyles than with the willingness or ability to learn later in life. An approach to training that accounts for these issues while imparting the necessary information at an appropriate pace can unlock the vast skills and experience of older workers in a context that allows organizations to effectively transmit and retain their knowledge using sophisticated technology.

Organizations can tap into the positive dynamics that drive technology adoption by aligning their practices, culture, and software strategy with the different expectations, motivations, and workstyles of all generations of workers. Training by itself is not enough, nor is overreliance on designed solutions that treat people as interchangeable parts in a static business process. Organizations should strive to understand how people work—individually, generationally, and within their roles—and optimize the technology to accommodate the widest range of options and the most diverse range of workstyles.

GENERATION BLEND

Organizations invest billions in connected information technology systems to keep up with the accelerating demands of the global economy, and billions more in recruiting and retaining top people to contribute leadership, ideas, and personal passion. So why not take a little additional time to ensure that people and technology are aligned to create productivity, not conflict?

This book offers some tools that managers can use to help identify where generational issues come into contact with connected information work technologies, and how to reduce the friction. The chapters in this book cover the following topics:

- Chapter 2, *Changing Workforce, Changing Work*, provides a strategic context for the discussion, focusing on

the ways that demographic trends and technological innovation are transforming work and the workplace.

- Chapter 3, *Understanding the Generations*, presents an overview of generational analysis and its application to issues of work and technology.
- Chapter 4, *Older Workers: Blending Experience with Technology*, looks at the challenges facing the two oldest cohorts still in the workplace (members of the Silent Generation and the older end of the Baby Boom), and the factors in their unique workstyles that IT planners should consider to maximize the potential success of knowledge-retention efforts.
- Chapter 5, *Younger Workers: With Great Potential Comes Great Expectations*, puts the Millennial generation under the spotlight. What can organizations expect when the new kids on the block come charging into the workplace with their cutting-edge skills and sky-high expectations?
- Chapter 6, *Generation X-cellence: Leadership from the Outside In*, focuses on midcareer workers—the younger Boomers and members of Generation X who are moving into management roles—and looks at how they are bringing their generational perspectives to technology decisions that affect the entire workforce.
- Chapter 7, *Reintegrating Older Workers into the Connected Information Workforce*, delves into the issues of technology training for older adults, exploring the successful approach of a New York–based organization that is helping to transcend the digital divide.
- Chapter 8, *Ambassadors of the Future: Turning to Younger Workers for Strategic Insights*, looks at Microsoft's Board of the Future program, an ambitious attempt to incorporate the views of Millennials into strategic planning efforts around the future of work and technology.

- Finally, Chapter 9, *Across the Digital Age Gap*, presents five issues for organizations to consider, along with some specific approaches to technology, work practices, and organizational culture that can help all generations use new information work tools to their fullest potential.

As new technology innovations continue to arrive in the market and in the workplace, organizations with cultures that accommodate generational diversity will enjoy an enormous competitive advantage. Organizations that can successfully blend the benefits of new technology with the natural skills of all their workers are more resilient to change, better able to capitalize on opportunities, and can offer a work experience that serves as a talent magnet for the best workers, whether they are 18 or 80.