Chapter 2

What’s New? The Challenges of Emerging Information Technologies

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Fifty years have passed since the introduction of the digital computer. During that time, information technology has evolved beyond belief. Continued evolution seems highly likely. New information technologies—new hardware, software, and data management tools—have offered and will continue to offer great opportunities to organizations that choose to implement them. In fact, the failure to implement them will likely create disadvantages for other organizations.

However, along with the opportunities of new information technologies come the challenges. These challenges are many and diverse. Perhaps, IT professionals have not done a very good job of managing these challenges. In fact, until recently IT researchers have not recognized them.

What are these challenges of emerging information technologies? That is, what makes applying and managing them arduous and problematic when they are initially introduced? Here are some examples of these challenges.

First and foremost, IT specialists—database administrators, tech support specialists, systems analysts, programmers, and project managers—simply are not familiar with them. This is because the technologies are new and unused, and thus, the technical experts have yet to learn to use them well. Moreover, they have not seen the flaws in the technologies. They do not know the little quirks and necessary tricks that are not well documented, but are still absolutely essential to making them perform correctly.

Often, in their early releases, new information technologies do not perform as expected. They may abort unexpectedly. They may run too slowly. Some may even produce
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