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Leading a sustainable enterprise

Leveraging insight and
information to act

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Leading a sustainable enterprise

## Leveraging insight and information to act

By Eric Riddleberger and Jeffrey Hittner

Organizations have recently sharpened their focus on sustainability, primarily in response to consumer and stakeholder expectations. Consequently, they face an entirely new set of decisions. However, most lack the information required to make these strategic choices. Based on what we've learned from outperforming organizations and leading CSR organizations, we believe businesses should develop new sources of operational, supply chain and customer information to gain new levels of insight for meeting strategic sustainability objectives.

Today, more than ever, organizations are focused on environmental and social responsibility as a strategic objective. Our 2009 survey of 224 business leaders worldwide shows that 60 percent believe corporate social responsibility (CSR) has increased in importance over the past year (see Figure 1).[1] Only 6 percent say it is a lower priority. These responses defy the conventional wisdom that the new economic environment dilutes CSR focus.

The conditions of a faster, flatter and more interconnected world are without question changing business strategy, as is a greater awareness of systemic risk and its consequences. These same conditions make a strong case for a sustainable approach to doing business, one that recognizes that the

FIGURE 1.

Change in importance of CSR to strategic objectives over the past year.

(Percent responses)

More important	Remained about the same	Less important
60%	34%	6%
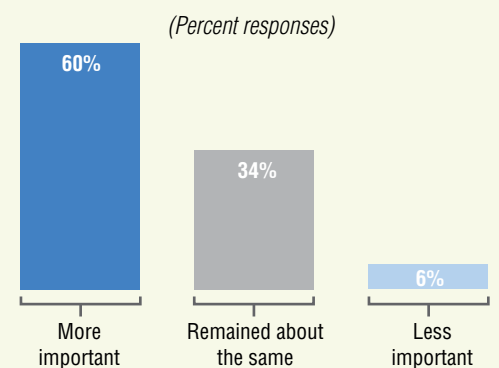
Source: IBM Intitute for Business Value 2009 CSR Study.

long-term health of an organization is inextricably tied to the well-being of society and the planet on which we live.

To be sustainable, businesses are now embracing a relatively new objective: optimizing their operations to minimize environmental impact and improve social outcomes in a manner that also maximizes performance.

More than two-thirds of organizations we surveyed focus on CSR as part of an integrated business strategy to grow new revenue streams and control costs. As a result, they face an entirely new set of decisions. Can they cut down on waste without increasing the price of products? Do they need to rethink distribution options to reduce carbon and the impact of volatile energy prices? Should they segment products and services to meet a growing number of consumer sustainability concerns? The answers to these and other questions like them involve managing an intricate new set of tradeoffs.

Organizations are constantly assessing the current and future impact of their activities. They're introducing innovative processes to source, distribute, develop and produce goods and services in a sustainable manner. In taking on responsibility for waste and disposal, they are charged with reevaluating everything from product development to partnerships.

As might be expected, progress is mixed. Challenges abound, especially in accessing the information needed to meet these new strategic objectives. Overall, organizations have intensified efforts to collect information about their operations in areas from sustainable procurement to ethical labor standards. However, many are still missing – by a wide

margin – the information they need to operate as a sustainable enterprise.

Outperforming organizations have proven to be far better at casting a wide net for information across their ecosystems.[2] They are also collecting information that is more relevant to understanding and meeting the performance challenges of operating in a sustainable manner.

What's holding other organizations back? There are some very real obstacles. As is the case with many new ventures, it can be difficult to determine what information is needed. Should organizations seeking to improve sustainability look into the tsunami of realtime, unstructured information? If they do, will they know how to turn the information into insight and action? What information should they share and request of others? And how do they manage all of these new information needs in a cost-effective way?

Early efforts suggest that collaboration is the best approach. Instead of going it alone, leading organizations are exchanging information with customers, industry groups and nongovernmental organizations (NGOs) to increase their access to a wider pool of knowledge and their ability to benchmark. They are joining with partners, suppliers and even competitors to exchange leading practices and ultimately build out common standards for sustainability. Standards are a requirement for effectively implementing a CSR strategy over the long term.

By collaborating and utilizing up-to-date information and standards, today's organizations can improve sustainability, while also increasing operational efficiency and performance.

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Leading organizations recognize that profit at the expense of environmental or social good is ultimately not sustainable.

Emerging information requirements

Demands for information pertaining to an organization's social and environmental impact – whether from consumers, regulators, NGOs or conscientious investors – have risen dramatically. Given today's harsh realities of global warming, increased regulation, scarcer and costlier resources, and exploding populations, attention to environmental, health and societal concerns will only intensify.

Global connectivity has raised the stakes relating to a corporation's accountability for its actions. Points of view abound – on what's harmful and what's not, as well as what constitutes good business, good practice or even good sense. With the advent of the Internet, NGO scrutiny is being matched by a new kind of viral and pervasive consumer advocacy.

At the same time, the volume and granularity of information available have grown exponentially. Realtime data streams fed by sensors, satellite images, social networks, chats, videos and other mediums have greatly increased the potential to understand what's going on anywhere in the world at anytime.

Today, determining the exact field where a tree, copper or ore is extracted is as feasible as examining employees' labor rights in a factory located in a village of a thousand on the tip of an isthmus in Vietnam. With so much information available, leading organizations are finding they can satisfy the demands of a new generation of consumers: the information omnivores.

Buyers of fish, for example, have a number of concerns beyond freshness. Is the seafood really wild, as advertised? Was it harvested legally – under guidelines for total allowable catch and without endangering other ocean species? How far was it shipped and who handled it?

All of this information can be made available with today's technology. Ocean catch can be location- and time-stamped using Global Positioning System (GPS) technology that tracks the position of trawlers. The data is embedded in electronic tags and transmitted all the way to point of sale so, for example, shoppers in Norway can scan barcodes to find out when and where the fish they selected was caught and packaged.[3]

Beyond reporting

Our 2009 survey reveals that sharing relevant information to educate and inform stakeholders was a primary objective. Interestingly, using information to optimize supply chains, transport and logistics, waste management and product lifecycle was a far less prevalent goal. Given that 87 percent of business leaders surveyed say they have focused their CSR efforts to create new efficiencies, we see a missed opportunity to connect operational information with this important CSR objective.

Leading organizations, however, are reaping cost efficiencies by making that connection. Chinese shipping and logistics giant COSCO was able to analyze its current carbon footprint and develop alternative logistics strategies to reduce carbon.[4] It calculated tradeoffs between carbon prices and consumption, logistics costs, carrier types and load capacity, information on product demand, customer service and the like. At the same time, it looked at alternative modes of transport, freight consolidation and network configuration strategies. As a result, it reduced the

number of its distribution points from 100 to 40, lowering costs by 23 percent and reducing carbon dioxide emissions by 15 percent, which equates to 100,000 tons per year.

Friesland Coberco Dairy Foods has taken another approach to reduce its transport burden by transforming the way it makes baby food. Ingredients that constitute the flavor varieties are now added at a later stage in the supply chain, a change that can cut inventory and transportation by an estimated 127,000 miles per year, with corresponding carbon reductions.[5]

IBM is another example. At one of its sites, it analyzes realtime data on water usage and quality collected by hundreds of sensors across the plant. Results of process improvements based on this information have already reduced overall water usage by 27 percent while increasing manufacturing production by more than 30 percent. Savings so far have amounted to US$3 million a year.

The cost efficiencies that can be gained from better management in areas such as water, energy and waste are apparent and achievable. However, there are some burdens associated with acquiring and managing a rich set of information about operations. For example, implementing sustainability strategies requires a sound understanding of tradeoffs related to areas like quality and customer service, as well as costs and environmental impact. In many cases, these factors must be evaluated for their impact across the full supply chain and lifecycle, and doing that requires information on how the product or service is consumed.

Food company Truitt Bros. Inc. worked with the Institute for Environmental Research and Education (IERE) for a full "cradle-to-plate" evaluation of the environmental impact of its single-serving shelf-stable chili and beans product. The study analyzed scientific data related to climate change, soil loss and ecotoxicity caused by energy usage in food transport and manufacturing, as well as materials used in production and disposal. The investigators came to the counterintuitive conclusion that the prepared product was, overall, more environmentally friendly than a homemade bowl of chili. The finished product doesn't require freezing or refrigeration during distribution or home storage, and creates less food waste. These extended supply chain factors offset the energy consumed in the manufacturing of product packaging.[6]

In addition to information about its own operations, an organization also should seek full ecosystem information about its partners. A company's carbon footprint, for example, is the sum total of all footprints associated with those who supply its resources, as well as those who distribute its products. Further, when it comes to CSR, customers are among the most important partners. So, in addition to knowing how they use and dispose of products, a company needs to understand its customers' specific sustainability concerns to meet their objectives or educate customers about why the company thinks *its* objectives should also be theirs.

The optimization gap
We surveyed leaders on three information areas related to sustainability: operations, supply chain and customers. Our results indicate that operational information needs to be more timely, supply chain information is still too insular and more customer information is needed.

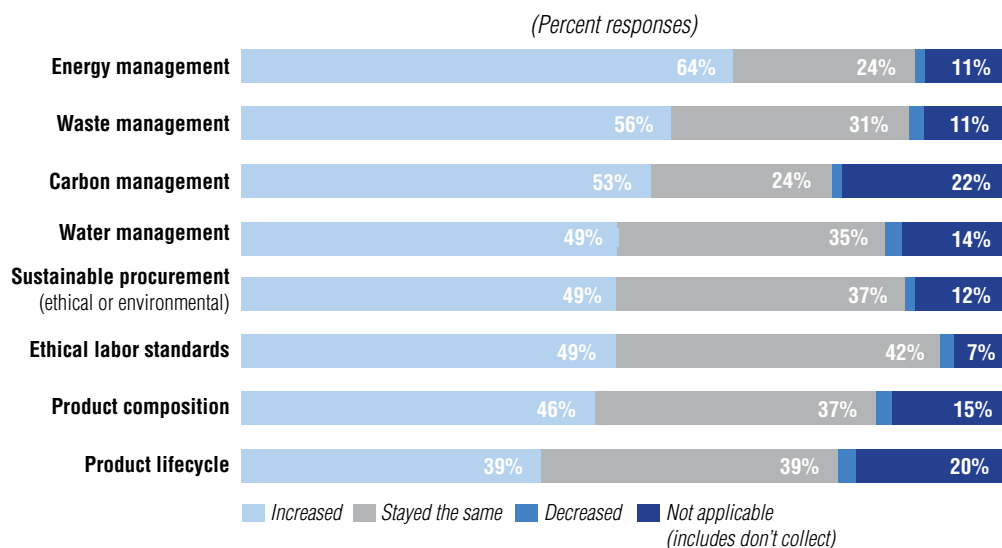## 1. Operational information: Growing but not always timely

Four in ten of the business leaders surveyed reported that over the last three years they have increased the amount of information they collect about their operations in each of eight sustainability areas we tracked: energy management, carbon management, waste management, water management, sustainable procurement, product composition, ethical labor standards and product lifecycle. Not surprisingly, the biggest increase in the amount of information collected is in energy, where just under two-thirds of respondents report increases (see Figure 2). About half report increases in carbon, water and waste management; sustainable procurement; product composition; and ethical labor standards.

One of the great advantages of the new information era is the availability of realtime data. Yet, too often the information being collected is stale. Nearly 60 percent of organizations are not collecting information about key operations and sustainability objectives on a frequent basis. Even in the high-profile area of carbon management, for example, eight out of ten business leaders surveyed are not. They may be able to use the information they have for an annual CSR report; however, since they aren't evaluating the ongoing impact of actions on their carbon footprint, it's unlikely they can use the data to make their operations more sustainable (see Figure 3).
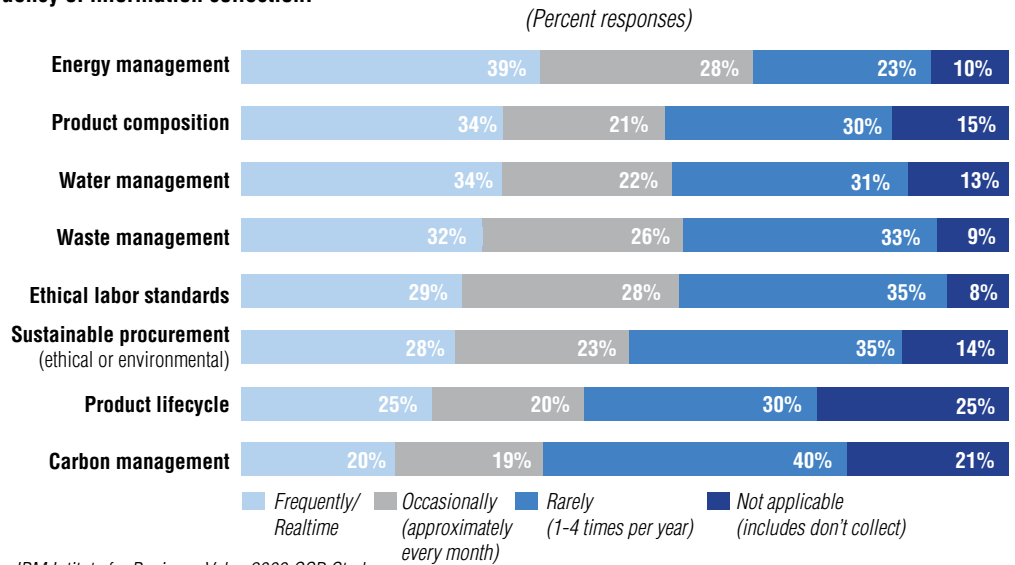
Outperforming organizations in our survey were significantly more likely to collect timely information about their operations. For all companies, peer pressure and persistence may move those numbers up. The longer a company has been required by its business partners to adopt CSR standards, the more frequently it collects data. This association holds true across each of the eight areas we tracked, suggesting that over time, the value of truly current information becomes apparent.

FIGURE 2.
Change in information collection over the past three years.

(Percent responses)

	Increased	Stayed the same	Decreased	Not applicable (includes don't collect)
Energy management	64%	24%		11%
Waste management	56%	31%		11%
Carbon management	53%	24%		22%
Water management	49%	35%		14%
Sustainable procurement (ethical or environmental)	49%	37%		12%
Ethical labor standards	49%	42%		7%
Product composition	46%	37%		15%
Product lifecycle	39%	39%		20%

Source: IBM Intitute for Business Value 2009 CSR Study.

FIGURE 3.
Frequency of information collection.

(Percent responses)

Energy management	39%	28%	23%	10%
Product composition	34%	21%	30%	15%
Water management	34%	22%	31%	13%
Waste management	32%	26%	33%	9%
Ethical labor standards	29%	28%	35%	8%
Sustainable procurement (ethical or environmental)	28%	23%	35%	14%
Product lifecycle	25%	20%	30%	25%
Carbon management	20%	19%	40%	21%

- Frequently/ Realtime
- Occasionally (approximately every month)
- Rarely (1-4 times per year)
- Not applicable (includes don't collect)

Source: IBM Intitute for Business Value 2009 CSR Study.

2. Supply chain information: Still too insular

More than half of the business leaders surveyed said they consider the open sharing of information among stakeholders and business partners a high priority. However, the vast majority aren't collecting adequate information from their suppliers to support their CSR objectives. Outperforming organizations, on the other hand, are collecting more information from their suppliers in each of the eight categories we tracked as compared to their peers.

Three out of ten organizations surveyed aren't asking their suppliers for any information in any of the eight categories. Surprisingly, in the carbon and water categories, where cross-ecosystem "footprinting" is becoming more common, approximately eight out of ten aren't collecting information from their suppliers. And, despite a long history of brand-damaging scandals in the area of labor, six out of ten aren't collecting information on ethical labor from their suppliers (see Figure 4).

FIGURE 4.
Information collection from suppliers.

(Percent responses)

Ethical labor standards	43%
Product composition	41%
Sustainable procurement (ethical or environmental)	31%
Waste management	31%
Product lifecycle	29%
Energy management	25%
Water management	23%
Carbon management	18%
Don't collect in any areas	29%

Source: IBM Intitute for Business Value 2009 CSR Study.

3. Customer information: Improving but far to go

Consumer purchasing decisions are often influenced by perceptions of how socially and environmentally responsible an organization is. To see how well those perceptions are understood, we asked business leaders in our 2008 and 2009 surveys about how well they understand their customers' CSR concerns. Overall in 2009, two-thirds admit they don't understand their customers' CSR concerns well. This represents an 11 point improvement over the previous year and suggests organizations are making inroads fast. Nevertheless, in our 2009 survey, nearly four in ten organizations reported that they have yet to conduct any research on the topic (see Figure 5). Outperforming organizations were nearly twice as likely to understand their customers' needs well.

FIGURE 5.
Years conducting research on customers' CSR concerns.

(Percent responses)

| 3 or more years	Less than 3 years	No research on customers' CSR concerns
28%	35%	37%
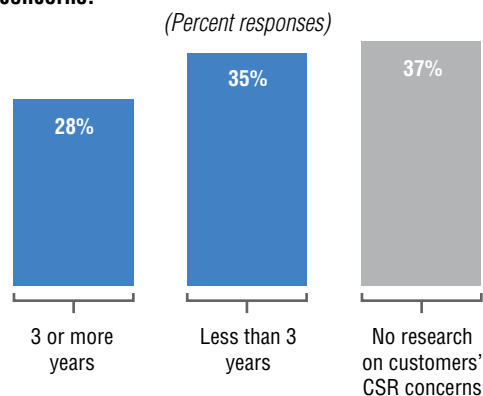
Source: IBM Intitute for Business Value 2009 CSR Study.

Knowledge of customers' CSR concerns varied widely by region. Nearly half of Western European business leaders said their companies understand their customers' CSR expectations well. While that number was slightly lower in North America, it was as low as roughly one in ten in Asia Pacific. Not surprising, more than half of the companies in this region have yet to conduct any research on the topic. However, it appears companies in Asia Pacific could be moving forward. Nearly three-quarters say they have a moderate understanding of their customers' CSR expectations and nearly one-fifth began researching customer concern on this topic within the past year.

Across the entire sample, the shortfall in collecting information related to operations, supply chain and customers reveals an optimization gap (see Figure 6). In addition, we found that outperforming organizations perform better in all three information categories, as do organizations that have focused more than three years on integrating their CSR objectives to grow revenues and become more efficient. The approach to information and actions taken by these organizations suggest that the gap will narrow over time. The immediate challenge is to identify what information is needed and then aggregate and analyze it so it contributes to efficiency and growth objectives.

Optimization gap.
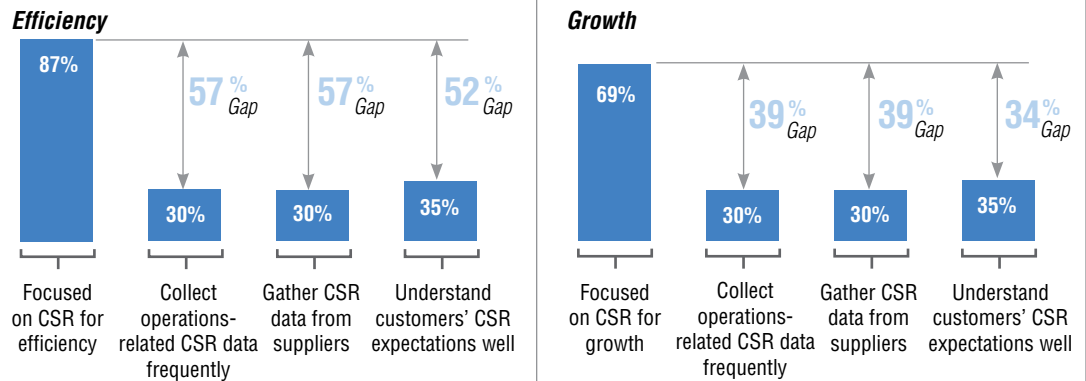
Source: IBM Intitute for Business Value 2009 CSR Study.

Insight, engagement and action

Today, every organization is a system of systems, much more bound up in complex, interdependent forces than the traditional business system of years past, with its clear-cut focus on profits.

Given increasingly finite resources, businesses depend on balanced natural ecosystems for raw materials, water, energy and the physical health of their employees and customers. They depend on thriving community systems for labor, new sources of innovation and customers. Given the links among its systems, an enterprise committed to practicing sustainability considers both the immediate and far-reaching consequences of any action it takes.

While these dependencies obviously complicate the task of responsible business management, leaders of sustainable organizations are learning to understand and act on them. Mastering this complexity requires new levels of insight, new sources of information and new forms of collaboration. As a result, leaders in CSR are developing coalitions of business partners, NGOs and others to begin to address information gaps in areas ranging

from labor to water standards. They're identifying leading practices and techniques to inform and educate stakeholders, such as customers and employees, more broadly.

Overall, most organizations know they need to engage their stakeholders in some way. However, proactive engagement with business partners and NGOs, at 55 and 44 percent respectively, is relatively low, given the benefits that can be achieved from collaboration (see Figure 7).

FIGURE 7.

Proactive engagement with stakeholder groups.

(Percent responses)
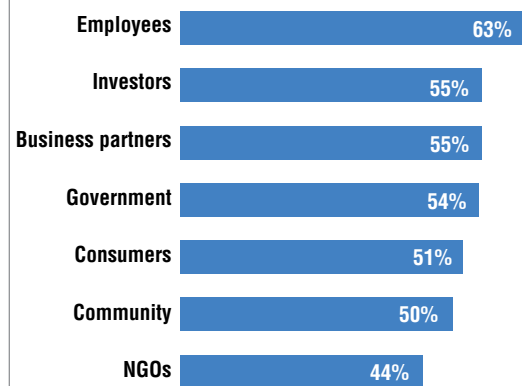
Source: IBM Intitute for Business Value 2009 CSR Study.

New types of
information are
emerging, as are new
tools and services to
collect, analyze and
utilize data.

The new information landscape

The volume and granularity of information are growing exponentially. New types of information are emerging to address challenges that were once impenetrable. Earthmine, for example, is creating a three-dimensional index of urban spaces – collecting GPS data for every pixel they capture – to help policy makers and community leaders manage public safety and economic development.[7] Another organization, Mobile Metrix, is gathering data on job skills, health conditions, education levels and more on the one billion plus individuals in developing countries with virtually no official records.[8]

Yet another organization, Lanworth, applies data analytics to its immense database of satellite imagery, field samples and weather models to better manage risk associated with land use and crop yields.[9] Historical information on climate, topography and production can eventually enable all stakeholders to make informed recommendations about land usage and natural resource procurement.

New tools and services are also fast emerging to help collect information. Digitized sensors can gather and transmit information about real-world conditions instantaneously. Pachube, for example, lets organizations freely share and monitor realtime environmental data across a global network of shared sensors.[10] Other services, such as Efficiency 2.0, combine energy audit software and social networking tools to help corporations access and act on granular data about energy usage down to the level of individual employees.[11]

Creating leading practices and standards

Today, despite a proliferation of regulations, labeling schemes and codes of conduct, standards for sustainability are relatively immature. A recent survey by the Carbon Disclosure Project revealed 34 different ways to define and measure carbon emissions among the Financial Times 500 companies.[12]

At present, shared leading practices and benchmarking from industry coalitions are driving CSR decision making more so than internationally accepted standards. From these activities, however, long-lasting standards should emerge. Active industry participation now is one way to help ensure that the new practices and codes that emerge will make it easier, not more onerous, to operate a sustainable business. Moreover, industry coalitions are an excellent way to access and share a wider body of sustainability information. These groups can also help organizations make better use of their information by suggesting how, for example, the information can be deployed to change operations and innovate, as well as communicate progress to stakeholders.

Like carbon, water is a topical issue, particularly in developing countries facing scarcity of this vital resource. Well-known brands have learned the hard way that in places where government stewardship is considered inadequate, local communities will advocate in its place. To address this need, 12 companies, including Coca-Cola, Diageo, Nestlé, Anheuser-Busch InBev and PepsiCo, have formed the Beverage Industry Environmental Roundtable to collect and share data and leading practices relating to water conser-

vation and resource protection. Together, they established a common framework to exchange information on water reduction, reuse and stewardship, as well as drought preparedness.[13]

In the electronics industry, a contract manufacturing company in Asia or Mexico would find it inefficient and effectively impossible to comply with multiple codes of conduct mandated by its original equipment manufacturer (OEM) customers. In response to this industry challenge, the Electronics Industry Citizenship Coalition (EICC) created mechanisms for companies to exchange resources and programs that improve labor practices. Audit results, along with assessment tools and educational resources, are available to association members, who span four tiers of the supply chain. Openness like this deepens relationships among OEMs, suppliers and partners, who can then harmonize their approaches to creating an ethical supply chain.

Benchmarks and leading practices are important guides to use in setting objectives. The challenge lies in aligning these objectives across constituencies with diverse concerns and goals of their own. These stakeholders include employees, consumers, business partners, investors and NGOs, as well as regulatory bodies and governmental institutions. Many trade and industry organizations are developing frameworks and scorecards to help identify metrics and key performance indicators weighted to align and achieve objectives.

Wal-Mart Stores Inc. established the Packaging Sustainable Value Network, a group of 200 leaders in the packaging industry, to create a packaging scorecard with nine specific metrics that enabled suppliers to compare packaging materials, energy efficiencies, environmental standards and more against their competitors.[14] The weighted metrics give suppliers the chance to focus on specific innovations with the most impact, as well as drive constant change.

Customers: Partners in sustainability

Most organizations understand expectations for transparency with regard to CSR initiatives. Over one-half of the business leaders we surveyed consider the open sharing of information a high priority. However, until recently, organizations have tended to share information reactively – in response to stakeholder demands. Those that expect to gain business advantage from CSR are developing new ways to inform and educate their stakeholders, whether they are customers, employees or partners.

Many organizations are reconfiguring transport and logistics operations and weighing the tradeoffs. For example, customer satisfaction may increase with conveniences like one-day delivery, but fully loaded transport reduces energy costs. One way to evaluate the options: make the customer part of the decision. This could include laying out the shipping alternatives for customers when they make their purchases. Point-of-sale information on delivery options could provide them with a welcome opportunity to reduce their carbon footprint: "If you want to reduce your greenhouse gas emissions by 80 percent on the delivery of this television, click here and your package will arrive next week via hybrid carrier."

U.K. retailer Tesco makes education a mutual endeavor. Its new pilot program enables customers to actually recycle when they buy. Before taking purchases home, customers can take off product packaging they don't

need and leave it in the supermarket. That way, they do their recycling when it's top of mind and convenient but, just as important, their actions give the retailer helpful information regarding which components of the packaging are useful enough to keep and which are excessive.[15]

German wholesaler, Metro Cash & Carry, created a two-way information exchange based on consumers' desire for product information. Star Farm, its wholly owned subsidiary, developed a program explaining its food traceability system and how to use in-store terminal tracking machines to scan traceability barcodes for information. Suppliers that cooperate with Star Farm and sell products have been audited and instructed by Star Farm using international quality standards. An after-sales service also allows consumers to log into Star Farm's Web site from home and search for product information by traceability code. In the process of answering customers' questions, these electronic searches also capture shoppers' queries, thereby deepening Metro's understanding of customer concerns about food safety and quality.

Innovations like these help create a business culture that makes two-way transparency core to sustainability. Results of our survey indicate that organizations placing a higher priority on transparency and those that have attained some maturity find it easier to execute. Clearly, once organizations start efforts to increase transparency, they gain needed experience and greater confidence in the value of sharing information both within their organization and with their stakeholders. Engineered creatively, these collaborations can do more than inform customers; instead of simply sharing information, organizations are learning to construct a true exchange, where both the stakeholder and the organization gain knowledge to do something new.

Conclusion

Organizations that seek to adopt a sustainable approach to business face a new set of decisions imposed by the constraints of finite resources. At the same time, there is a growing body of information ready to be turned into new intelligence and new advantage.

To succeed, your organization should consider the following actions:

1. *Identify information gaps and analysis needs*. Is the CSR information you collect relevant and timely enough to make strategic decisions? Are you getting the information you need from your business partners and suppliers? Do you understand your customers' CSR concerns as well as those of other key stakeholders in your ecosystem?

2. *Align objectives with those of stakeholders; then prioritize*. Stakeholders require a lot of information, but their information demands can't be your only focus. Are you collecting information that helps you meet your business objectives, and are you communicating those objectives to stakeholders?

3. *Assess leading practices and benchmarks.* Have you identified sustainability leading practices and benchmarks for your key CSR activities? Are you participating in industry- or activity-focused coalitions that are developing leading practices and benchmarks? Are there frameworks or scorecards to weigh the impact of activities against overall objectives?

The answers to these questions can help you set and prioritize a course of action. As these actions advance your CSR strategy, you'll be well positioned to reap the business benefits of more efficient operations and better balance with diverse social and environmental ecosystems.

About the authors

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