



Early indications of change provide the competitive edge



In today's era of turbulent economies and information overload, it can be difficult to spot what's really happening in the world, and even more of a challenge to understand the impact of change on your customers and the effects on your industry.



Through our alliance with The Williams Inference Service, the oldest and most respected name in inferential intelligence, we focus on identifying change and how that may impact the business environment.



We provide a quarterly service covering over 120 subject areas, but we have selected just a few from this quarter that we think are very relevant in the current climate. These are..

- *The Internet is on the move but has it got the "oomph"?*
- *A new global environment is bringing more radical changes*
- *Can our leaders cope with the changes we face?*



To find out more about how we can help you identify socio-economic and technology changes that can impact your business, please contact:
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The Internet is on the move but has it got the “oomph”!

In 2007, for the first time, the amount of digital information created, captured or replicated exceeded available storage. The digital universe amounted to 281 billion gigabytes of data, or about 45 gigabytes for every person on the planet.



Behind the growth is an increase not just in the numbers of PCs and laptops in homes, businesses and government, but also in digital TVs, surveillance cameras, and sensor-based applications. Social networking websites such as Facebook & MySpace, as well as data centres like Google, contribute to the data traffic. As Internet access reaches emerging countries, the total increases daily.

New ideas such as Cloud Computing, and an overall increase in speed, are set to produce a revolution in the way the Internet works.



Cloud Computing

An evolving technology known as ‘Cloud Computing’ enables businesses to get access to all the benefits of IT with relatively little upfront investment. Using such an approach, instead of installing software on devices such as PCs and laptops, it is held on servers on the Internet. Service providers such as IBM, Amazon, Hewlett-Packard and others maintain the servers in their own data centres, fix any user problems, manage disaster recovery planning and continually upgrade the software. Customers typically pay by the month and by each connected user, so they don’t need to invest heavily to get started.



While many large companies have been hesitant to use the new Cloud Computing services, small and medium size businesses are flocking to sign up. About 31 per cent of medium-size companies (defined as those with 100 to 999 employees) in the US currently use these services. The popularity stems from the needs of companies with limited budgets for IT solutions that are easy to use and maintain.



New Internet

The ever-increasing demands being put on the Internet are now beginning to adversely affect its performance. The reduction in speed, combined with the net’s appetite for energy, means more efficient hardware and processes are needed. The Sunday Times reports that the internet as we know it might already be obsolete. The scientists who pioneered it have now built a lightning fast replacement, capable of downloading entire feature films within seconds.



The latest spin-off from CERN (the particle physics centre that created the web), the grid could also provide the kind of power needed to transmit holographic images, allow instant online gaming with hundreds of thousands of players, and offer high-definition video telephony for the price of a local call.



At speeds about 10,000 times faster than a typical broadband connection, the grid will be able to send the entire Rolling Stones back catalogue from the UK to Japan in 2 seconds. (Whether the Japanese *want* it is another matter.)

David Britton, professor of physics at Glasgow University and a leading figure in the grid project, believes grid technologies could “revolutionise” society. With this kind of computing power, future generations will have the ability to collaborate and communicate in ways that previous generations would struggle to imagine.



International

China’s rapidly growing population of Internet users has surpassed the US to become the world’s largest Internet user base. The country has as many as 228.5 million Internet users, compared with 217.1 million in the US. Currently, China has only about 16 per cent Internet penetration compared with the 69.7 per cent in the US, according to the China Internet Network Information Center.



Recently, a consortium formed by Google, HSBC and US cable-TV operator Liberty Global unveiled plans to offer cheap, high-speed Internet access via satellite to developing regions in Africa by 2010. The success of this move hinges on a healthy demand for available services. The incredible spread of mobile phone adoption in Africa offers plenty of encouragement. Africa’s mobile market has expanded faster than any other region over the past five years, with average annual growth of almost 65 per cent.



Britain is moving to a super-fast network. Unlike the current system, it will be possible for several people in a household to watch TV, surf the web or download music at the same time.

Both businesses and individuals will benefit from this technology, because it will make it much easier for millions to work (and potentially to study) from home computers via reliable video links. Firms such as BT and Virgin are already working on such solutions. Globally, we will become an increasingly networked society.



But the bottleneck is energy! Is the digital age’s future filthy?

The need for alternative sources of energy is being exacerbated by the global increase in demand, largely created by online activity, with energy-hungry servers at its heart. All the new toys in our homes - plasma screen TVs, DVD players, PVRs, not to mention all the iPod chargers – make the problem worse. If every Chinese were to live the energy intensive lifestyle of an American, China would need more coal than they can dig up!



Alternative energy sources are becoming more important as national power grids can no longer sustain the growth in demand. We are familiar with popular alternatives such as solar, wind and tidal, but the future mix may need to include coal, due to its sheer availability. This traditional source of energy is generally described as filthy and polluting, but new research and engineering techniques may enable our considerable global coal reserves to take a place in our energy strategy.



Innovative techniques are being developed to trap the carbon dioxide, produced when coal is burnt, in the voids left by the extraction of oil and gas. Another approach is to burn the coal in situ, underground where it has lain for millions of years, and pipe the heat produced to facilities where it can be used to create steam and drive turbines. Chemists are even seeking ways of converting coal into forms that are cleaner and thus more acceptable and convenient for converting into energy.



A new global environment is bringing more radical changes

Government

The biggest change in the global environment is the intervention of governments in the economies of foreign countries. Sovereign wealth funds from Asia, the Middle East and China are now propping up stressed financial institutions in the USA and Europe. As the US Government struggles with debt, China struggles with money. An estimated 70% of Chinese reserves are US dollar-dominated with \$247 billion of US Treasury Bonds. The remaining 30% are in Euros, Japanese Yen and other Asian currencies. This diversification allows the Chinese government to enact more creative policies. Even so, the financial turmoil is global and Asia is not immune to this crisis.



The new nationalisation is not just employing foreign funds. Energy companies have been among the first to feel the winds of change. Since oil prices started rising in 2004, Russia, Venezuela, Bolivia and Ecuador have nationalised foreign-owned oil assets. Nearly 80% of world oil reserves are controlled by state-owned firms. In addition, we are increasingly seeing governments intervening in the struggling financial sector.



People

People are on the move globally. Recent statistics show that more trips are now made across international borders than at any other time in history.



One indication of the pace of change is the congestion at Dubai International Airport. The bus journey from the airplane to the international building takes about 15 minutes, not because the airport is inefficient but because, for a small country, Dubai has a huge airport. Yet it is still too small to cope with the swelling influx of travellers, so Dubai's rulers are building another airport 20 miles away.



Another aspect of the increase in global travel is illustrated by medical tourism. For example, the Bumrungrad International Hospital in Thailand has seen huge growth in the number of overseas patients treated. The hospital's outpatient clinic is more stylish than the bar of a five-star hotel. Patients come from various countries, but a fair number of them are sick Arabs, who are shipped in bulk from Riyadh and Dubai because their governments cut a deal with the hospital to outsource the care of their people to Bumrungrad.

Medical tourism is just the beginning, the next step is globalised medicine. Top-tier medical schools in the US and Europe are starting to open up hospitals and teaching programmes abroad.



Can our leaders cope with the changes we face?

They don't make plans; they don't solve problems; they don't even organise people. What leaders really do is prepare organisations for change and help them cope as they struggle through it.



Now retired, John P Kotter was a professor of organisational behaviour at Harvard Business School, and back in the late 80s wrote that, "leadership is different from management, but not for the reasons most people think. Leadership isn't mystical and mysterious. It has nothing to do with having 'charisma' or other exotic personality traits."

Leadership and management are two distinctive and complementary systems of action. Each has its own functions and characteristic activities. Both are necessary for success in an increasingly complex and unpredictable business environment.

However, most corporations today are over managed and under led!



Management is about coping with complexity. Its practices and procedures are largely a response to one of the most significant developments of the twentieth century - the emergence of large organisations. Managers are trained to embrace long term planning as a panacea; however the business environment has become very competitive and dynamic. Traditional practices have not been keeping up with the rapid changes that we are facing and, it can be argued, are stifling our ability to adapt, develop and prosper.



Leadership, by contrast, is about coping with change. Part of the reason it has become so important in recent years is that the business world has become more competitive, intricate and volatile. The result is that doing what was done yesterday, or doing it 5% better, is no longer a formula for success.

More change always demands more leadership!



To elaborate on why this is so important, consider this simple military analogy comparing management with leadership. A peacetime army can usually survive with good administration and management up and down the hierarchy, coupled with good leadership concentrated at the very top. A wartime army, however, needs competent leadership at *all* levels. No one has yet figured out how to manage people effectively into battle; they must be led.



Similarly, Professor Kotter argues that, for organisations to embrace and adapt to change, staff must be 'aligned' not 'managed.' The way organisations are structured (over managed, with structured jobs and reporting relationships) must change. As in the military analogy, leadership in business is not about organising but aligning people. It is more of a communications challenge than an organisation problem.

But do our leaders have the skills to lead in our complex, rapidly changing global environment?