Information Technology: A New Competitive Weapon

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In recent years information technology has dramatically altered the structure of markets in a number of industries. Although many managers understand the potential impact of information systems on their firm's competitive position, others fail to consider strategy implications when selecting a system. This article presents a multilevel framework for assessing the competitive impact of information technology on a firm, and provides a guide for integrating information systems with a firm's strategy. *Ed.*

Significant advances in the related technologies of computers, telecommunications, data access and storage devices, graphics equipment, and software have created a wide spectrum of new opportunities for managers. The speed, cost, size, and capabilities of the new information technology (IT) continue to improve rapidly, and there appear to be unlimited applications that could be "computer enhanced." However, in spite of this new wealth of technological advances, the ability of most businesses to assimilate and apply IT lags far behind the available opportunities. Although many authors have noted this shortfall over the years, the effect of the 1980s of this "strategic gap" is much more critical.[1] Senior executives increasingly feel that their businesses should receive more benefit from technology investment, but few are able to articulate the impact IT has or should have on their businesses.

In a recent study, three senior executives not directly involved in the technology were asked to assess the impact of IT on their businesses; their responses were quite different. A divisional president of a large industrial corporation described the effect of IT:

> I think information technology contributes at least 3 percent of our bottom-line profit margins. Operationally, we couldn't get through the week without the system support, and in the marketplace, I don't think we could hold our market share without the technology. But this is mainly a gut feeling. I can't back up these estimates with numbers or specific reasons.

The chief strategist for a major U.S. bank said:

> The technology is our top strategic concern, not because it outweighs everything else, but because we are unsure what to do with it. Although we have a strategy for the marketplace, the technology issues seem to be eluding us. On the one hand, it's important everybody agrees on that, but then we end up doing projects based on a series of piecemeal technical decisions. We can't seem to grasp the bigger picture.

The chief financial officer of a large consumer goods manufacturing company explained his view of IT:

> We've really cleaned up our data processing act since the mid-1970s. The systems run well and now we're mainly fine-tuning. I expect we'll be doing primarily maintenance programming in the foreseeable future. I feel that we've gotten most of the benefits from the technology currently available. As the cost comes down, more projects will be financially justified and then we'll do them.

From these remarks and the comments of many other senior executives questioned about IT, two issues are clear. First, the importance of IT varies widely from firm to firm. In some firms, IT is a top-level strategic concern; in others, it is basically perceived as an administrative convenience. Second, there is no commonly accepted guideline or framework for measuring the importance of IT to a business. Most planning approaches for this technology do not take into account the strategic relevance of the technology.[2] Although executives have a "feeling" about IT's importance, few could explain why IT was as important as they believed it to be. Even fewer could articulate how important IT should be for the future.

Clearly, IT is having a significant impact on many firms, and is now or will become a strategic concern for many firms over the next five years. It has been estimated that more than $1 trillion will be spent on IT