Harnessing the power of 'Green IT' to speed business transformation

Introduction

In tough economic times, many companies may feel tempted to put environmental sustainability and 'green IT' issues aside. Financial pressure and deep cost-cutting dominate the corporate agenda. Governments are sensitive to the difficulties. Yet the great challenges of climate change, and how to create the low-carbon economy of the future, are here to stay. The rules are tightening and the price of carbon will rise.

The EU has adopted a 20 per cent target for cutting greenhouse gas emissions by 2020, while the UK is set on a minimum 26 per cent reduction in CO2 emissions by that date and at least 80 per cent by 2050 compared to 1990 levels. New carbon reduction commitments – the UK's first mandatory carbon trading scheme – will affect around 5,000 UK organisations, requiring delivery of accurate energy usage data by July 2009.

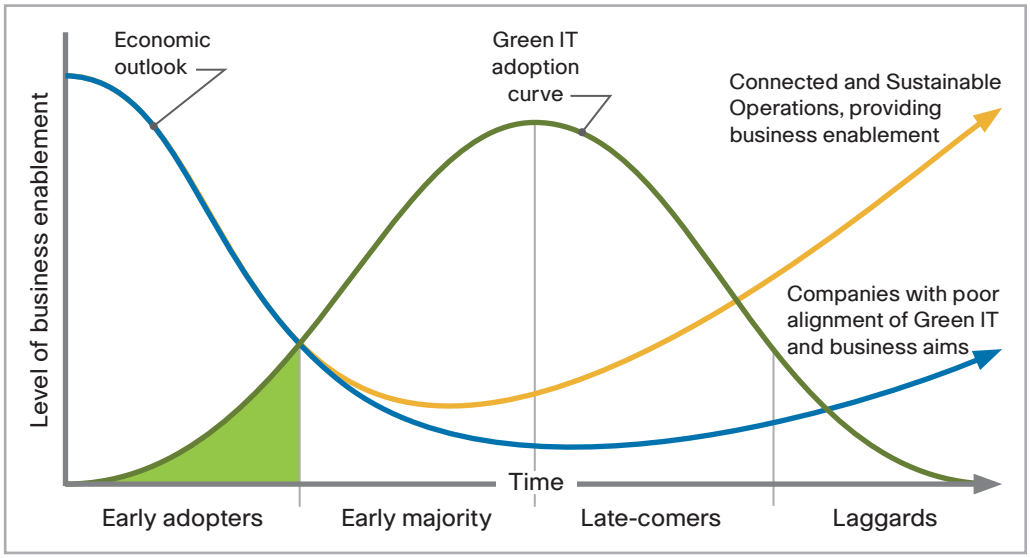
Energy performance tables will be published in the UK from 2011, 'naming and shaming' the laggards. This could have a significant impact on corporate reputations, brand values and the readiness of financial institutions to invest. In the US, the new administration is determined to drive new carbon cap-and-trade legislation through Congress. Tighter global emissions limits are also possible after the next UN climate change summit, due in Copenhagen in late 2009.

A path of future opportunity

Some signs of opportunity are starting to emerge from the financial devastation of the 2008 credit crunch. A €200 billion EU regeneration plan promises major public backing for sustainable infrastructure projects; US president Barack Obama has pledged $150 billion in government spending over the next ten years to a wide range of federal 'green' projects, from public buildings to improved transport infrastructure and generation of cleaner energy.

While no-one expects a rapid or pain-free global recovery, the logic of trying to kick-start economic activity by investing public funds in environmental projects appears compelling. Much of the money will be spent with the private sector. Those who take a lead in setting new standards of corporate sustainability today should be well placed to benefit, and to become strong players in the emerging low-carbon economy of tomorrow.

The strategic alignment of Green IT and Business Transformation



Green IT – empowering sustainability

Sustainability can be seen as actions taken by individuals and organisations to create a future that works – economically, environmentally and socially. It means being aware of all the interconnections, visible and invisible, whereby day-to-day choices affect the complex balance of those factors. In business, the issue is how to enable both continued growth and the adoption of sustainable practices in a mutually reinforcing way. Both require a high degree of measurability and manageability of assets and processes to ensure effectiveness.

Among European organisations, CIOs have made a start on addressing the environmental footprint of IT itself and harnessing the broader potential contribution of IT to empower sustainable practice across the organisation. Research by Cisco shows that 82 per cent of Europe's largest companies say they are shifting their priorities to adopt greener ways of working, and Europe is regarded as leading the world in addressing the sustainability agenda.

Actions taken so far in IT departments might include virtualising the data centre, enabling greater mobility and home working, or using virtual collaboration to replace travel. Across other departments, there is likely to be a patchwork of green initiatives springing up, from better energy management in buildings to employee car-pools or improved recycling efforts. A further challenge is to keep a close eye on the policies of suppliers – including Cisco.

As the profile of 'green IT' progresses from early adopters towards an early majority, a more systemic approach is needed. IT can help connect diverse initiatives cross-functionally, and provide collaborative forums for employees at all levels to develop new ideas for making the business more sustainable. At the same time, a new, business-wide framework is needed to measure, monitor and manage energy consumption and carbon emissions. Business transformation and sustainability efforts need, in effect, to become parts of a single process.

How can the CIO help them converge? The task is akin to opening up the flow of financial metrics from all parts the business, which took place a decade or more ago in most large organisations. Just as businesses sought then to track their financial performance closer to real time, today they need to do the same for their energy usage data. Only then can sustainable practice start to become embedded in every aspect of 'business as usual'.

Levels of engagement: the CIO's role

As sustainability moves up the corporate agenda, it has become a strategic board-level issue. Five years ago, 94 per cent of companies in the Dow Jones Sustainability World Index saw it as a key board responsibility, compared to just over half of 800 other companies surveyed. Today, more organisations are formulating sustainability policies and objectives at board-level. The role of the CIO therefore operates on three levels:

- Conformity: Making sure the IT organisation, including the data centre, networks and all IT equipment, meets or exceeds company targets for emissions reduction
- Capacity: Providing tools and processes to enable board sustainability goals to be achieved quickly and effectively, while improving visibility of energy performance
- Connectedness: Leading and empowering the workforce to work collaboratively and cross-functionally on 'green' innovations; helping draw up sustainability road-maps.

Establishing a baseline

Different types of business have varied patterns of energy consumption, so the first task for any organisation seeking to reduce emissions is to set a realistic baseline. At the simplest level, the CIO needs to keep a close eye on energy used in the data centre. As often as not, the electricity bill is paid by another department, such as facilities, and the details passed to finance. Thus the CIO may have limited knowledge, updated only monthly or quarterly.

Tracking the energy profile of IT is just a starting point. The entire business needs to know how and where it needs to improve its energy performance. Greater visibility of energy use and asset utilisation throughout the organisation, made widely available by means of appropriate online tools, increases awareness and enables all staff to make responsible choices about their individual carbon footprints and their contribution to company emissions.

The foundation for this advance is a robust, automated system for measuring, monitoring and managing energy use. The network will play a central role in enabling the process by collecting the data and feeding it through new software tools able to analyse, model and implement energy usage scenarios. The guiding principle is that almost any electrical device in the network can make a measurable difference to improving business sustainability.

To accelerate its development, Cisco employs a Connected Carbon Management (CCM) methodology. This will help meet the need for an enterprise-wide carbon management programme, supported by intelligent, network-enabled controls. CCM offers a strategy for tracking major emissions sources, setting up routine reports of key metrics, and identifying carbon reduction opportunities. Prospective benefits include regulatory compliance, strong investment decision support, and all-round operational excellence in a low carbon world.

The value of a Connected Operations model

The opportunity for the CIO to drive adoption of wider 'green business' practices goes beyond efficient energy measurement and management. To embed sustainability deeper into company culture and place it at the heart of its business activities, Cisco turned to another concept, developed internally as a business transformation model – Connected Operations.

Connected Operations is a strategic discipline designed to enable multiple functional operations to collaborate as one. Each operational area engages the business as a strategic partner, creating an end-to-end link between innovation and operational excellence. The business goals are to drive operational alignment, accelerate new business models, build scalable business and IT architectures, increase productivity, and improve financial visibility.

Cisco is now applying this model to its drive for greater sustainability. By creating a culture of enhanced innovation through company-wide networks of cross-functional collaboration, Connected Operations draws in ideas from staff at all levels. It opens them up to a wider internal community for development and – if successful – disseminates them rapidly. It lends itself equally well to improving business performance or reducing environmental impacts.

Finding the right 'green governance' structure

For wider collaboration to work effectively within the Connected Operations framework, organisations need a strong governance model. While more businesses are setting up board-level governance structures to drive forward sustainability initiatives, the CIO has a key role to play in connecting strategic objectives with operational practice, and in fostering a 'bottom-up' green innovation culture to complement 'top-down' sustainability goals.

Emerging centres of green leadership are as varied as the energy challenges of the businesses they serve. With more organisations setting up green teams and task-forces, environmental programmes are no longer boxed in to corporate social responsibility or marketing departments. They have sent out new tendrils to other parts of the business. For global firms, there may now be a thriving seedbed of hundreds or even thousands of potential green ideas.

This creative input needs to be marshalled and organised to give it shape and make it work. New applications can then be scaled up quickly, from simple prototypes developed in-house to sophisticated bought-in software. The task might involve using 'wikis' and online forums to enable staff in different functional or geographic areas to publish, develop and refine new ideas. Or it could mean deploying and promoting other collaborative technologies, such as WebEx and video conferencing, to support well-defined cross-departmental initiatives.

The model also requires a strong, central steering group at board level, with the power to shape budgets, resolve cross-departmental dependencies, and intervene at key decision points to align 'bottom-up' initiatives with strategic policy. The CIO needs to be active in both areas: helping the board turn sustainability strategy into realistic road maps and enabling new ideas; empowering people across the organisation with the collaborative tools they need while ensuring the coordination and visibility essential to sound investment decisions.

Cisco's cross-functional green governance model

- **Eco-Board: Established in 2006, Cisco's Eco-Board includes representatives from 16 departments, using cross-functional teamwork to develop corporate green strategy**
- **Country Teams: Responsible for defining, developing and implementing sustainable projects in the areas of operations, architecture, products and company culture**
- **Green Task Forces: Multi-disciplinary teams working in partnership with customers across diverse business functions to bring defined business projects to fruition**
- **Civic Councils: Cisco staff volunteers working to support regional and local community projects centred on ecology and education.**

Measuring Up

Cisco is developing an interlocking toolkit to help CIOs build the automated system of measurement, monitoring and management essential to defining an organisation's energy usage patterns, emissions profile and long-term sustainability goals. They include:

- Environmental Data Tool (EDT): This is a simple database application, updated manually, which was developed by Cisco to determine and 'roll up' energy usage metrics in company buildings for conversion into emissions data. Cisco is making it freely available to CIOs to help them make a start on the task
- Sustainability Management: To make effective use of carbon data, enterprises also need smart analytic and integration software to gauge their performance against environmental, social and economic indicators. It will measure sustainability activities, report on ongoing performance, identify metrics with the greatest impact on attaining goals, and enable accurate forecasting of financial and resource requirements

- Cisco EnergyWise: Cisco EnergyWise is a new network tool for low-level energy data capture in buildings across the business, enabling a more granular view of electrical consumption in network devices. Such data will be fed in automatically to software applications and eventually enable a dynamic, 'live' view of overall energy performance to allow real-time monitoring and management.

What Next for the CIO?

To raise your organisation's level of engagement with the mounting demands for socially and environmentally sustainable business performance, Cisco believes the next steps are:

- Defining what sustainability means for your organisation and its business ecosystem
- Creating a connected model for energy measurement, monitoring and management
- Exploring how virtualised assets can support both business and environmental goals
- Fostering a governance system to combine all 'green' initiative cross-functionally
- Using virtual collaboration to enable and accelerate 'green' business transformation.

More information

For further information and views see:

Ecolibrium, Cisco's platform for sharing thought leadership and blogs at:
http://blogs.cisco.com/green

Cisco Corporate Social Responsibility Report at:
http://www.cisco.com/web/about/ac227/csr2008/index.html

Cisco and the environment at:
http://www.cisco.com/web/about/ac227/csr2008/the-environment/index.html

If you want to find out more about Cisco's toolkit for getting a clear view of energy usage and carbon emissions in your business, or discuss how Connected Carbon Management could accelerate your sustainability efforts, please talk to your Cisco account manager.

Authors

Neil Harris, European Sustainability Manager, Cisco
Robbert Kuppens, CIO, Cisco European Markets

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV
Amsterdam, The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **www.cisco.com/go/offices.**