

A smarter planet: The next leadership agenda

by Sam Palmisano, Chairman of the Board, President and CEO of the IBM Corporation

To meet the challenges of the financial meltdown, climate change, energy, global supply chains for food and medicine and, of course after the 9/11 attacks, security, we need leadership and intelligence in our processes, decision-making and management systems. We are already infusing intelligence into the systems and processes that provide our goods and services. There will soon be a billion transistors per human and the Internet will connect them - the physical and digital infrastructures of the planet are converging.



Sam Palmisano is Chairman of the Board, President and CEO of the IBM Corporation. Mr Palmisano served previously as President and Chief Operating Officer. Mr Palmisano has held a series of leadership positions during his IBM career, including Senior Vice President for the Enterprise Systems and Personal Systems groups. Mr Palmisano also played a key role in creating and leading IBM's Global Services, rising to Senior Vice President. He also served as Senior Managing Director of operations for IBM Japan.

Mr Palmisano is a graduate of The Johns Hopkins University. In recognition of his leadership role as co-chair of the Council of Competitiveness' National Innovation Initiative, as well as his many business accomplishments, Mr Palmisano was awarded an Honorary Degree of Doctor of Humane Letters from Rensselaer Polytechnic Institute. He was also awarded an Honorary Fellowship from the London Business School.

The first decade of the new century has awakened us to the peril and promise of global integration. The opportunities are extraordinary - and the need for action is acute. Most importantly, employees, citizens and families are ready, eager and anxious for change. The question is, will leaders in all spheres seize it?

Periods of discontinuity are periods of opportunity, for those with courage and vision. It may not be easy to see now, but I believe this moment calls for winning not by surviving the storm, but by changing the game.

To do that, however, we will need new forms of leadership. In today's world, very few systems are the responsibility of a single entity or decision-maker. Almost all of them

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require many different kinds of expertise. And technology is the easy part. We must infuse not just our processes, but our decision-making and management systems with intelligence.

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chance for reasons no one wished - but it’s an opportunity we must seize.

The meltdown of the world’s financial markets has jolted us awake to the realities and dangers of highly complex global systems. In fact, this decade has brought a series of jarring realizations. In the last few years, our eyes were opened to climate change, and to the environmental and geopolitical issues surrounding energy. We have been made aware of global supply chains for food and medicine. And, of course, we entered the new century with the shock to our sense of security from the 9/11 attacks.

They were stages of our awakening to the reality of global integration. We are continually being reminded that we are all now connected - economically, technically

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and socially. But we are also seeing that being connected is not sufficient.

Fortunately, new capabilities are at hand. Our planet is becoming not just smaller and ‘flatter’, but smarter. This isn’t just a metaphor; I mean we are infusing intelligence into the way the world literally works - the systems and processes that enable physical goods to be developed, manufactured, bought and sold, services to be delivered, everything from people and money to oil, water and electrons to move, and billions of people to work, govern themselves and live.

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In other words, the physical and digital infrastructures of the planet are converging. Almost any thing or process can become digitally aware and interconnected.

With so much technology and networking abundantly available at such low cost, what wouldn’t you enhance? What service wouldn’t you provide a customer, citizen, student or patient? What wouldn’t you connect? What information wouldn’t you mine for insight?

The answer is, you - or your competitor - will do all of that. You will do it because you can. Indeed, we will all do it because we must. We simply cannot move forward with systems as inefficient and unaware as those we have today. The current financial crisis - in which our institutions spread risk but were not able to track risk - is just the tip of the iceberg.

According to the US Department of Energy, for example, 67 per cent of all electrical energy is lost due to inefficient power generation and grid management. Congested roadways in the US cost US\$78

billion annually in the form of 4.2 billion lost hours and 2.9 billion gallons of wasted gas. Consumer product and retail industries lose about US\$40 billion annually, or 3.5 per cent of their sales, due to supply chain inefficiencies, according to one report. In addition, our healthcare ‘system’ can’t link from diagnosis to drug discovery, to healthcare deliverers, to insurers, to employers.

These and other systems may be interconnected, but that doesn’t make them smart. The good news is, now they can be.

Consider Stockholm’s smart traffic system, which has resulted in 22 per cent less traffic, a 12 to 40 per cent drop in emissions and a reported 40,000 additional daily users of the public transport system. Using a traffic prediction tool, Singapore Land Transport Authority managed to achieve prediction results well above the target accuracy of 85 per cent. Many other cities - from London to Brisbane - are deploying smart traffic systems.

The utility industry is undergoing tremendous change as historically passive ratepayers migrate into more participatory roles. A global Intelligent Utility Network coalition - with members from utilities around the world including Australia’s Country Energy and India’s North Delhi Power Limited - is working to accelerate the development of industry standards, technology solutions and processes for intelligent networks to enable consumers to use energy in a more cost-effective and energy-efficient way.

Similar smart systems are transforming healthcare delivery, food tracking and supply chains. They are ensuring the authenticity of pharmaceuticals and the security of currency exchanges.

There are many, many other examples, and not just from the world of business. Countries, regions and cities are increasingly competing on the basis of smarter physical and social infrastructure - efficient transportation, modern airports, intelligent and reliable energy grids, transparent and trusted markets, their quality of life.

But the task ahead is daunting. At current course and speed, modernizing the world’s

urban water, electricity and transportation systems alone would, according to one study require US\$41 trillion over the next 25 years. Given the trajectories of development driving the planet today, we’re going to have to run a lot faster (and a lot smarter) just to keep up - especially as we seek to identify, and target our investments at, the next sources of economic growth that will help move large parts of the global economy out of recession.

The leaders of the coming era will be those who succeed in tackling our new challenges by collaborating in new ways, and by stepping outside their traditional comfort zones. We need leadership that pulls across systems, given the integrated nature of our work and our world. ●



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