ust five years ago, the world was paralyzed with fear about the potential technical failure from the fin de siecle. We now know that fears of worldwide computer crashes were blown. Still, an estimated $600 billion was spent to prevent them. Funds poured in for new hardware and software — much of which has never been used to full potential.

Against this backdrop, let's consider some ideas offered by Nicholas Carr in his recent book, "Does IT Matter? Information Technology and the Corrosion of Competitive Advantage." The book was an outgrowth of Carr's Harvard Business Review article entitled "IT Doesn't Matter." Carr's argument is that information technology has become so common that it no longer provides a strategic advantage to the companies that deploy it.

Carr's point is that a strategic resource is scarce — not ubiquitous, which he claims IT has become. Most technology functions are affordable to everyone. They have become routine business practice and are not readily distinguishable from each other. The advantage today lies with companies that manage.

Many of Carr's examples come from transportation history. The steam engine, telegraph, railroads and electricity were technologies that allowed distant entities to work together. Their value increased when shared. In contrast, proprietary technologies are owned by a single company and can be the basis for its long-term strategic advantage. Initially, the difference between strategic and ubiquitous may be unclear because of incompatible standards, cost or regulation, but over time infrastructure technologies become part of the general business environment. Companies that invest in technology early may gain a slight advantage, but it is expensive, prone to risk and will eventually be replicated by competitors. Carr cites American Airlines' creation of Sabre in 1959. The project took five years and a lot of money, but it created a significant advantage over competitors because of its impact on revenue (more seats could be sold in lucrative markets), cost (extensive clerical functions were eliminated) and reliability (errors were reduced over 80 percent.)

This advantage lasted several years, until America's competitors caught up with their own similar initiatives. The logistics industry has seen many other initiatives that combined commercial initiatives with IT. Cargo consolidation, yield management, route optimization, tracking visibility and supply-chain management have all been innovations brought to market by companies that could integrate customer requirements and proprietary technology.

The advantage duration for business has become increasingly compressed because of the underlying commoditization of technology's components. Hardware has followed Moore's Law by becoming better, and cheaper, as manufacturers developed economies of scale. Software has followed the same market trajectory.

I do not believe that IT can be analyzed independently. Only when combined with innovation and excellent business process can IT deliver value. Although the Dell model is compellingly simple, nobody has been able to replicate its success, perhaps because Dell's corporate culture, which is not easily reproduced, is such a critical ingredient.

We also need to contemplate why some companies still insist on building their own systems when off-the-shelf solutions are available. Many executives claim this approach has strategic value, or they justify these decisions by citing the failure of external IT projects. (A 2003 study by Booz Allen Hamilton found that half the companies surveyed were disappointed with the results of their supply-chain software.)

However, some observers believe that this is symptomatic of IT organizations protecting their turf from outside interference. Good engineers like to build systems, not maintain externally developed applications, and they can often ensure that preliminary cost estimates preclude going outside.

Technology problems frequently can be blamed on management. Years ago, only low-level employees had computer hardware on their desks. This has changed, but how many senior executives use their hardware for more than e-mail and simple office automation? Are they willing, or capable, of challenging the recommendations of their IT staffs?

From 1965 through 2000, IT investment grew from 5 percent of capital investment to more than 50 percent. Five years ago, companies bought the wrong technology because they were afraid to miss the next big thing. Today, many are not buying at all because they are afraid to buy the wrong thing. Neither approach is correct. We have nothing to be afraid of. If IT is managed well by companies, it can continue to be a source of innovation.

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