Potential vs. Reality: Sustainability’s Value When Investing in Technology

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EXECUTIVE SUMMARY

In short, we need to talk—and talk the same language.

That’s the overriding directive for Information and Communications Technology (ICT) executives and sustainability leaders in research recently conducted by GreenBiz Group and AT&T.

There is good news, as a wide range of opportunities exists where the combined efforts of ICT and sustainability professionals can make a significant impact. The use of collaboration technologies, cloud computing, machine-to-machine communication, and telematics point to the potential for increased cost savings and efficiencies that also result in reduced environmental impact.

Beyond internal efficiencies, there are opportunities for new sources of revenue as industries evolve by leveraging the power of technology. The rise of ICT-based change is transforming education with remote learning, healthcare with electronic medical records, and agriculture with self-driving tractors.

But for these changes to occur at a faster and broader scale, it is critical for ICT and sustainability professionals to start communicating better. The analysis that follows offers five key strategies to help sustainability leaders gain more opportunities to work with business unit and ICT leadership to achieve common goals.
INTRODUCTION

Technology continues to advance and transform business processes at an ever-increasing pace, including many parts of business operations that can significantly improve energy efficiency and reduce waste. As a result, the opportunity for CIOs, CFO’s and sustainability executives to work together is taking on new dimensions. Primary among them is the increased ability for companies to align established financial and customer satisfaction goals with more recently established environmental and social goals.

That said, consistent with the findings from other recent studies, research by GreenBiz Group and AT&T finds that a language barrier exists inside the C-suite when products and services are described using the word “sustainability.” Simply put, while they may seek the same goals, they don’t speak the same language. In order to achieve the energy and efficiency gains that are possible through greater adoption of ICT products and services, sustainability leaders will need to embrace the language of the business units, the CFO and ICT executives to fully explain the full range of benefits in financial, operational, and environmental terms.

Additionally, the survey found that a company’s sustainability team isn’t very engaged with the IT department and the line-of-business executives they serve. Barely more than a third of sustainability executives surveyed said their CIO had discussions with their company’s corporate social responsibility (CSR) or sustainability team. And when asked to select from a list of benefits for different types of technology projects, sustainability-related benefits scored the lowest. This represents a lost opportunity for many companies. The success of sustainability efforts in most companies is the result of collaboration across various organizations to achieve the company’s environmental and social goals. Many of the most successful programs come as a result of the sustainability team gaining an understanding of the business goals and translating the goals in the language the business unit will understand. Likewise, translating the value of ICT products and services in business terms will be essential to drive adoption inside companies.

SUSTAINABILITY AND ICT OPPORTUNITIES

There are a wide range of ICT technologies and projects that can align financial and customer satisfaction metrics with environmental and social benefits. When GreenBiz Intelligence Panel members were asked if their company has overarching corporate sustainability-related goals that ICT can help meet, 77 percent cited overall energy efficiency or reduction, 68 percent cited efficiency increases (i.e., reduction of waste such as paper, raw materials, etc.), and 65 percent identified overall greenhouse gas (GHG) reduction.

GreenBiz Intelligence Panel members cited the following overarching corporate sustainability-related goals that ICT can help meet:

- **77%** Overall Energy Efficiency/Reduction
- **68%** Efficiency Increases
- **65%** Overall Greenhouse Gas (GHG) Reduction
The technologies that can help both large and small companies meet these goals include Telepresence and mobile computing, applications delivered via “the cloud,” and sensor-based systems that greatly increase the ability to monitor and control anything from vents to vehicles.

BEING THERE

Collaborative business efforts can be supported by a number of technologies that serve to bring people together. One fast-growing technology is Telepresence, high-definition video conferencing that creates a virtual in-person meeting experience.

In our survey of sustainability executives, the top three benefits of using collaboration technology were also the business criteria for making the investment. This included reducing travel costs and saving money (84 percent), making better use of employee time and improving productivity (84 percent), and transforming business processes for easier and faster collaboration (49 percent).

Top three benefits of using collaboration technology cited by survey respondents:

- **84%** REDUCING TRAVEL COST/SAVING MONEY
- **84%** IMPROVING EMPLOYEE PRODUCTIVITY
- **49%** IMPROVING BUSINESS PROCESSES FOR COLLABORATION

The cost savings can be seen in a global enterprise such as AT&T, which has deployed 240 Telepresence sites across 20 countries. In 2012, the firm’s employees logged more than 100,000 Telepresence meeting hours, translating into avoided travel costs of more than $19 million and more than 11,600 metric tons of CO2 emissions. To help other companies understand how Telepresence could help the bottom line while also addressing environmental goals, AT&T developed a Carbon Impact Assessment Tool (http://www.att.com/carbontool).

There are non-monetary benefits of Telepresence, too, such as the improvement of executives’ and employees’ work/life balance, allowing them to work where and when they want.

In our research, 96 percent of respondents replied that some portion of their company’s employees use mobile technology to perform their job. And 65 percent noted that their company supplied some employees with tablets and cell phones to replace paper forms and manual data entry. But the bigger picture is that the next generation of
employees expects to be mobile and connected. Offering work-anywhere technology not only provides economic and sustainability benefits, it can also be a major factor in terms of employee recruitment and retention.

**HEAD IN THE CLOUDS**

There has been a lot written recently about cloud computing, the practice of using a network of remote servers hosted on the Internet, rather than a local server, to store, manage, and process data. While a company may manage its own cloud service, it is more often understood as being a service provided by third parties, typically for a specific type of application such as customer relationship management (CRM), email, or productivity software (such as word processing or spreadsheets).

Currently, more than half of large companies own and operate their data centers but this is shifting toward a cloud-based model. However, 42 percent believe that within five years more than half of their IT applications will be delivered via the cloud. There’s good reason for that: Cloud computing offers companies a number of tangible and intangible benefits. First, they can shift from lump sum capital expenditures to more scalable operating expenditures, paying only for what is needed at a given time. Another benefit of cloud computing is that a third party maintains both the hardware and software, allowing companies to focus on core business activities and future innovation.

According to a recent report by the Carbon Disclosure Project (CDP), potential financial benefits from cloud computing run into the billions of dollars. By using cloud computing, said CDP, US businesses with annual revenues of more than $1 billion can achieve economy-wide savings of $12.3 billion a year in energy alone by 2020.

The CDP report provides two concrete examples of how companies can save via the cloud. A typical food and beverage firm transitioning its HR application from dedicated IT to a public cloud can achieve a net present value (NPV) savings of $10.1 million over five years, with a payback period of under a year. Alternately, that same firm transitioning its HR application from dedicated IT to a private internal cloud can achieve a NPV of $4.4 million over five years, with the payback occurring in the second year.

There are also substantial environmental benefits. For the food and beverage example cited earlier, the savings can also be translated into reduced GHG emissions. The first scenario represented a savings of $12 million dollars over five years as well as 30,000 metric tons of GHG emissions, equivalent to taking 5,900 cars off the road for a year. The second scenario could save $5 million over five years and cut CO2 emissions by 25,000 metric tons, equivalent to taking 4,900 cars off the road for a year.

In a recent study from Lawrence Berkeley National Laboratory and Northwestern University, researchers assert that moving common software, such as customer relationship management (CRM), email and productivity software such as word processors off local systems and into the cloud for 86 million US workers could save about 23 billion kilowatt-hours (kWh) — enough electricity to power Los Angeles for an entire year. Most of the savings come from the email and the productivity software migrations.

The same researchers also published the Cloud Energy and Emissions Research (CLEER) framework, which allows IT managers to assess the results of moving to a cloud-based infrastructure against three preloaded scenarios for email, CRM software and productivity applications. Tools such as these can help CIOs improve the business case for moving to cloud computing. Our research showed that CIOs justified those projects based upon ICT equipment and service savings (78 percent), employee productivity improvements (53 percent), and energy savings (46 percent). The CLEER framework provides a useful tool for expanding the business case.
CIO’s top reasons to build the business case for cloud computing:

- **78%** ICT equipment and service savings
- **53%** Improving employee productivity
- **46%** Energy savings

INTELLIGENT EVERYTHING

A 2013 report by the Carbon War Room and AT&T identifies a third key technology that aligns business and environmental goals. As the report notes, in just the last few years, we have moved beyond simply using our machines and devices to merely connect with other people. We can now program them to connect directly to one another, allowing for the collection and processing of information on an unprecedented scale. The growing “machine to machine” (M2M) connectivity of both physical infrastructure and devices is being referred to as the Industrial Internet (as it relates to manufacturing), or the Internet of Things (as it relates to billions of machines and devices).

By 2020, according to Machina Research there will be 12.5 billion M2M devices globally, up from 1.3 billion devices today. These technologies provide an unprecedented opportunity to improve companies’, cities’, and citizens’ resource and time efficiency. Across many industries M2M technologies will reduce the amount of energy, fuel, or raw materials required to get the job done, lowering greenhouse gas emissions without constricting production, consumption, or economic growth.

M2M applications in the energy, transportation, buildings and agriculture sectors are the most promising. Consider motor systems — devices that convert electricity into mechanical power. These include transformers such as those used in compressors and pumps and variable speed drives used in conveyor belts and elevators. Motors can be inefficient if they operate at full capacity regardless of load. A motor can be made “smart” when it is controlled to adjust its power usage to a required output. For example, through the use of integrated sensors a conveyor belt can be idled until a package is placed on it for transport.

The Consortium for Energy Efficiency is among several organizations that have put together programs and tools that help facility managers understand how to reduce energy costs, increase productivity and reduce greenhouse gas emissions through the use of more such smart technologies. In transportation, for example, sensors can be used to improve engine performance as well as providing real-time tracking, with the ability to optimally route (and re-route) vehicles to reduce fuel use and increase efficiency.

Buildings are becoming smarter as well, with lighting and heating controls that respond to occupant behavior. In-building networks and building management systems can improve the performance of buildings, making them much
more energy efficient. These are only a few examples of how M2M technology will help companies save money and be more efficient while also reducing their carbon footprint.

SUSTAINABILITY – THE POWER OF “&”

Clearly, there are numerous ways in which ICT efforts can support a combination of financial, operational, & sustainability goals. There is a critical role for sustainability leaders when it comes to ICT initiatives – they provide the “&”, the additional justification that can either move projects forward or expand their impact on the company. But too often, the CSR and sustainability teams are left out of the discussion.

In order to change this dynamic, sustainability leaders must focus on understanding ICT and functional area goals (from operational efficiencies to CFO-driven financial return expectations) and provide support to show how meeting those goals also contributes to a company’s sustainability efforts. The following five strategies can help sustainability leaders gain more opportunities to work with business unit and ICT leadership to achieve their common goals.

1. **Speak the language of the business.**

   The key to many successful sustainability programs has been the ability to take “their” strategy and make it “our” strategy. In other words, take the goals and objectives of the ICT department and the business units they are serving and identify how a consideration of sustainability efforts can help achieve greater success for all.

   For complex IT projects, a compelling and comprehensive business case is increasingly required. A manager or director within the IT department or the CIO usually articulates the business case. Payback and ROI are critical, but for projects that are on the borderline of approval, achieving sustainability goals may help push them along. For a company considering moving applications to the cloud, the reduction in GHG emissions to meet publicly stated goals could help the CEO get behind a project for these additional benefits.

2. **Measure and manage.**

   Some sustainability executives have learned how to measure the success of initiatives by working with industry groups that have created models such as the CLEER model for data centers and AT&T’s carbon impact assessment tool. The sustainability group’s experience with these tools can help ICT and other functional teams to develop baseline and measurement strategies for projects to provide added ammunition and accountability for project approval. A number of sustainability executives offer team members as an extra ICT resource to help make the case for sustainability as an added value to cost savings and efficiency efforts.
3. Make senior management an ally.

While 61 percent of respondents say the IT department is responsible for technology purchasing decisions, approval is often dependent upon buy-in from the CFO (50 percent) or CEO (56 percent). For businesses with revenues under $1 billion, 83 percent say CEO makes final approval for IT purchases.

Many in the C-suite have made sustainability commitments for their organization and ICT can provide important gains toward those goals. Sustainability leaders can help bring together business units and ICT leadership to frame a “shared value” proposition for key projects, such as expanding an investment in Telepresence where financial payback can be complemented by environmental benefits (e.g., energy or GHG reductions) and social benefits (e.g., work-life balance for employees or reduced congestion in cities).

4. Identify pilot projects.

Many big successes in corporate sustainability started out on a small scale. Sustainability teams have learned to be treasure hunters, looking for opportunities where there is waste and determining how to reduce or eliminate it. The key to success often lies in starting with smaller, proof-of-concept projects that are easier to get funded. These can act as a proving ground for larger investments if they deliver on the broad spectrum of estimated benefits.
A major retailer interviewed for this report used a low-cost device to understand the amount of “vampire” energy — energy used by cellphone and other chargers when plugged in to an outlet, even when not connected to a rechargeable device — being consumed in offices. The device provides interval data that can be used to determine which appliances consume a significant amount of energy. Once it identified the high-energy appliances, it rolled out a program to all the facilities that allowed them to set timers via a Web interface for items such as water coolers and coffee makers. While this savings was relatively small — approximately $100,000 a year — it helped bring together facilities and IT staff to look for bigger energy-saving opportunities.

5. **Tell the story.**

A company’s sustainability program typically involves a number of complex issues steeped in technical jargon and arcane metrics. Leaders have learned how to translate these accomplishments into engaging stories for both internal and external audiences. Sustainability teams can collaborate with ICT and other business units to put together a story beyond cost savings and efficiency, one that will demonstrate how all areas of the company can work together to create a better world and a more efficient company.
RESEARCH DETAILS

This report utilizes results based primarily on a survey of the GreenBiz Intelligence Panel, consisting of executives and thought leaders in the area of corporate environmental strategy and performance. Panel members participate in brief monthly surveys to provide their expertise and perspective on corporate initiatives, laws and regulations, and scientific advances that are shaping the green agenda.

Data were collected during summer 2013. The survey was conducted online, and an email link was sent to the panel’s 3,630 members inviting them to participate anonymously in the survey. For the purposes of this report, we analyzed the results from 301 respondents who represented 17 sectors. Approximately 85 percent of these respondents are based in the United States.

It is important to note that the quantitative data in the report skews differently than if the panel was representative of a broader demographic — that is, executives and managers not necessarily focused on their company’s environmental corporate sustainability efforts. However, the responding companies represent a broad diversity of corporate sustainability experience: those just beginning to engage in corporate sustainability as well as those that have been engaged for years.