

SUSTAINABLE SUPPLY CHAINS: MAKING VALUE THE PRIORITY

How companies can find more value by using ethical, economic, social,
and environmental levers throughout their supply chains



ABOUT THIS RESEARCH

In 2013, APICS and PwC joined together to study how current management thinking leads to different priorities for advancing supply chain sustainability. Together, we're focusing on how different people in the organization—supply chain management, operations management, and senior management—are developing the capabilities they will need to run their companies more sustainably. By comparing and analyzing their perspectives, we seek to identify the levers successful companies can use to help create tangible value from these initiatives.

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**SUSTAINABLE SUPPLY CHAINS:
MAKING VALUE THE PRIORITY**



A MORE DELIBERATE, FOCUSED APPROACH

Sustainability has been on the executive agenda for years and it's now one of the fastest-growing supply chain management trends. More than two-thirds of 500 supply chain executives say it will play an important role in how they manage their supply chains through 2015.¹

When PwC and the APICS Foundation decided to explore what the people responsible for executing on these strategies would say about the topic, an interesting picture emerged. Thirty-nine percent of APICS members said company leadership is not providing the mandate, incentives, and resources to turn supply chain sustainability into action.²

That's a significant disconnect between supply chain executives and mid-level management. Too often, the people who are expected to make change happen don't see the same picture that the C-suite sees. For example, some 30 percent of operations executives in our survey said their company has a documented and well-communicated sustainable supply chain strategy, but only 17 percent of managers and below agreed. As a result, they are not able to take the steps needed to drive meaningful change in the supply chain.

The fact that so many companies are struggling, however, does provide an opportunity for those willing to take a more deliberate and focused approach. After all, operations professionals do see value in pursuing sustainability. When we asked how sustainability initiatives added value to the supply chain in the last two years:

- 43 percent of operations professionals attributed cost reduction to sustainable supply chain initiatives;
- 35 percent reported improvements in their company's environmental impact; and
- 25 percent saw improved customer satisfaction as a result of programs tied to improving supply chain sustainability.

¹ PwC, *PwC's Global Supply Chain Survey 2013*, September 2013.

² PwC and APICS, *Sustainable Supply Chain Survey 2013*, June 2013. We'll reference this survey throughout this report. See appendix for details.

More importantly, 76 percent of operations professionals said their company's focus on creating a more sustainable supply chain would increase over the next three years. Where should their focus be? To realize tangible benefits from these efforts they should focus on three things:

- Expand the scope of sustainable supply chain initiatives to help you find more value;
- Prioritize strategies to help unlock value in the end-to-end supply chain; and
- Create a well-aligned organization that can execute on company priorities.

These three ideas work together and reinforce each other. They can help any company integrate sustainability into how the supply chain is managed. Let's look at each of these in turn.

76%

76 percent of operations professionals say their company's focus on a more sustainable supply chain will increase over the next three years.

EXPAND THE SCOPE OF
SUSTAINABLE SUPPLY CHAIN
INITIATIVES TO HELP YOU
FIND MORE VALUE



MORE STRATEGIC, MORE COMMERCIAL

For operations leaders and managers, sustainability is evolving to mean something far more strategic and commercial than what we've known in the past. The relative focus is changing from compliance-based and branding activities to a set of reinforcing capabilities that have the potential to generate value to the business—whether the business value is direct, like cost reduction, or indirect, like customer loyalty.

Bill Leedale is Senior Advisor for Manufacturing and Engineering for IFS North America, which is a wholly owned subsidiary of IFS AB, a global enterprise software company. He put it this way: "I think basically what people need to understand is that a profit isn't just the difference between your sales and your costs. If you have long-term dreams, there are a lot of hidden costs to not being sustainable." He's seen companies "try to enter various markets, but they do not pay close enough attention to the sustainable needs of that specific market, and then they end up being chased out."

To identify strategic and commercial opportunities, companies should think broadly about the potential business and societal impacts—beyond environmental—to include social, economic, and ethical impacts.

“ I think basically what people need to understand is that a profit isn't just the difference between your sales and your costs. If you have long-term dreams, there are a lot of hidden costs to not being sustainable.”

Looking at a company’s entire supply chain through the lens of each of these impacts can help operations leaders see which steps to take to drive desired outcomes for the markets important to their profitability. It can also be used to question how well their ideas align with existing priorities for building supply chain capabilities, such as resilience to disruption, or supply chain agility.

CHECK YOUR SCOPE: ENVIRONMENTAL, SOCIAL, ECONOMIC, AND ETHICAL

Seek to understand...	Seek to manage...	...in the supply chain
<p>Supply chain risks and opportunities</p> <p>The positive and negative impacts of the company’s supply chain practices</p> <p>The value of sustainability investments to the business</p>	<p>Environmental practices and their impacts on living and non-living natural systems, including ecosystems, natural resources, land, air, and water</p> <p>Social practices as they affect employees, customers and communities, including labor practices, human rights, health, education, livelihood, and empowerment</p> <p>Economic practices that impact the economic conditions of the company’s stakeholders and the economic systems at local, national, and global levels</p> <p>Ethical practices as they relate to applicable laws, regulations, and moral systems</p>	<p>Upstream suppliers</p> <p>Controlled operations</p> <p>Downstream use of goods and services</p>

A holistic approach may require new ways of collaborating on many fronts: executives with their management, management with sustainability specialists, and companies with their supply chain partners.

WHY SUPPLY CHAIN SUSTAINABILITY?

Manage reputational risk	<p>Increasingly companies do not want supply chain partners with poor environmental practices. The Carbon Disclosure Project reports that nearly 40 percent of companies said they'd stop working with suppliers who failed to adopt sufficient carbon management practices.³</p>
Reduce cost	<p>The US telecommunications company Sprint has saved more than US\$1 billion by collecting used phones through its cellphone buyback and recycling program. The program offers customers an in-store valuation of their current phone, no matter what brand, and an instant buyback credit to spend in-store. Sprint's target is to collect nine devices for reuse and recycling for every 10 devices it sells annually by 2017—a 90 percent collection rate.⁴</p>
Improve quality and continuity of supply	<p>Heinz found the soil in China's Xinjiang region had been devastated by decades of poor soil management. The company began a program introducing farmers to sustainable practices like efficient use of fertilizers and pesticides, better irrigation, and more appropriate machinery. As a result of the program, Heinz reports a 58 percent improvement in the region's farm yields and a revitalized agricultural community.⁵</p>
Increase revenue	<p>A coffee machine with an outer plastic casing made from up to 100 percent recycled content. Irons that save energy by eliminating wasted steam. And a vacuum cleaner that's 30 percent more energy efficient. The Dutch technology company Philips has designed products that can help reduce costs, energy consumption, and CO₂ emissions. In 2013, 51 percent of the company's sales of €11.8 billion were considered "green product" sales.⁶</p>
Innovate products and services	<p>Innovative use of technology is helping the city of Istanbul support failure-free operation of its water system. Siemens has placed ultrasonic level sensors throughout the city's water system and has connected each pumping station to a central control desk system, allowing for continuous monitoring of the water and wastewater infrastructure. Continuous monitoring conserves and optimizes water—a precious resource—for Istanbul's growing population.⁷</p>

3 Carbon Disclosure Project, *CDP Supply Chain Report 2012*, viewed April 21, 2014.

4 Sprint, *Sprint: Re:Cycle*, viewed April 21, 2014.

5 Heinz, *Heinz Tomatoes: Cultivating a Sustainable Commitment*, viewed April 21, 2014.

6 Philips, *Making the world healthier and more sustainable through innovation*, viewed April 21, 2014.

7 Siemens, *Siemens Environmental Portfolio: Leading you to energy efficiency*, viewed April 21, 2014.

**PRIORITIZE SUSTAINABILITY
STRATEGIES TO HELP UNLOCK
VALUE IN THE END-TO-END
SUPPLY CHAIN**



A CLEAR PLAN

In our survey, 37 percent of operations professionals cited a lack of a coherent strategy as a barrier to their company's success in this area.

Companies that are realizing measurable benefits from sustainable supply chain efforts—for example, through increased revenue, cost reduction, market share gains, or environmental impact reduction—are three times more likely to have a documented strategy than companies that don't see these gains.

37% 37 percent of operations professionals cite a lack of a coherent strategy as a barrier to a more sustainable supply chain.

A well-communicated strategy will help set the direction for projects that may not have immediate or easily quantifiable returns, but have strategic importance because they directly impact the company's reputation with investors or meet specific board priorities.

Zoe McMahon, Director, Global Social & Environmental Responsibility at Hewlett-Packard thinks the priorities of sustainability can sometimes get lost in day-to-day decision making. "When it comes to some tough issues like working hours," she said, "it can be difficult for people to appreciate the goals of sustainability—especially when there's a lot of pressure on growing the business. What's often lacking is a demonstration of the business case, so that individual decision-making situations don't get compromised."

Bill Leedale agreed, “For sustainability to take hold at many firms, management has to reconcile conflicting objectives all the way down the chain. Too often, the top-level message is about sustainability, but it is also about low cost, so you have to be really disciplined to reach both objectives, otherwise the lowest-cost option will win.”

Companies can prioritize where to focus by conducting an end-to-end assessment of the five processes in the Supply Chain Operations Reference (SCOR®) model, which we’ve tailored here to include both product design and product use.

This planning step helps companies create an integrated, cross-functional view: management can see the entire environmental, social, economic, and ethical impact of its supply chain. Supply chain leaders can see how their part ties to the whole and what levers they have within their span of control.

In the example that follows, the plan aligns with the company’s objectives to grow revenue with product innovation, protect brand loyalty, and protect the continuity of supply through more sustainable business practices.

Example: Communicate your priorities with a coherent end-to-end plan

An end-to-end plan helps to identify environmental, social, economic, and ethical priorities for each of the five processes in the SCOR model.

We recommend identifying the short-, medium-, or long-term need for non-financial assurance when you plan. Non-financial assurance can promote transparency and build trust with customers, regulators, investors, and other stakeholders.

	Design and plan	Source	Make	Deliver	Use and return
Environmental	Design for multiple uses/reuses	Source more recycled material, reuse more components	Design processes and invest in technologies that may increase efficiency, reduce cost, and reuse materials (e.g., 3-D printing)	Require scant, absent or returnable packaging; improve fuel efficiency	Create effective take-back and reverse-logistics channels
Social	Target underserved populations (i.e., age, income, ability, culture)	Invest in community infrastructure (e.g., roads, schools) to help improve sourcing efficiency	Reduce costs and violations (e.g., unnecessary overtime) by providing training and incentives to factory management and supplier staff	Engage independent entrepreneurs to distribute and sell products in micro-markets	Re-purpose products for underserved markets
Economic	Support skill building, job creation, and economic development in communities of interest	Source components and accessories locally for increased supply chain resilience and lower costs	Invest in geographical manufacturing hubs to help improve supply chain efficiency (e.g., technology transfer)	Increase the size and share of local markets (e.g., distribute to un-reached areas)	Partner with entrepreneurs who can disassemble products and generate maximum value from extracted materials (may require product design changes)
Ethical	Protect intellectual property	Give priority to suppliers and commodities with appropriate ethical practices	Manage counterfeit risk	Give priority to distributors with appropriate ethical practices	Process waste ethically

Source: PwC

CREATE A WELL-ALIGNED
ORGANIZATION THAT CAN
EXECUTE ON YOUR PRIORITIES



ALIGNING THE WORKFORCE

Management practices are among the top barriers to companies' success with supply chain sustainability. More than a third of professionals said that barriers to success included the ability to measure and monitor to targets and goals (38 percent). A slightly greater number believe employee performance measurement and incentives are not aligned to sustainable supply chain results (40 percent).

Business stakeholders, particularly investors and customers, who value a data-driven approach, expect measurement and monitoring to targets and goals. Public goal setting, such as a greenhouse gas reduction target, is not only the norm in large public companies, but it is nearly universal among companies considered to be leaders in sustainability. Leading companies are increasingly setting goals that reach beyond organizational boundaries to include product, packaging, or sourcing goals. In a recent review of 126 companies known for their leadership in sustainability, PwC found that 39 percent have public commitments for sustainable supply chains.⁸

WHAT SUSTAINABILITY LEADERS MONITOR

Today	
Activities impacting the company's reputation, customer experience, or supply chain resilience	<p>Common activities include the monitoring of:</p> <ul style="list-style-type: none"> ▪ Supplier labor ▪ Environmental and ethical practices ▪ Use of energy and natural resources in products and packaging ▪ Efficiency of logistics and transportation ▪ Use of diverse suppliers ▪ Value creation from product end-of-life options ▪ Supply disruption risks
Progress toward public commitments and goals	Public goals reinforce the strategic importance of your strategy and promote transparency. While some companies set broad, aspirational goals, many set goals that are specific and time-bound, for example: Provide training to one million suppliers and their workers by 2015.
Tomorrow	
Value to the business	Sustainability leaders are starting to quantify in dollar terms how much business value is gained as a result of sustainable supply chain efforts, for example: Percent reduction in the cost of goods sold enabled by sustainable supply chain initiatives.

⁸ PwC, *Sustainability goals 2.0: An evolving landscape*, October 2012.

There's still work to do in many organizations to motivate employees to help the company achieve its goals. A system of incentives, including updating job descriptions, designing guidance into procurement systems, and tying goals to bonus pools or individual compensation can help reinforce what employees will be measured against.

"If you talk to most workers they are going to tell you what they're really measured on is cost, not sustainable factors," said Bill Leedale. He also suggested: "By taking an extra step, by studying the innovations and doing the research, workers can remove some of the conflicts for themselves. They can show how more sustainable practices can save money, or at least not cost more. If the workforce does this, they might get a lot more attention from their managers and directors."

Monitoring and measurement is reinforced when employee performance measurement and incentives are aligned with it. Four of the top five actions that could lead to significant improvement in companies' sustainable supply chain initiatives, according to operations professionals, are related to accountability, the development of skills, and providing employees with a clear link to how it all fits into their day-to-day responsibilities.



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Make sustainability real for your employees and suppliers

How much of an improvement would each of the following factors drive for your company's supply chain sustainability if a greater focus was developed?

	Significant improvement	Some improvement	No improvement
Training for meeting sustainable supply chain goals	51%	40%	9%
Training on the business value of sustainability to the company	50%	45%	5%
A clear link from sustainability strategy into day-to-day responsibilities	50%	42%	9%
Transparency of sustainability and compliance requirements built into day-to-day responsibilities	48%	45%	8%
Management accountability	47%	48%	6%
Sustainability metrics and targets built into function/team performance	45%	49%	7%
Monitoring performance through supply chain monitoring systems	45%	50%	6%
Supplier engagement on sustainability drivers	43%	49%	9%

Base: 101 operations professionals globally.

Source: PwC and APICS, *Sustainable Supply Chain Survey 2013*, June 2013.

HP sees this link: “We’re pushing accountability right now with much stronger procurement supplier score carding and clearer guidance on the accountability of the procurement managers for the performance of their suppliers to meet certain targets,” said Zoe McMahon. Accountability along with the processes, tools, knowledge, and skills can help the organization make decisions more consistently and in line with company objectives.

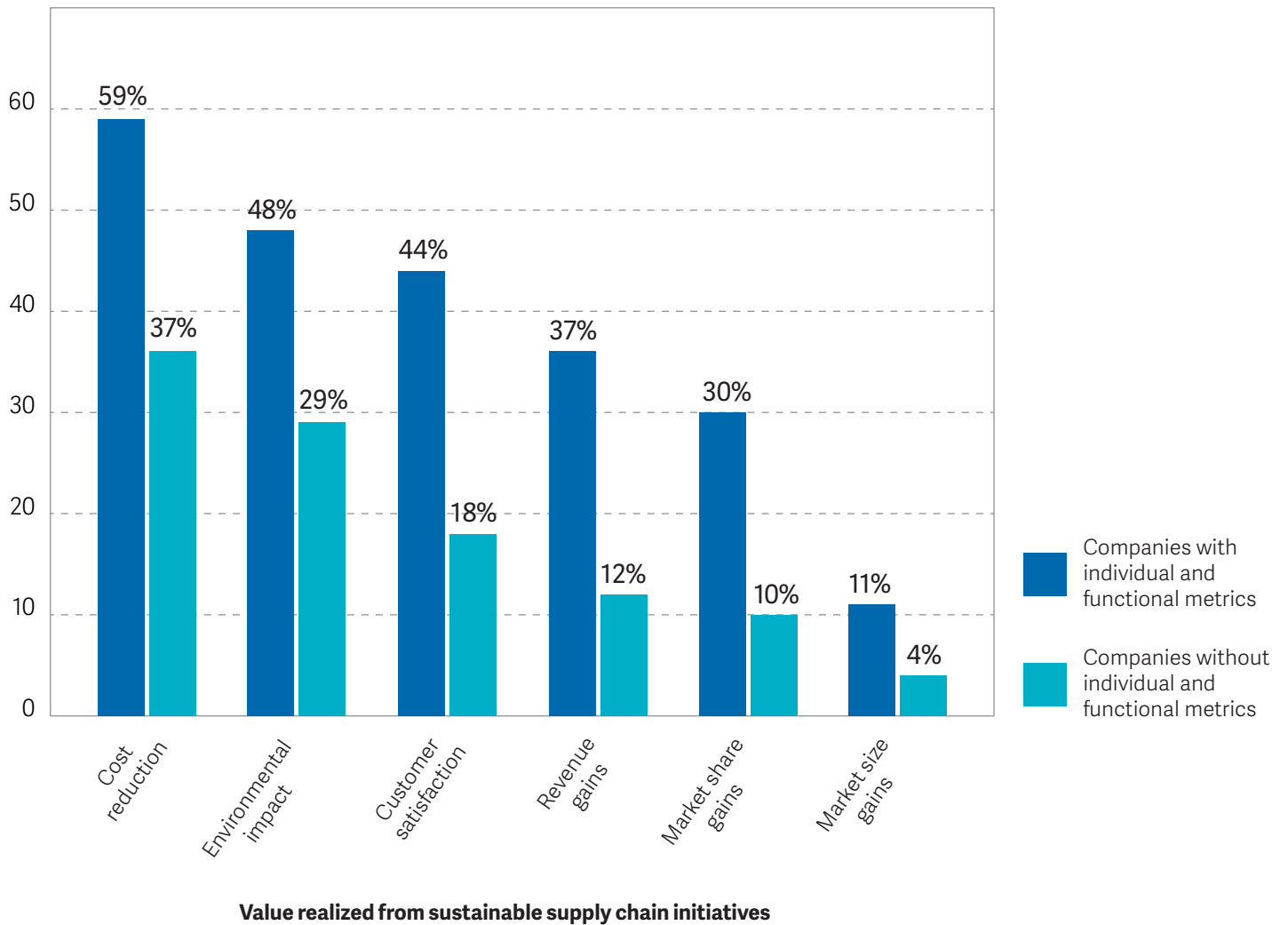
The same concept applies to your suppliers too. New research from Stanford shows that practices such as senior management involvement; supplier collaboration and capability building; supplier incentives; and more proactive practices aimed at preventing problems from occurring in the first place such as reengineering product or process designs are the most strongly associated with reduced violations and operating costs.⁹

“ We’re pushing accountability right now with much stronger procurement supplier score carding and clearer guidance on the accountability of the procurement managers for the performance of their suppliers to meet certain targets.”

⁹ Gillai, Porteous, and Rammohan, *The Relationship Between Responsible Supply Chain Practices and Performance*, Stanford Graduate School of Business, November 2013.

What counts? The importance of individual employee metrics

Has your company realized value from sustainable supply chain initiatives over the last two years in any of the below categories?



Base: 30 companies with individual and functional metrics 63 without.

Source: PwC and APICS, *Sustainable Supply Chain Survey 2013*, June 2013.

CLOSING THE GAPS

When companies broaden their perspectives on sustainability and adopt clear strategies to use ethical, economic, social—and environmental—levers across their extended supply chains, new sources of value emerge. And when those broader strategies are combined with measurement and monitoring, consistent prioritization, and management commitment the full value of sustainability is unlocked in the organization.

The results of our research show there is still a lot to do, but the steps are clear, although not easy. It starts with answering tough questions: Are we defining sustainability broadly enough? Are we effectively engaging our end-to-end supply chain in our efforts? How well are we monitoring our progress toward sustainability goals?

**APPENDIX:
SUSTAINABLE SUPPLY
CHAIN SURVEY RESULTS**

ABOUT THIS SURVEY

PwC surveyed members of the APICS membership in June 2013. The survey was conducted online, on a confidential basis and received 162 responses, globally. Of the respondents:

- One-third represent companies with annual revenues greater than \$US1 billion;
- 34 percent are in assistant management roles, 48 percent are in management roles, and 19 percent are directors and above; and
- The three most cited responsibilities are planning, manufacturing, sourcing, and procurement.

Survey questions:

1. How supportive do you feel your company's leadership is towards the following supply chain sustainability pillars?

	Very supportive	Supportive	Unsupportive
Ethics and compliance	74%	25%	1%
Environmental performance	52%	43%	6%
Social performance	59%	32%	9%
Economic performance	45%	49%	6%

2. Do you currently have direct responsibility for managing supply chain sustainability initiatives?

Yes	41%
No	59%

3. How do you expect your company's focus on creating a more sustainable supply chain to change during the next three years?

Increase significantly	26%
Increase somewhat	50%
Stay about the same	24%
Decrease	0%

4. How supportive do you feel your company's leadership is towards supply chain sustainability ideas and initiatives generated by managers and front-line staff (not from leadership)?

Very supportive	31%
Supportive	43%
Neutral	20%
Unsupportive	3%
Don't know	3%

5. Which of the following do you feel are currently barriers in your organization to supply chain sustainability success? Select all that apply.

Aligning performance measurement and incentives to sustainable supply chain results	40%
Measurement and monitoring	38%
The existence and communication of a sustainable supply chain strategy	37%
Providing education and training	35%
Investment in sustainable supply chain initiatives	31%
An organization with clear responsibilities	28%
None of the above	17%

6. Choose the option which most closely represents your company's approach for each of the following areas:

a. The existence and communication of a supply chain sustainability strategy

General discussion exists, but corporate strategic approach is not documented.	36%
Strategy does exist, but plan is not communicated to all levels of the organization.	27%
Strategy exists and is fully communicated across the organization.	20%
Strategy does not exist.	18%

b. An organization with clear responsibilities

Nobody in our organization feels that they are responsible for green supply chain initiatives.	28%
We have been given responsibility for the goals, but the goals are not clear or measured.	32%
We have specific roles regarding green initiatives and they are measured, but the responsibilities are not at an appropriate level.	22%
Strategy exists and is fully communicated across the organization.	18%

c. Measurement and monitoring

We have no measurement or tracking in place for supply chain initiatives.	39%
We have specific metrics and goals for individual sustainable supply chain initiatives, and they are measured periodically.	29%
We have an aggregation of functional sustainable initiatives only, which have associated targets to meet.	15%
Sustainable supply chain initiatives are measured functionally and built into a company-wide scorecard.	17%

d. Investment in sustainable supply chain initiatives

We do not receive sustainable-specific training or education.	40%
We are provided passive training and education through company website, informal communications.	30%
We are provided general training and education on sustainable supply chain concepts and how they can impact our function.	17%
We are provided tangible, job-specific training and education which should improve our performance.	13%

e. Investment in sustainable supply chain initiatives

Sustainability initiatives are required to be implemented within existing budgets.	43%
Current budgets are supplemented if budget surplus exists.	16%
Typically, limited and insufficient budget exists for specific sustainability projects.	26%
Specific sustainability budget has been created and allocated at a leadership and functional level, developed from the company's sustainability strategy.	15%

f. Aligning performance management and incentives

Sustainability is not a personal or functional performance measure. No actual accountability has been set for achieving sustainable supply chain results.	41%
Sustainability is not a personal performance measure, but functional targets do exist. Functional leadership is measured for results.	30%
Sustainability is a personal and functional performance measure. Targets exist at both levels, and both are measured for results.	13%
Sustainability performance is measured at an organization level, and the recognition is filtered down to both a functional and individual level.	16%

7. How much of an improvement would each of the following factors drive for your company's supply chain sustainability if a greater focus was developed?

	Significant improvement	Some improvement	No improvement
Training for meeting sustainable supply chain goals	51%	40%	9%
Training on the business value of sustainability to the company	50%	45%	5%
A clear link from sustainability strategy into day-to-day responsibilities	50%	42%	9%
Transparency of sustainability and compliance requirements built into day-to-day responsibilities	48%	45%	8%
Management accountability	47%	48%	6%
Sustainability metrics and targets built into function/team performance	45%	49%	7%
Monitoring performance through supply chain monitoring systems	45%	50%	6%
Supplier engagement on sustainability drivers	43%	49%	9%

8. Which of the following areas, if any, are challenges to implementing supply chain sustainability within your organization? Check any that apply.

Leadership does not provide the mandate, incentives, and resources to turn sustainable supply chain strategies into action.	39%
The impact on shareholder value is not measurable.	39%
There is significant confusion about the scope and company goals on sustainable supply chain.	39%
Our customers are not asking for it.	38%
Compliance drives the majority of actions.	35%
No truly global or recognized standards to benchmark companies against.	33%
Our investors are not asking for it.	30%
Leadership views these types of initiatives as an incremental cost of doing business, not as a differentiator.	29%
The impact on society is not measurable.	28%
Leadership does not view sustainability as a priority for the business.	28%
We don't want to take the risk to lose key suppliers.	10%

9. Rank the top three challenges with regard to implementing supply chain sustainability initiatives.

Respondents ranking challenge top one, two, or three.

There is significant confusion about the scope and company goals on sustainable supply chain.	32%
The impact on shareholder value is not measurable.	29%
Leadership does not provide the mandate, incentives, and resources to turn sustainable supply chain strategies into action.	27%
Our customers are not asking for it.	26%
Compliance drives the majority of actions.	24%
No truly global or recognized standards to benchmark companies against.	21%
Leadership views these types of initiatives as an incremental cost of doing business, not as a differentiator.	20%
Leadership does not view sustainability as a priority for the business.	18%
Our investors are not asking for it.	15%
The impact on society is not measurable.	13%
We don't want to take the risk to lose key suppliers.	8%

10. In what way is your company measuring the value of sustainable supply chain initiatives? Select all that apply.

Environmental impact (reductions in waste, carbon, energy savings, etc.)	44%
Cost reduction	43%
Compliance improvement	37%
Customer satisfaction	36%
Revenue gains	29%
Reduction in supply risk	29%
Market share gains	20%
None	18%
Employee acquisition, engagement, and retention	15%
Market size gains	13%
Brand protection and license to operate	11%

11. Has your company realized value from sustainable supply chain initiatives over the last two years in any of the below categories? Select all that apply.

Cost reduction	43%
Environmental impact (reductions in waste, carbon, energy savings, etc.)	35%
Customer satisfaction	25%
None	22%
Revenue gains	19%
Compliance improvement	19%
Reduction in supply risk	17%
Market share gains	16%
Employee acquisition, engagement, and retention	9%
Brand protection and license to operate	8%
Market size gains	6%

AUTHORS

Nic Delaye is a director in PwC's Sustainable Business Solutions practice. He can be reached at nic.delaye@us.pwc.com.

Brad Householder is a principal in PwC's U.S. Advisory practice focused on strategy and operations. He can be reached at brad.householder@us.pwc.com.

Jonathan Thatcher is the APICS director of research, where he conducts primary and secondary research in supply chain and operations management. He can be reached at askapics@apics.org.

CONTRIBUTORS

Cameron Anhalt, Designer, APICS

Dr. Rocco Ciccolini, Health Industries Advisory, PwC

Alex Faust, Advisory PwC

Dee Hildy, US Thought Leadership, PwC

Jeannette Leong, Advisory Marketing Director for Operations, PwC

Jane Pearson, Director of Global Communications, APICS

Don Reed, Managing Director, Sustainable Business Solutions, PwC

John Stults, Director of Events and Corporate Sponsorships, APICS

Lindsay Tober, Advisory, PwC

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Bill Leedale, Senior Advisor for Manufacturing and Engineering for IFS North America

Zoe McMahon, Director, Social and Environmental Sustainability & Compliance, Hewlett-Packard

Sonali Rammohan, Associate Director, Stanford Global Supply Chain Management Forum and Director, Responsible Supply Chains Program, Stanford Graduate School of Business

For more information on how sustainability can be integrated into company operations:

Visit our sites: www.pwc.com/us/operations or www.apics.org

ABOUT APICS AND THE APICS FOUNDATION

APICS is the leading professional association for supply chain and operations management and the premier provider of research, education and certification programs that elevate end-to-end supply chain excellence, innovation and resilience. APICS Certified in Production and Inventory Management (CPIM) and APICS Certified Supply Chain Professional (CSCP) designations set the industry standard. With over 37,000 members and more than 250 international partners, APICS is transforming the way people do business, drive growth and reach global customers.

APICS Foundation, the research arm of APICS, advances supply chain and operations management and innovation through research, educational programs and workforce development. Business leaders, academia and global enterprises gain valuable insights, information and actionable data through the foundation's unrivaled supply chain network and resources. Learn more about APICS and APICS Foundation at apics.org.

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