Ready for the next digital revolution

Nicholas Carr
March 11, 2008
Next

In *The Big Switch: Rewiring The World, From Edison to Google*, Nicholas Carr argues that we're on the verge of "the death of the IT department". Computing will change from its current DIY state to a "utility" model where most information processing

and storage is done in "the cloud" - that is, the internet. In this excerpt from his new book, Carr argues that this transformation will have far-reaching effects in corporations, media and society.

The transformation in the supply of computing promises to have especially sweeping consequences. Software programs already control or mediate not only industry and commerce but entertainment, journalism, education, even politics and national defence. The shock waves produced by a shift in computing technology will thus be intense and far-reaching.

We can already see the early effects all around us - in the shift of control over media from institutions to individuals, in people's growing sense of affiliation with "virtual communities" rather than physical ones, in debates over the security of personal information and the value of privacy, in the export of the jobs of knowledge workers, even in the growing concentration of wealth in a small slice of the population.

All these trends either spring from or are

propelled by the rise of internet-based computing. As information utilities grow in size and sophistication, the change to business and society - and to ourselves - will only broaden.

And their pace will only accelerate.

Many of the characteristics that define American society came into being only in the aftermath of electrification.

The rise of the middle class, the expansion of publication education, the flowering of mass culture, the movement of the population towards the suburbs, the shift from an industrial to a service economy - none of these would have happened without the cheap current generated by utilities.

Today, we think of these developments as permanent features of our society. But that's an illusion.

They're the by-products of a particular set of economic trade-offs that reflected, in large measures, the technologies of the time.

We may soon come to discover that what we

assume to be the enduring foundations of our society are, in fact, only temporary structures.

As the capacity of the "World Wide Computer" expands, it will continue to displace private systems as the preferred platform for computing. Businesses will gain new flexibility in assembling computing services to perform custom information-processing jobs.

Able to easily program the "World Wide Computer" in their own ways, they'll no longer be constrained by the limits of their own data centres or the dictates of a few big IT vendors.

Because of computing's modularity, companies will have a wealth of options as they make their leap to the utility age. They'll be able to continue to fulfil some of their computing requirements through their in-house data centres and IT departments, while relying on outside utilities to satisfy other needs. And they'll be able to continually fine-tune the mix as the capabilities of the utilities advance.

In contrast to the switch over to the electric utilities, buyers don't face all-or-nothing choice

when it comes to computing.

While smaller companies have strong economic incentives to embrace the full utility model quickly, most larger companies will need to carefully balance their past investments in in-house computing with the benefits provided by utilities. They can be expected to pursue a hybrid approach for many years, supplying some hardware and software requirements themselves and purchasing others over the grid.

One of the key challenges for corporate IT departments, in fact, lies in making the right decisions about what to hold on to and what to let go.

In the long run, the IT department is unlikely to survive, at least not in its familiar form. It will have little left to do once the bulk of the business of computing shifts out of private data centres and into "the cloud". Business units and even individual employees will be able to control the process of information directly, without the need for legions of technical specialists.

The creation of the electric grid accelerated the

concentration of wealth in large businesses, a trend that had been progressing, if at a slow pace, since the start of the Industrial Revolution.

But as the big companies expanded and introduced new categories of consumer goods, they had to hire huge numbers of both skilled and unskilled workers and, following Henry Ford's precedent, pay them good wages. In this way, electrification forced the companies to spread their increasing wealth widely among their employees.

That played a decisive role in creating a prosperous middle class - and a more egalitarian American society.

THE arrival of the universal computing grid portends a very different kind of economic realignment. Rather than concentrating wealth in the hands of a small number of companies, it may concentrate wealth in the hands of a small number of individuals, eroding the middle class and widening the divide between the haves and the have-nots.

Once again, this would make not the beginning of

a new trend but rather the acceleration of an existing one.

It's natural to think of the internet as a technology of emancipation. It gives us unprecedented freedom to express ourselves, to share our ideas and passions and to discover information on almost any topic imaginable.

For many people, going online feels like a passage into a new and radically different kind of democratic state, one freed of the physical and social demarcations and constraints that can hobble us in the real world.

The sense of the web as personally "empowering", to use the common buzzword, is almost universal, even among those who rue its commercialisation or decry the crassness of much of its content.

It's a stirring thought but, like most myths it's at best a half-truth and at worst a fantasy.

Computer systems, in general, and the internet, in particular, put enormous power into the hands of individuals, but they put even greater power into the hands of companies, governments, and

other institutions whose business is to control individuals.

Computer systems are not, at their core, technologies of emancipation. They are technologies of control. They were designed as tools for monitoring and influencing human behaviour, for controlling what people do and how they do it.

As we spend more and more time online, filling in databases with the details of our lives and desires, software programs will grow ever more capable of discovering and exploiting subtle patterns in our behaviours.

The people or organisations using the programs will be able to discern what we want, what motivates us, and how we're likely to react to various stimuli. They will, to use a cliche that happens in this case to be true, know more about us than we know about ourselves.

The Big Switch: Rewiring The World, From Edison to Google by Nicholas Carr, $35.95. Published by W. W. Norton.