

Top of mind

Issues facing
technology companies

Ready or not, here comes sustainability

Situation

Environmental issues have been discussed for decades without much impact on the global economy. In the last few years, however, sustainability has risen as a business issue with breathtaking speed. The simple difference: customer demand. Social, environmental, renewable energy and political forces have converged to create a powerful, fast-emerging demand for sustainability in economic production – meaning that an economic activity should use minimal energy and not damage the environment so that it does not jeopardize the ability of future generations to meet their own needs.



Summary

- 1 Consumers are demanding eco-friendly products.
- 2 Businesses will be held accountable for sustainability.
- 3 Eco-efficient initiatives can result in cost savings.
- 4 New, sustainability businesses are emerging.
- 5 But, it will be a while before supply chains are fully sustainable.
- 6 Technology will be part of the solution.
- 7 What is voluntary today may be mandatory tomorrow.
- 8 Check your sustainability preparedness!

Customer demand is driving sustainability

Demand is coming from consumers as well as from businesses, as their customers hold them accountable for the sustainability of their own products and that of their entire supply chains. Although technology products have improved significantly in terms of going “clean” in the last decade, their power requirements, toxic metal content, production and business processes mean they still have far to go before becoming fully sustainable.

Companies are listening

Recent responses of government regulators, corporations, entrepreneurs and venture investors demonstrate that the demand for sustainability is being heard loudly and clearly. In the Information Technology (IT) industry, the major multinational companies have sustainability on their corporate agendas. Some emphasize recycling (and sometimes refurbishing) of their equipment to eliminate hazardous waste issues; others emphasize the reduction of the carbon footprint resulting from their business activities; others focus on reducing their products’ power consumption. One communications equipment vendor advertises its eco-efficiency by offering customers price discounts equal to the cost of the energy savings they would achieve in using its equipment instead of its chief rival’s.¹ The industry’s major systems integrators have launched practices to help customers build more efficient data centers that require less cooling, thus mitigating power consumption growth from the increasing number of data centers in the world.²

Sustainability can make good business sense

Ironically, companies with leading sustainability programs are discovering that such efforts do more than merely burnish their brands. It turns out that sustainable business processes are often more efficient, and the greater efficiency can make companies more competitive, not less. Sustainability becomes a cost factor only if it is treated as an add-on. If it is designed into a technology product or process from the beginning, it can result in a significant cost savings.³ Technology companies are beginning to recognize that there are powerful economic incentives to pursue eco-efficient initiatives. Positive environmental attributes are a superb bonus.



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Current issues

Corporations face a daunting challenge: can they evolve their business processes rapidly enough to keep pace with changing customer attitudes about the sustainability of the products and services they purchase, and the partners with which they choose to work? Companies appear to be working hard to keep up: a recent report showed that 25% of Fortune 500 companies now have a board committee overseeing environmental issues, up from 10% five years ago.⁴ That's a clear reflection of changing customer attitudes. Customers are demanding that their suppliers have coherent sustainability strategies and can provide metrics that measure their progress.

What technology companies are saying

That customer demand for their suppliers to have coherent and measurable sustainability strategies is reflected in Ernst & Young's recent review of 18 large technology companies' sustainability activities. We found that:

Most have:

- ▶ A sustainability mission statement

More than half are:

- ▶ Incorporating green features into their products
- ▶ Reporting on their energy use
- ▶ Integrating cleantech features into internal systems or supply chains
- ▶ Asking suppliers to comply with environmental goals

But fewer than half are:

- ▶ Making larger investments in R&D to develop innovative products with green features
- ▶ Investing in renewable sources of energy to bring down greenhouse gas (GHG) emissions
- ▶ Developing sustainable packaging options
- ▶ Exploring sustainable buildings
- ▶ Operating a formal asset recovery (recycling) program

Given increasing customer advocacy on sustainability issues, it won't be long before all these activities will be required for leading technology companies.⁵



Searching for answers

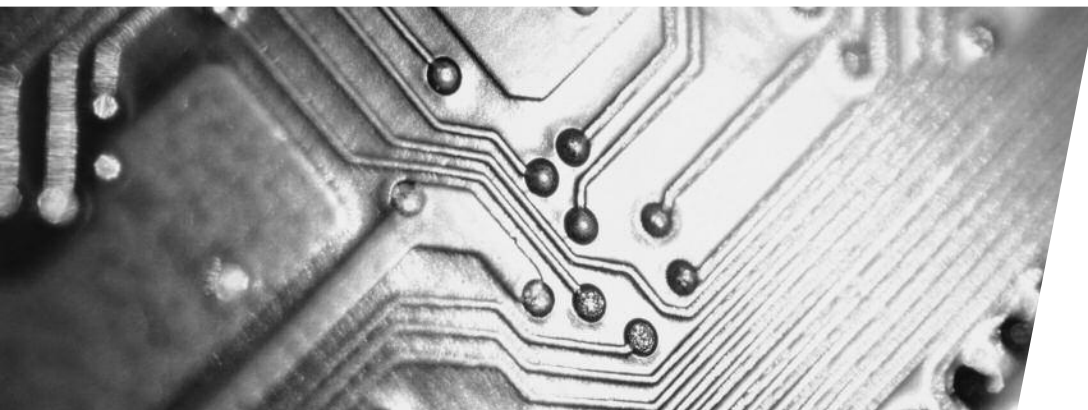
If technology is part of the problem, however, it is also likely to be a very large part of the solution. Entrepreneurs and venture capitalists (VCs) are filling in the gap in R&D – and it has been widely noted that they are often the same entrepreneurs and VCs who helped shape the technology industry in previous decades. In the US, venture investments in cleantech companies climbed to a record US\$961.7 million in the second quarter of 2008⁶ – on the way to quadrupling over the US\$917 million invested in all of 2005.⁷ Strategic investors are also participating, as many large companies pursue a diverse set of sustainability initiatives, including partnering with start-ups.⁸

For example, when three semiconductor giants separately became involved in solar power products earlier this year, it was thought that their manufacturing and specialized industry knowledge would help accelerate that industry's cost-efficiency improvements.⁹ However, it will be a while before the results of those companies recent entry into the solar market are known.

Underscoring the complexity

Sustainability is not simple. It often requires innovative technology and innovative thinking. Current IT practices offer an illustrative example. To ensure reliability, corporations often build up unnecessary redundancies, rarely retire aging applications and over-build relative to their actual requirements – for instance, specifying 24/7 operation and 99.9% uptime for applications that don't really demand it. As a result of these and other approaches, the average corporate computer server is just 6% utilized and the average data facility just 56% utilized, according to a recent report.¹⁰ Technology companies see an opportunity: at least one large multinational IT manufacturer and services firm formally launched a green IT practice this year to advise on data center efficiency and the overall environmental impact of a company's IT function.¹¹

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Regulating sustainability

Regulation of product disposal and recycling has a complexity all its own. The European Union's (EU's) Restrictions on Hazardous Substances (RoHS) decree took effect in 2006, banning the use of lead and other toxic material. The ban aims, in part, to make recycling of electronic waste safer. Some observers fear technology companies may face an unnavigable array of RoHS regulation around the world because other countries and individual US states have begun enacting laws modeled after the EU's – but with slight differences. And it could happen again: a pending EU directive known as "Energy-using Products" (EuP) goes further into environmental issues. EuP specifies eco-design principles and requirements for minimal energy consumption, not only by the product when in use but throughout its development and manufacturing process.

Global interdependence

Adding to the complexity of achieving sustainability are interdependence issues: globally among nations, throughout a global industry and across a company's enterprise-wide supply chain. Some technology product recyclers have been accused of polluting in emerging nations because they ship recycled gear to plants there, where the products are broken down and valuable materials are reclaimed. Environmentalists have measured higher levels of the toxic chemicals banned in the EU's RoHS in the areas surrounding such plants. On the other side of this issue are two major US-based multinational technology companies who have earned praise from environmentalists on the strength of their re-use of recycled materials.¹²

Financing sustainability

Finally, financing sustainability can be complex, as exchange markets emerge for cleantech investment tax credits and carbon emissions allowances. The market for trading cleantech investment tax credits is estimated at US\$3 billion and growing rapidly. Carbon emissions cap-and-trade systems create incentives for the companies that can significantly lower emissions to do so, in order to sell their excess emissions allowances to others.¹³

Future implications

Sustainability will continue to grow very fast because customers, governments and business leaders have recognized that modern society really does face sustainability issues – and those issues can have solutions that are profitable businesses. Already these realizations have caused the world to enter an intense period of innovation around sustainable technologies, practices and business processes. Forrester Research predicts that the market for green IT services will reach US\$4.8 billion by 2013.¹⁴ Companies that are too slow to respond may find themselves unable to compete.

Recruiting

For instance, recruiting top talent may become difficult for companies that do not have a serious sustainability agenda because younger generations appear far more sensitive to sustainability issues than older generations. Recruiting top talent is a key issue for technology companies, for whom never-ending cycles of innovation are a fact of competitive business life.



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Innovation goes green

The disruptive innovation that has always been part of doing business in technology is increasingly green. Among product innovations already announced this year is new microprocessor technology that allows computers to come on instantly from sleep mode – which the manufacturer reports will reduce energy consumption up to 71%. A copier company has introduced a rewritable printer, which will reportedly erase and rewrite on the same paper up to 200 times.¹⁵ Another company is developing a new “battery” that contains a nano-scale internal combustion engine to generate electricity.¹⁶

Efficient data center design

In the data center, new technologies such as virtualization and software-as-a-service can drive up utilization rates. Likewise, corporations are discovering that big energy savings can also be had through more efficient data center design. The mission of the Green Grid Association, a vendor consortium launched in 2006, is to help companies develop more energy-efficient data centers. It currently has 201 member companies.¹⁷ But given the direction of existing and pending legislation, it would not be a stretch to imagine the emergence of government regulations for data center design.

Government regulation

Increased government regulation is sure to follow the growing activism on sustainability issues. Technology companies and their customers already face many international, US federal and state and local environmental regulations. And because of the nascent stage of sustainability as a regulatory issue, many nongovernmental organizations are proposing their own guidelines, including technology standards groups, vendor consortiums (like Green Grid) and electric utility groups. In the near future, this growing body of rules is likely to increase the complexity of the challenge faced by the most well-meaning of technology companies.

Green opportunities

Yet regulatory change may also create big market opportunities. For example, new investment tax credits or subsidies could lead to new businesses. The power of regulation can be seen in the solar energy sector in the US, where government subsidies drove purchases up until the subsidies expired in the early 1980s; after that US shipments of solar collectors dropped by more than half, and as of 2005 they had not yet returned to pre-1986 levels.¹⁸ New subsidies or investment tax credits could lead to explosive growth where they are offered; technology companies may need to prepare for such opportunities.

Implications for accounting?

Accounting is another area where new regulation could have a significant effect. Corporations and governments alike will be forging new business territory as sustainability issues are explored more deeply. New business territory can often mean new accounting rules or practices.

Cross-industry transactions

There will undoubtedly be influence felt in mergers and acquisitions as companies look to expand their green assets. Already this year, for instance, German auto parts manufacturer Robert Bosch purchased solar technology company ersol Solar Energy AG. As green tax incentives are enacted, such cross-industry transactions are likely to accelerate.

Voluntary to mandatory

Much of what will soon be required relative to sustainability remains unclear. What is clear is that companies' voluntary compliance with sustainability practices today will undoubtedly become mandatory tomorrow, whether by government fiat or customer demand. And that customer demand means that you will need to communicate transparently with customers and the marketplace throughout the process of converting to sustainable practices, not merely when the transition is complete.

Ernst & Young's observations

The future will be here before we know it. How does your company measure up in terms of sustainability? Following are a few questions to ask yourself.

Things to consider

- 1 Has your company established a baseline sustainability quotient?
- 2 What are the risks in developing a long-term sustainability program?
- 3 Have you established a business case for how sustainable processes will affect your business model? Will your business model have to change?
- 4 What are the success factors for your sustainability program? How will you measure them?
- 5 How will your sustainability program impact your supply chain?
- 6 Communication is critical throughout the process of greening, not just after it is in place. What is your communications plan?
- 7 How can governments help share sustainability risks with corporations? Are tax credits enough?
- 8 Have you created a "Chief Sustainability Officer" position?
- 9 How can sustainability facilitate process improvement?
- 10 Is your company aware of new and pending sustainability regulations in all the areas where you do business?
- 11 What potential regulatory mandates may have the biggest impact on your business? What can you begin doing now to mitigate such impact?
- 12 What are you doing to reclaim valuable resources from products that have ended their useful life? Is it a good idea for your company to partner with others who already have successful programs?
- 13 What new types of partnerships or structures are required for success in sustainability?
- 14 Can collaboration "at a distance" technologies reduce your company's carbon footprint without decreasing your ability to innovate in new products and services?
- 15 What are the promising new technologies on the horizon?
- 16 What are the unintended consequences of sustainability for your company, real or perceived (e.g., ethanol production blamed for rising food prices; recyclers blamed for polluting emerging nations)?



The business of green¹⁹

- 1 Green initiatives are starting to benefit the bottom line, in addition to benefiting the environment.
- 2 Consumers are demanding green products but expect the same functionality as conventional products and will not necessarily pay more.
- 3 Companies must practice green strategies in-house in order to sell them.
- 4 There is a new focus on products and services, rather than measuring the carbon footprint.
- 5 The location of green managers and strategy within a company indicates their importance to the company. One option is a Chief Green Officer.
- 6 Communicate during the process of greening, not just after it is in place.
- 7 Voluntary compliance on sustainability practices today may be mandated tomorrow.

Source notes

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