The Ironies of Global Business & Parochial Technology

Introductory Remarks by
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Good morning and welcome.

In today's *Financial Times*, Bill Gates of Microsoft has written a short commentary in which he discusses the spread of computing technology into all dimensions of life, from embedded chips in cars to mobile phones in coat pockets, yet returns to how -- and I quote: "…the incredible flexibility of PC technology can help business connect people and teams, catalyse and connect their processes, and empower workers with true business intelligence." End-quote.

What strikes me about his comments is not the liberal use of vacuous business jargon; it is his reference to "PC technology." The personal computer is an old invention. If one were to alert reader of the *FT* on the eve of CeBIT about what is to come, it is odd that the PC would be singled out as the centerpiece of modern technology. Instead of stepping forward into the next iteration of technology, it seems as if Mr. Gates is stuck in a previous one.

The primacy of the PC is being replaced by a number of forces that we will consider throughout the conference today, such as the role of devices and mobile phones as a locus of computing and personal IT tools; how voice-over-the-Internet overturns the classic economics of telecoms; how new sources of innovation are happening away from corporate hierarchies (such as with open source software) and even away from the traditional geographic centers (such as with business process outsourcing in India).

Of course, Mr. Gates can be forgiven for trying to see that the center holds for his PC-centric universe as long as possible -- he has a monopoly on operating system software, after all -- so it is only a matter of rational financial self-interest to preserve the status quo. But we don't need to bear such limitations in our own thinking. And when we look around, we can see that the primacy of the PC is over. In fact, this reality is well understood by Microsoft, too. It helps explain why they have for so long sought to get into other areas of computing software, from television set-top boxes, to mobile phone handsets and personal-digital assistants, to the Xbox gaming system. The .NET initiative is about Web-based services when applications aren't on a desktop or loaded onto in-house servers (from which Microsoft derives licensing revenue), but delivered online. Even MSN Search technology is a move, essentially, towards remotely-hosted applications.

That said, we should also thank Mr. Gates for his incredible achievement. Much of the new IT world happening around us is because of his company's work -- it standardized IT (though we can rightly argue about the adverse consequences of how they did this). In standardizing IT, Microsoft set in motion forces that now threaten it. Prior to Microsoft, the software and hardware of computing was linked -- you had to buy the software from the same company that sold you the hardware, and you were locked in. It was an era when computers were mainframes, and later, minicomputers.

Microsoft's great achievement was to separate software from hardware. This gave customers freedom from the hardware makers (though not so from Microsoft, we would later learn!). And it allowed parallel -- but independent -- innovation in software as a sector in its own right. Because of Microsoft's dominance, the issue of common standards became largely moot. Things worked together. And if you think compatibility issues are bad today between Microsoft and its rivals, it was far worse in a world where every hardware manufacturer had its own operating system!

Bill Gates' commentary for CeBIT attendees is an ideal starting point to consider the current state of IT, because it evokes what I regard as the three ironies of modern business technology:

* First -- The Geology of IT: how new technologies emerge and dissipate.

* Second -- The Geography and IT: how the notion of place is changing due to linking new suppliers on one hand, and the ability to reach new customers on the other.

* Third -- The Generality of IT: how technology has become so commonplace that what is most critical are the rudimentary things rather than the novel or sophisticated ones.

I.

Regarding this notion of "The Geology of IT" -- that is, how technologies evolve and disappear -- let me make a prediction: in seven years' time, 50% of the technology that will be used has not yet been invented today. It will be a world of different companies, different products and services. Entire industry sectors will be gone -- and new ones that don't exist right now will be flourishing.

Think about it. Imagine we're back in 1998: We are buying fax machines and there is no such thing as an iPod. Blogging isn't around, nor social software. Internet telephony is difficult to do. Google barely exists.

If half of our IT will be new -- what does this mean for us today, as technology users? What does it mean for businesses that have to make IT investments over a ten-year lifecycle? Or as professionals in the tech industry that have to chart our future activities?

The challenge for us, is: What 50% will remain?! That is the question. We're stuck in the same predicament as the British retailing baron in the 1920s, who quipped that he knew that of his company's newspaper advertisements, only 20% of the ads were effective -- but the problem was he didn't know *which* 20%!

Despite the constant upheaval in the IT industry, the key point is that IT never actually gets replaced. Instead, newer technology gets layered on top of older infrastructure. It creates a sort of sedimentary layers, like the Earth's geology. Legacy systems are persistent. We have to somehow find a way to get it all to work together. And managing that complexity will be one of the biggest IT tasks going forward -- the one part of technology that won't go away, but will only become bigger and messier. It will lead to a lot of opportunities, for companies such as the Indian IT consultancies, some of whom who are here today.

II.

The second irony I see is the idea of "The Geography and IT" -- that is, how the notion of place is changing due to the ability to reach new customers anywhere, from anywhere, and the ability to link up internal operations, new commercial partners and to manage supply chains globally. This

has meant that the traditional geographic loci of technology -- mainly Silicon Valley and Boston's Route 128 near MIT (and perhaps New York as their financial centers) -- is shifting. The power of location is being diluted; the competitive advantage it offered is reversing, away from the most popular (and thus expensive, like Silicon Valley) and towards the less chic (and thus inexpensive, like Bangalore).

This is a natural evolution. In the 1970s and 80s, IT was about automating a single company's internal processes. General ledgers were computerized. Basic business activities went digital. Employee work processes changed as spread sheets emerged. But the next big change happened in the 1990s, driven in large part due to the Internet. It was the ability to link to others outside the company more easily than was possible before. Earlier, the only way to do it was through Electronic Data Interchange, or EDI, systems. But they didn't work very well: it was very expensive (relying on telecom providers' leased lines and proprietary data-networking protocols), and EDI software standards were imperfect.

With the Internet and the Web, that all has now changed. The open standards mean that linking up suppliers and partners is easier -- and in fact, entire new business models and commercial relationships are emerging to exploit this ability. And since the same technology has wormed its ways into everyone's homes, offices and even mobile phones, business can reach customers in ways they couldn't before, too. This much is obvious.

Yet what this means, ultimately, is that geography doesn't matter in the same way. The separation of location and IT makes it so place is less important, new business models can emerge and new opportunities can be created -- but also that new competitors can crop up from anywhere, almost overnight.

At first, the competition of location occurred in manufacturing. In the 1970s and 80s, it was a surprise to many Americans that one could make a car in Japan and ship it all the way to the US and still sell it for less than one made in Detroit. Today, it is rather remarkable when you stop and think about it, that it is cheaper to make steel in Japan, an island with no natural resources, and send it across the Pacific Ocean and half-way across the continental US to Detroit, than it is to make it in Pittsburg. Technology, and sophisticated business processes, are to credit (or blame).

Now this phenomenon is moving to white-collar jobs -- and became a hot-button political issue during last year's presidential election. Candidate John Kerry admonished "Benedict Arnold CEOs" (evoking the name of a traitor to the young republic during the Revolutionary War). But what "off-shoring" actually means in a globalized economy is unknown. What is "near-shoring"? Isn't it simply a question of "shoring" -- placing activities nearest to where the customers or suppliers are, or where it is most logical to perform an activity?

Consider McDonalds in France. Is it an American company? It seems the absolute archetypal one. The anti-globalization protestor Jose Bové rose to prominence for trashing a McDonalds restaurant outside of Paris in 1999. But when you scratch the surface, things start to look a lot more complex. The restaurant was based in France and paid French taxes. It employed French workers. It bought its ingredients from French farmers; potatoes from nearby fields, beef from French cattlemen. So is it American or French? It is tough to say for sure.

Now, if an Indian firm buys the large technology systems integrator EDS, what does the company become; what is it? Is it an American company? An Indian company? The majority of its workforce might be based neither in India or America but in other countries; it might be listed on a US stock exchange; it might have a board of directors that speak 10 different languages and

hold 20 different passports (because some directors may have more than one). What is it? It is getting harder and harder to say.

The shift of employment patterns due to technology has a long provenance. Indeed, we ourselves are probably emblematic of "employment-replacing" trends in our own careers. We type our own memos, speak different languages and use Excel spreadsheets -- things that once required typists, translators and accounting departments. These were all once separate occupations, but now are generally done by the same professional, trained in another specialty -- like law or business -- in which one makes a living primarily.

So technology eliminating jobs is nothing new. The Luddites in 19th century England tried to sabotage machines because they blamed it for taking away their jobs -- and it did. The nature of technology to cause dramatic shifts in employment has existed for a long time. It is often forgotten in the current discussion about outsourcing and off-shoring, but a key factor today, when we talk of the Geography of IT.

<center>III.</center>

The third and final irony of modern business is "The Generality of IT" -- that is, how technology has become so normal and a part of everyday life and business practices. So much so, in fact, that it leads to a curious series of shifts: what is innovative rapidly becomes commoditized, and what is a commodity ultimately becomes most vital.

For example, companies, such as airlines, can derive competitive advantage from letting Internet users select their seats on a plane -- but then every airline enables this, and it becomes a basic feature. What was at one time a selling feature turns into something customary, in fact, indispensable for all firms.

What is significant about this is that it leads to an ironic reversal about the value of IT. As innovation becomes a commodity such that businesses constantly invest in new technology for new innovations, customers come to depend critically on the basic services, not the razzle-dazzle stuff. I would suspect that most customers would prefer that businesses were better at the 80% of IT things that constitute the basic aspects of running a company, rather than the 20% of IT things that the company felt it needed to do in order to be competitive.

The 20% of things that are leading edge are important -- but the regular, plain, old 80% of boring technology are the things that create the most problems for companies, and frustrations for consumers, when they fail. This leads one to re-formulate the question that Nicholas Carr posed in a Harvard Business Review article in 2003: "Does IT Matter?" We can go one step further and ask: "Have we become such a mature industry that newness is less important that getting the old stuff to work right?"

I leave that as an open question, for us to consider throughout the day.

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These are the sorts of thoughts I have, that I hope set the groundwork for today's speakers and panels. It goes far beyond what Bill Gates had to say in *The Financial Times* this morning. So be it. With that, I am sure we will learn not only from our guests on stage, but from each other.

Thank you.