Are Your Employees Holding Back Technology?

Net Forecasts – Peter J. Sevcik
BCR Volume 35, Number 7
July 2005

Every business is reacting to new competitive pressures that are often best dealt with through process or product improvement. These business changes invariably require commensurate changes to the firm's information technology.

The other technology change driver is the need to run the business more effectively or efficiently. Whether externally or internally driven, buying new technology is justified with some business gain or cost savings. But better technology is always around the corner, so the investment cycle never stops.

The investment cycle accelerated in the late 1990s because of two unusual phenomena: Sudden Internet adoption via the easy-to-use Web browser and the year 2000 (Y2K) computer meltdown fear. The dot-com phenomenon also generated a great wave of technology sales, but VCs and start-ups spent most of that money. The majority of enterprises that were here in 1995 and are still here in 2005 did not jump off the dot-com cliff.

At today's healthy enterprises, the question we should be asking is, "Are we re-engineering our IT infrastructure at an appropriate pace?" There are risks associated with operating the investment cycle too slow or too fast. One would think that the technology spending of the late 1990s, followed by a near-complete investment freeze, would soon swing back to technology buying. After all, much of the technology now in use is well more than five years old, making it ripe for replacement.

Vendors are looking for that Goldilocks "just right" investment pattern. They may have to wait longer.

I have recently run into two interesting situations where the employees of the company were impeding the adoption of technology.

Senior Staff Dodges Technology

Older employees have, by their continued presence in the enterprise, proven that they provide value to the business. Furthermore, they have learned how to use many new technologies along the way to their current position. These employees are often very comfortable with how things were done when they were "learning the ropes" of their industry. These same people who now hold senior positions in the enterprise see no reason to change any of the systems that they have mastered. They hate new technology.

At this point you may think, "What is new about any of this? Older people don't like change." The news is that the organization had ways to adjust for the quirks of the older employee that are no longer available. We need to look deeper into how business organizations operate today compared to the past.

At the dawn of the information technology revolution--about 40 years ago--managers were in their 50s with an eye on retiring by 65. Retirement packages permitted a realistic level of living and people did not live too long after retirement. Furthermore, these managers did not directly interact with new technology. The secretary typed on the new electric typewriter, operated the copy machine, and even dialed the long distance phone calls. A layer of support staff insulated the older employee from new technology.

The accommodation of the older employee's technology phobia was amazing. Two specific examples come to mind.

In the early 1970s a new company called Shared Medical Systems developed and sold the first on-line computerized hospital information service. One of their first customers for remote management of patient records and clinical data was the Mayo Clinic in Rochester, MN. This hallmark account showed that hospital staff, even doctors, could work with computers.

The little secret was that the doctors and nurses still wrote everything down on paper. A carbon copy of the paperwork was sent to a key entry room in the basement over an elaborate network of pneumatic tubes. Young women did the data entry in the basement and printers on each hospital floor generated reports on paper. The doctors were comfortable with the paper-in/paper-out system.

I also remember a U.S. Army general who, upon retirement, started a small consulting business. He was very used to helpers all around him. But he was also technically savvy, so he actually typed his own letters. However, he was a terrible speller, and typewriters had no spell checkers. His solution was to call the phone company operator with spelling questions. In those days, the phone system had real people who prided themselves on giving good service, so the system worked.

These technology accommodations for the older person are no longer available. Competitive market pressures have eliminated the secretary, staff hierarchies, or the luxury of pairing junior-senior workers. The older employees must use the new computer system. However, they are still resisting and looking for an alternative.

The simplest alternative is to just keep doing it the old way. The CIO of a major municipal government recently concluded that he will not be able to convert about a quarter of the municipality's employees to the new Web-based management system; he'll have to wait for them to retire. The employees that are over 50 are simply not using the new system.

This phenomenon is made more serious as the number of over-50 white-collar workers keeps increasing. These employees may not be retiring at 65 if they lack a secure retirement system, and are simply healthier, such that they can continue to work until they are 70. This is a large overhang of technology-reluctant employees.

Young Staff Plays With Technology

The picture is not rosy on the other end of the employee age spectrum, either. Yes, the young employees love new information technology. In fact, you have to make sure that they have their own PC, laptop to take home, ability to work from home, PDA for the road and company cell phone. That roster of technology is often the minimal list required to entice young people to take a job. Real technology toys are then piled on top as needed.

Furthermore, young employees do things with the technology. They are not afraid to explore the limits of what it can do. They developed their technology comfort with games and entertainment. Interestingly, this self-taught generation, though knowledgeable, is not necessarily trained in how to use the technology to solve business problems. Ask them to create a Montague of cool-looking graphics or hack a computer, but don't ask them to develop a business model.

The president of a local company was lamenting that she has a very bright college graduate who is developing an Excel spreadsheet model to analyze the profitability of their products. His reports are full of colorful graphics that she did not know Excel could produce, but he has yet to produce a useful report. Technology creativity does not compensate for organization and problem-solving skills.

Again, the competitive pressure of globalization has forced this company to operate just one person deep in every department or job function. There is no older, seasoned employee who can be the mentor for the bright young technical hotshot. So again, the result is that there is little value in pushing the envelope with new technology that will not go to proper use.

The president of this company is trying to figure out how to carefully invest in new technology that is specifically directed at solving business problems. She is finding that direct linkage in only a few places, so she has slowed her general technology investment.

Staffing Cycle vs Technology Cycle

The paradox that enterprises find themselves in is that the technology life cycle is shortening as the staff age span is lengthening. Forty years ago, the company had to introduce about two new technologies for each employee retention period. Today, I estimate that a company will roll out about 10 new technologies over the working life span of an employee. This five-fold increase in the rate of change is what is hurting the ability for an enterprise to introduce and take advantage of new technology.

Companies must think of creative ways to overcome this business hurdle. Firing all the old and young workers won't fix the problem. Pairing an older and younger employee may be the trick, but it has to be done at no additional bottom-line cost.

Technology vendors should also find ways to help enterprises solve this dilemma. It is after all, in their best interest to get that investment cycle turning again.

Peter Sevcik is president of NetForecast and is a leading authority on Internet traffic, performance and technology. Peter has contributed to the design of more than 100 networks, including the Internet, and holds the patent on application response-time prediction. He can be reached at peter@netforecast.com.

NetForecast helps change delivery systems to improve the performance of networked applications. This includes advising enterprises on how to evaluate, improve and manage the performance of business applications, as well as advising vendors about customer requirements, technology issues, and adoption trends.

NetForecast

Smart Strategies From Hard Data **www.netforecast.com**