Sustainability valuation: An oxymoron?

April 2012

At a glance

Putting a value on sustainability initiatives can pose a systematic and universal challenge: their costs, like most investments, are readily apparent, but some of their benefits are difficult to quantify.

The typical shareholder value framework can be expanded to accommodate the intangible benefits of sustainability initiatives.

Considering both direct and indirect valuation methods helps analyze, prioritize and measure the contribution sustainability initiatives make to shareholder value.

pwc

In our view, sustainability strategies and shareholder value need not be at odds. The shareholder value framework can be expanded in two ways to accommodate the difficult-to-quantify benefits of sustainability initiatives.

In the last few years, multinational corporations have discovered that sustainability creates a great deal of tangible and short-term value from cost savings, risk reduction, or product and service innovation. But they have also embraced the larger agenda of sustainability with a mix of passion and struggle.

Passion, because they know that harder-to-measure initiatives that steward the environment, support workforce diversity, and nurture local communities are good for long-term business. ***Struggle,*** because putting a value on the more intangible sustainability efforts, let alone prioritizing them, is far more difficult than computing a return on investment on a pure cash-flow basis.

Luckily, we have the knowledge and tools to help solve this problem. Sustainability is by no means the first area of business to face these measurement challenges. Marketing, R&D, and new market entry are all tough to put an exact ROI on.

Like these other intangible areas, some sustainability initiatives can pose a universal challenge: their value is difficult to quantify. Unlike capital projects geared solely towards improving financial performance, the quantifiable, bottom-line impact of some sustainability initiatives may be positive, neutral or negative on a pure cash-flow basis. And yet they are worth pursuing, many executives and academics alike agree.

How come? How can a project that increases your cost structure in the short term with uncertain obvious long-term financial benefit make business sense? Sustainability initiatives do provide significant indirect sources of value. Reducing your environmental footprint is not only good for the planet, it is good for business. Your customers take notice, NGOs praise you, your workforce is proud to be part of a company that is not only financially successful but also "doing the right thing."

Key questions remain: What level of sustainability investment is too little and what level is too much? How can we quantify the value created for longer-term, intangible benefits? Answering these questions not only helps guide internal decisions around sustainability, it enables companies to communicate the value of their effort to all their stakeholders, including Wall Street.

What level of sustainability investment is too little and what level is too much? How can we quantify the value created?

The shareholder value model

The case for shareholder value maximization was first made by General Electric's Jack Welch in his famous 1981 speech "Growing Fast in a Slow-Growth Economy." It became the standard corporate management paradigm in the 1990s but faced growing criticism after the dot-com bust, and came under even more vigorous attack in the wake of the 2008 credit crisis.

Sustainability and corporate responsibility advocates claim the shareholder value framework is inadequate because it narrowly focuses on financial performance, and fails to capture the "soft" benefits of sustainability. When C-suite executives interpret their mandate as creating shareholder value, measured by discounted cash-flow, earnings multiples models, EVA or other traditional financial metrics, the case for sustainability can run into a brick wall.

Indeed, some sustainability initiatives may not seem obviously justifiable on an immediate profit-and-loss basis. In fact, some appear to be pure cost such as investing in renewable energy for manufacturing plants, an expense that could easily fall below your hurdle rate.

Despite the financial shortcomings of these initiatives, more and more corporations are adamant that they should be pursued. Though they find it difficult to measure, the value is there. Reducing reliance on price-volatile resources is a real risk reduction. Showing your employees and customers that you "walk the talk" on battling climate change or contributing to national security by reducing reliance on fossil fuels… these create real value.

Unless we were to dismiss such management decisions as irrational, one of two conclusions must hold:

- **Either:** The shareholder value framework is ***flawed.*** It fails to justify the need for sustainability initiatives and must hence be rejected as the basis for corporate responsibility guidance. This is the viewpoint that many sustainability advocates have taken.
- **Or:** Sustainability initiatives do create ***bona fide*** shareholder value, but the longer-term and intangible value is a lot more difficult to quantify. The shareholder value framework needs to be ***expanded*** to accommodate the value proposition of hard-to-measure initiatives, including sustainability projects. This is the position of this paper.

What seems today like pie in the sky—a future, hypothetical market share increase—may one day become a reality.

Valuing sustainability: New applications of proven methods

In our view, sustainability strategies and shareholder value need not be at odds. The shareholder value framework can be expanded in two ways to properly accommodate the difficult-to-quantify benefits of sustainability initiatives.

In the **direct method,** we force the question of the P&L impact of these initiatives.

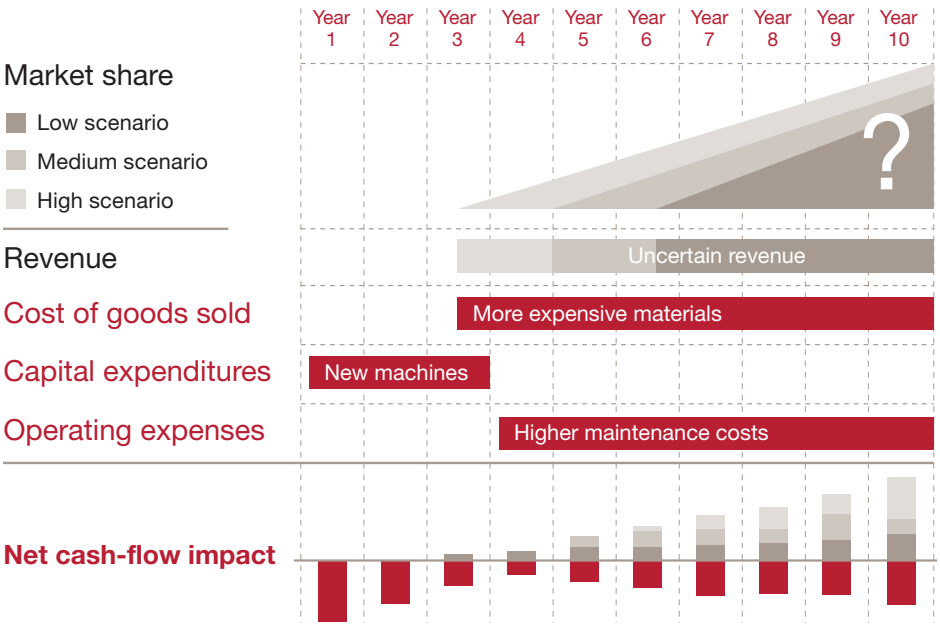
Take a company considering using recyclable materials for the containers of one of its product lines. In some markets, such as aluminum for cans, this strategy saves energy and money right away. But in others, such as paper fiber, the obvious financial impact may be both immediate and negative: containers must be redesigned, capital must be deployed to upgrade the manufacturing process, and the on-going costs of goods sold go up because recycled materials are more expensive.

In the end, however, sustainability is also good for business. As consumers become more discerning about the products they buy, they are more likely to favor products sold by responsible companies. What seems today like pie in the sky—a future, hypothetical market share increase—may one day become a reality. Skeptics who doubt these gains will be wise to at least monitor their competitors: falling behind and being the last one to jump on the "green" bandwagon is not a good recipe to increase market share.

In the direct method, we tackle this future impact explicitly: how likely is it that we will grow market size, win market share, create future cost savings, or benefit from synergies with business units?

The emphasis here is on likelihood. Future financial benefits are highly uncertain. While sustainable project champions are often uneasy giving point estimates for the market benefits of their projects,

Direct method



In this example, investing in recyclable materials triggers immediate and on-going known costs (in red), but yields an uncertain uplift in future market share and, therefore, revenue (in grey). Quantifying multiple scenarios in probabilistic terms allows us to appropriately value this initiative.

thinking in terms of probabilities, upside and downside, is almost always liberating. Nobody has a crystal ball into the future, but ranges of possible outcomes are easier to assess with some comfort level.

By using probabilistic rather than point estimates, we are able to strike an appropriate balance:

On the one hand, we properly "give a financial voice" to these longer-term benefits, and invite them at the CFO table. We no longer confine sustainability by the perception, often wrong, that it is a necessary cost center. We allow finance departments to treat these projects like any other.

At the same time, we explicitly acknowledge—better yet: quantify—the risks and uncertainties of these financial benefits. We open and nurture a conversation about our ability to manage the risks: learn along the way, leverage successes, and cut losses short early. We think about the shareholder value created not as a guarantee, but as a possibility. Rather than shy away from uncertainty, we handle it numerically.

For all its appeal, the direct method is not always possible.

Consider fostering a more diverse workforce. Many companies would argue it is not only the right thing to do, it is also good for business: it increases employee satisfaction, boosts productivity, and improves retention. It is probably not that costly in the first place. Yet, companies may be reluctant to adopt the direct method to value such a diversity initiative, because they cannot, or do not want to, explicitly model retention rates and the impact of employee satisfaction on productivity metrics.

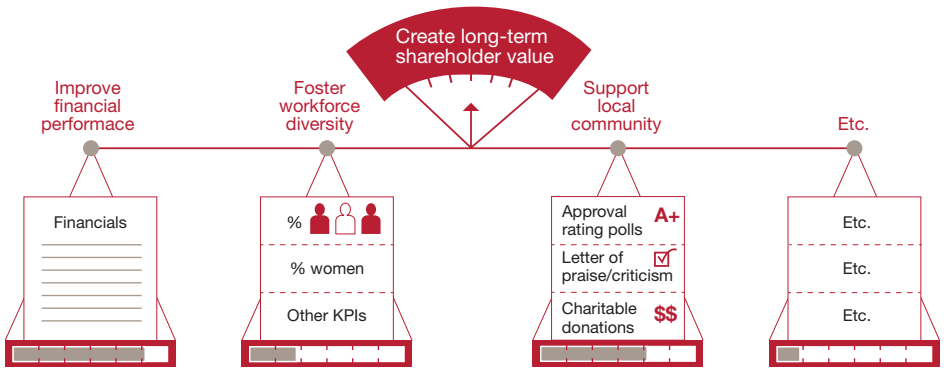
In that case, the **indirect method** is better suited, and furnishes another avenue to dollarize sustainability benefits. The indirect method too recognizes that these initiatives create shareholder value, but does not directly connect them to the P&L.

How, then, are these intangible benefits monetized? How does this approach fit into the shareholder value framework, as promised?

The answer lies in a rigorous, well-documented, academically-sound, and customer-proven methodology called multi-attribute utility analysis (MUA). MUA was formalized by Keeney and Raiffa's work in 1976, and is deeply rooted in von Neumann and Morgernstern's seminal work on utility theory—one of the cornerstones of modern microeconomics. It has been widely adopted by government agencies for public policy decisions, which often require trade-offs between competing, non-financial objectives.

We have seen it applied at the US Department of Energy, the Environmental Protection Agency, and National Labs, among others. It has been reviewed and praised by the National Academy of Sciences. MUA has more recently made foray into the corporate world and we have applied it for many years in various contexts, especially with power and utilities companies. Today, it is extremely relevant to sustainability initiatives.

Indirect method



Instead of attempting to quantify benefits directly in cash-flow terms, the indirect method purports to measure the impact of sustainability initiatives against specific performance measures for each objective. Trade-off models can then be used to obtain a total impact in dollar terms.

With a value model in place, key performance indicators help us track the non-financial impact of various initiatives, and, even more importantly, translate it in dollar terms.

Part of the framework consists in leveraging the business experience, know-how, and priorities of senior executives who are ultimately responsible and accountable for value trade-offs. Through structured workshops, diverging viewpoints can be expressed and ultimately reconciled. The result is a value model that essentially captures the compromises executives are willing to make between different sources of value.

With a value model in place, key performance indicators help us track the non-financial impact of various initiatives, and, even more importantly, translate it ***in dollar terms.*** This is a key differentiator from alternative methods such as balanced scorecards or strategic alignment, and an absolute requirement to assess meaningful benefit-to-cost ratios and put all initiatives on a level playfield.

Which method to pick?

The choice of the appropriate valuation method is highly dependent on the organization's objectives, its culture, its comfort level with assessing probabilistic outcomes, the nature of the initiatives to be valued, and the regulatory and institutional constraints that are placed upon it. The direct and indirect methods aim for the same end-goal, albeit through different routes: the value of sustainability initiatives to the organization, expressed in dollar terms.

Notice that this valuation may well be different from the value to society of these same initiatives. It is beyond the scope of this whitepaper to address the topic of externalities and public goods, but it should be clear to economists and decision makers alike that a distinction ought to be drawn, and methodologies adjusted accordingly.

Conclusion

While sustainability initiatives can pose a unique valuation challenge, they can be analyzed and justified under the shareholder value paradigm, either directly or indirectly. Accepting the fact that the benefits they provide are uncertain is a true advantage: value is thought of as a range, with potential good and bad surprises. Quantifying the tradeoffs senior executives are willing to make between competing objectives captures unique organizational culture and know-how.

Ultimately, the benefits of sustainability valuation are multiple. Organizations will be able to:

- Value sustainability initiatives objectively,
- Understand and quantify shareholder value created,
- Compare all initiatives on an equal footing,
- Prioritize them,
- Identify gaps in the portfolio composition,
- Better communicate sustainability strategy to Wall Street.

Far from being an oxymoron, sustainability valuation is now a requirement.

www.pwc.com/us/ppo
www.pwc.com/us/sustainability

For more information

For questions about how the topics presented in this paper can help your business, please contact the author:

Hervé C. Kieffel
Principal, Sustainability Valuation & Project Portfolio Optimization
(415) 498-6236
herve.c.kieffel@us.pwc.com

For a deeper discussion on valuation and sustainability topics, please contact:

John Glynn
Partner, Valuation Services Leader
(646) 471-8420
john.p.glynn@us.pwc.com

Kathy Nieland
Partner, Sustainable Business Solutions Leader
(504) 558-8228
kathy.nieland@us.pwc.com

Pedro Santos
Principal, Sustainability Valuation & Financial Analytics & Derivatives
(415) 498-7317
pedro.c.santos@us.pwc.com

Special thanks to Andrew Winston, sustainability advisor to PwC, for his contributions to this paper.