by Alain Sherter in New York

Technology decisions require strategic planning linked to clear business goals, which is easily said but less easily executed

Learning curve

Is it better to lead in adopting new technologies or to follow? Sounds straightforward enough, but like all questions of time (and timing) the answer for companies depends on what point along the innovation curve they're asking it from.

Is a chief executive trying to catch up with an existing rival with a knack for e-commerce? Or is it a matter of girding for a disruptive business shift ushered in by some startup just appearing over the horizon? Tech investment decisions are, or should be, fused with fundamental strategic considerations, which means having to sort out the latter before addressing the former.

Not simple at all, in other words. Take the Goofus and Gallant of the discount retailing world, Kmart Corp. and Wal-Mart Stores Inc. In the 1990s, Kmart spent lots of money on technology that supported its "blue light special" business strategy, which emphasized regular sales or promotions to draw customers.

What the company didn't spend lots of money on was the kind of supply-chain information systems needed to address the sharp changes in sales volume that arise from a promotions-driven business model. For customers, that meant the cool gas grill they'd seen advertised in the local circular was out of stock by the time they made it to their neighborhood Kmart.

Or maybe it was in stock, but not on the sales floor. For Kmart, the company's inadequate systems meant it didn't know what products its customers wanted, when they wanted them and how to get the items. Kmart tried to fix things, churning through a batch of CIOs, but it was too late. By 2002 the retailer was bankrupt.

Wal-Mart, as has been well-chronicled, cottoned on to the importance of technology (and of keeping a lid on employee benefits) as it was growing into a commercial behemoth. It invested heavily in a range of technologies to automate product flow across its big-box empire and to coordinate with suppliers.

Efficiency soared, profits flowed, shareholders rhapsodized. As for Kmart, now being reborn as a hedge fund—game, set, match.

The moral of the story goes beyond simple homilies about the importance of keeping up to date with technology. It has more to do with the imperative of rooting technological goals in the firm soil of business strategy. Companies benefit from the latest server or chip or operating system only to the extent that such technologies solve a problem, please a customer, make a buck.

"There has to be an underlying strategy for technology, and it needs to be part of a company's operational strategy," says Rebecca Morgan, president of Fulcrum Consulting-Works Inc. "Every company needs an operations strategy that says, 'Here's how we're going to develop and deliver products to the marketplace,' and IT has to support that."

Corporate executives are increasingly confronted by those types of decisions. Where to locate one's company on the tech curve—to be an early adopter or a late one—is growing ever more complex as the pace of innovation quickens and as competition spreads its steely wings across the globe.

The advent of outsourcing, for example, suggests that companies may not need to automate some business processes so much as delegate them. Then again, critical links to customers might be lost by embracing the latest high-tech outsourcing "solution."

Of course, as most executives are acutely aware, it can be dangerous to be in the vanguard of technological innovation. During the tech boom, for example, banks spent vast sums building online branches in the expectation, ginned up by consultants, journalists and other "experts," that consumers wanted the ability to check their account balances and pay bills online. Although e-banking is growing in popularity, the return on investment has proved negligible.

And then there are those technologies—open-source software, radio frequency identification, bioinformatics—whose financial benefits may not be immediately evident but which look too important to ignore.

Where on the curve do such technologies lie, and when should companies embrace them, or do such developments represent the basis of entirely new geometries of innovation? ■