

## Editorial

### Sustainability in Practice

Yossi Sheffi

Massachusetts Institute of Technology

Should business lead on environmental sustainability? The article argues that while there are some environmental initiatives that support the mission of the business, such as energy savings that also reduce costs, business should not go too far. On the one hand, its ability to do so is limited since most of the carbon footprint is outside its four walls, and even where it can make substantial changes, it should not do it until consumers will be willing to pay for it and incur minor inconveniences.

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In April 2018, I put an exclamation mark on five years of research into companies and sustainability. My original intent was to argue, as did others, that business should take the lead because many governments are paralyzed by discord and political calculus. Industry, I thought, being the source of most environmental impacts, can and should lead the way. Very quickly, however, I realized that not only business is not taking the lead—it really *could not* and *should not* do it.

Three of the most revealing results of the research are that: (1) companies cannot control most of their emissions even if they wanted to; (2) most consumers are not willing either to pay more or incur slight inconveniences in the name of sustainability; and (3) jobs and economic development are more important than sustainability.

#### IT'S OUTSIDE THE FOUR WALLS

Most of the environmental footprint of nearly every company is not in its own operations. Instead, it comes from either their upstream supply chain or from the downstream use phase. Consider, for example, electronic products, many of whom have 15–20 echelons in their supply chain; yet the companies making and selling the electronic product are not likely even to be aware of who the deep-tier suppliers are beyond “Tier 1.” Most suppliers regard the identities of their sub-suppliers as a trade secret and a source of competitive advantage.

Even if a manufacturer identifies a sub-supplier buried deep in its supply chain, it has no leverage over it, because it has no commercial relationship with such a supplier. Furthermore, the sub-supplier may not even know that its own product ends up used by the manufacturer.

The issue with use-phase environmental impact can be even more difficult. For some products, it is simply a new design with no behavioral change required. A more energy-efficient refrigerator or computer might be identical to the model it has replaced; it simply uses less energy. Others, such as an electric vehicles,

might demand both behavior changes (e.g., learning to manage the range of the vehicle and find charging stations), as well as concomitant consumer investments (e.g., installing charging facilities at home).

Because of such difficulties, companies focus on their own operations and report on their efforts in glossy brochures and triumphant press releases. For example, Coca-Cola tout the reduction in their water use from 2.7 L of water per liter of beverage to 1.96 L per liter. Meanwhile, the sugar beet farmers, deep in its European supply chain, guzzle 28 L of water per liter of Coke. The point is that in most cases companies cannot really have a significant impact on sustainability because they have no control and little influence over their deep tier suppliers or customers.

#### SAY VERSUS PAY

In many polls and surveys, consumers claim they want more sustainable products and are willing to pay more for them. Nevertheless, retail data show that very few actually do. Faced with a choice at the supermarket shelf, the vast majority of consumers choose the least expensive product regardless of its environmental characteristics. Apparently, the surveys vastly overestimate the impact of eco-labels: survey participants tend to respond the way they think the survey creator wants them to respond, or they may want to appear progressive and caring. Moreover, while the majority of consumers in developed countries refuse to pay more for sustainable products; most consumers in developing markets cannot even afford them.

Finally, readers who consider themselves environmentally aware should ask themselves: (1) how many consumers refuse to purchase items from Amazon because of the wasteful packaging, which ends up in landfills? (2) How many e-commerce consumers consolidate their purchases and order only once every week or two in order to save on transportation and packaging? (3) Finally, how many e-commerce consumers forego the free two days (or 2 hr in many cities) delivery in favor of longer time? The answer to all these questions is *very few!*

The moral of these observations is that companies should not invest heavily in environmental initiatives until their customers

*Corresponding author:*

Yossi Sheffi, MIT Center for Transportation and Logistics, 77 Massachusetts Ave., Cambridge, MA 02139, USA; E-mail: sheffi@mit.edu

will be willing to pay for sustainable products and tolerate minor inconveniences for this cause.

## PEOPLE VERSUS PLANET

Companies provide not only goods and services, but also jobs. Agriculture, mining, transportation, manufacturing, warehousing, distribution, retailing, and the many other businesses involved in global supply chains provide jobs across the world. When environmentalists or regulatory agencies threaten these jobs, the response can be fast and furious. Consider the case of the oil sands of Alberta, Canada.

Alberta has the world's third-largest reserves of oil, behind only Saudi Arabia and Venezuela. But those 166 billion barrels of viscous crude oil lie locked in sandy formations that make extraction difficult and environmentally impactful. It was called "the most destructive project on Earth" (Hatch and Price 2018). In 2010, the nongovernmental organization (NGO) ForestEthics launched a campaign against U.S. brand-name companies (including Levi Strauss, The Gap, and FedEx, and others) pressuring them to boycott fossil fuels derived from Canadian oil sands.

In rebuttal, the Alberta government published facts about the large economic benefits and modest environmental impacts of the industry, which provided 30% of the gross domestic product of the province. Most importantly, the industry is the number one employer of indigenous (First Nations) people. Furthermore, a nonprofit called Alberta Enterprise Group launched a counter boycott campaign on Facebook, urging Canadians to boycott the boycotters of Alberta's oil.

Faced with heightened media coverage, most of these companies clarified their position. "We do not take a position opposing or supporting any fuel or energy source from any country or geography," said a Levi Strauss spokesperson.

The morale of this story is that environmental slogans such as "Profits versus Planet" are missing the mark. In reality, it is people versus people, or *some* people versus *other* people. On one side are people who wish to ensure a better environment for themselves and future generations. On the other side are people who wish to have affordable goods as well as jobs to ensure better living standards for themselves and future generations. It is important to recognize that both sides are "right." Only such recognition can lead to reasonable solutions, which do not reduce standard of living while moving toward a more sustainable environment.

## SO WHAT SHOULD BUSINESS DO?

Even tougher regulations may not be the answer. Following the Volkswagen emissions scandal, which by 2017 spread to include all the big German automakers, many German publications uncovered the cozy relationships between the industry and the German government. These range from ignoring bogus emission testing, to the revolving door between government officials, lobbyists, and industry executives. Furthermore, Germany's Chancellor Angela Merkel lobbied the European Union (EU) to relax emissions standards, and her government threatened other European countries with economic sanctions if they would not vote

for relaxing regulatory oversight by the EU on the German auto industry.

Berlin stands by its car companies because the industry employs over 750,000 people in Germany; it has been a poster child for German engineering prowess; and it dwarfs other sectors of the economy. The result is that the German government sees its role as being to protect the industry from tough regulations and where regulations exist, to help the industry evade them by, for example, allowing each car company to hire its own emission testing company.

Most companies, however, do not cheat on regulations; but complying with regulations is not leadership. Beyond compliance, companies could justify certain sustainability initiatives based on the following three criteria: (1) eco-efficiency; (2) eco-risk management; and (3) eco-hedging. These three criteria align corporate and environmental objectives.

### Eco-efficiency

The easiest business case for sustainability involves initiatives that are aligned with the corporate main economic goals. The most common one is cost reduction, which is associated with reduction in energy and raw material consumption. Such reductions—whether changing to LED bulbs in the office, regulating truck speeds, or installing solar panels—can all reduce a company's energy bill and reduce its carbon footprint at the same time. They can be justified in most cases based on standard financial considerations. Most companies have harvested these changes, which are, in the vast majority of cases, marginal, but easy to justify.

In 2006, Staples, the giant office supplies retailer, changed the control software in its delivery trucks to limit their top speed to 60 mph. The result was that average gas mileage climbed from 8.5 mpg to 10.4, and the change immediately paid for itself in \$3 million of fuel savings annually.

### Eco-risk management

Sustainability initiatives can mitigate a variety of risks including NGO attacks; unfavorable media coverage; investor actions; and disruptive government regulations.

Unfortunately, unlike the case of insurable events such as natural disasters and accidents, risk managers have scant reliable actuarial data for quantifying the likelihoods and impact of NGO strikes, or adverse regulatory changes. Exposure to environmentally motivated actions by activists is particularly acute for brand-name consumer-facing companies that rely on brand equity. Because consumers seldom perform their own due diligence, they rely on NGOs, who know that readers will identify with stories about brands they know, leaving these companies vulnerable to NGOs' antics and media campaigns.

The decision by brand-sensitive companies to invest in eco-risk mitigation has a relative dimension: NGOs are more likely to target environmental underperformers. Environmental performance scorecards can give rated companies some indication of their risks relative to their peers, which can influence a company's eco-risk mitigation priorities. In essence, brand name companies want to avoid being the "nail that sticks up" for

publicity-eager NGOs. Such analysis can provide guidelines for minimum-required and maximum-reasonable investment.

### Eco-hedging

Eco-hedging strategies focus on experimentation with green products. Such green products may have an existing market. For example, Paul Polman, CEO of Unilever said, “Our experience is that brands whose purpose and products respond to that demand—‘sustainable living brands’—are delivering stronger and faster growth” (Millington 2015). Yet, a 2014 study by the European Food Information Council concluded that although consumers understand sustainability, this understanding does not yet translate into changes in food choices. Following the famous physicist Niels Bohr’s quote, “Prediction is very difficult, especially about the future,” some companies hedging their bets.

In 2008, Clorox launched Green Works—a family of 17 cleaning products designed with natural active ingredients that compete with Clorox’s main line of cleaning products. The line must have been a money-losing proposition for Clorox, given the research and development costs, the marketing campaigns, the specialized supply chain involved, and the meager sales. However, such corporate experiments allow the company to learn about the technology, the supplier eco-system, the distribution channels, and the green consumer market. Such eco-hedging efforts mitigate the risk that the company will be caught unprepared if government regulations or consumer preferences shift, especially as millennials get into their prime earning years.

### CONCLUSIONS

Given the difficulties companies face in reducing environmental impacts in their supply chain; the reluctance of consumers to pay for sustainable products; and governments’ preference for jobs and economic development (both in the developed world and more so in the developing world), companies cannot make significant investments and increase costs in the name of sustainability. Yet, environmental activists and most of the media in the West is exerting pressure on companies to lead in sustainability efforts. This is particularly true in the face of government impotence.

So companies are doing what many governments are doing. They “talk a good game” but not taking significant steps because consumers are not ready for steps that might increase costs, upend business models, and reduce employment in existing industries and professions. Thus, companies should take incremental steps, and tout initiatives that they were going to take anyway, as environmental initiatives.

In 2011, UPS launched *My Choice*, a digital tool allowing consumers to control the timing and location of a delivery. While obviously beneficial for consumers as an added convenience, it reduces UPS’s costs (and environmental impacts) by avoiding multiple delivery attempts. Such an initiative, while clearly developed to improve customer service and reduce costs, can be presented as an environmental sustainability initiative. This,

among other initiatives, can help the company avoid being the “nail that sticks up.”

### FROM THE EDITORS

We would like to thank Professor Yossi Sheffi for the viewpoint offered in this guest editorial.

In the balance of the issue, we lead with an article by Eroglu et al. (2018) that visits a commonly employed heuristic in the retail industry used to inform space allocation in backroom storage locations. The so-called “pack-and-a-half rule” espouses that a product requires 50% of additional space to accommodate a given case-pack quantity in order to accommodate efficient storage and handling. The researchers estimate that retailers lose 10% of their profit potential by observing this classic heuristic. Using store data across a large collection of stockkeeping units, the team examines the influences on this profitability loss and provide modifications that reel in the potential losses. This article exemplifies research that uses company data to solve a real problem.

The next three articles represent the yield from a Special Topic Forum (STF) titled “Accessing and Interfacing: Cases of Scholar/Practitioner Engagement in Big Data Management, Modeling, and Prescriptive Analytics,” guest edited by Professor Elliot Bendoly. In Miller et al. (2018), the researchers take a look at the potential for panel data to inform supply chain research. They examine data from nearly 4,000 hospitals to demonstrate both the promise and pitfalls to repeated measurement studies. Beyond the framework afforded that illuminates the types of research questions most applicable to panel data, the analysis, itself, generates insights for services supply chains, and specifically in the health care industry.

Next, Smyth et al. (2018) examine a challenge brought forward by Cotteleer and Wan (2016)—that of making the industry-academic connection serve the purposes of both practitioners and researchers. The current research presents a method for facilitating such collaborations and then illustrates the method in use with an in-depth case study. The case study demonstrates how practitioner and academic communities can achieve mutual value in the conduct of big-data research through a replicable hierarchical regression-based process.

Finally, Hamister et al. (2018) answer the call of Bendoly (2016) by exploring the power of valid, strong visualization of big data. The authors present a case study of an industrial distributor of HVAC equipment to employ data scientific techniques that afford discovery of hidden relationships in the data as well as useful visualizations for decision making. In total, the articles represented in this STF live up to the promise of the call for papers, seeking future related engagements between academics and industry that yield impact for both communities, but ultimately for the practitioners we hope to serve.

Enjoy the issue!

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**Yossi Sheffi** (PhD Massachusetts Institute of Technology) is Professor of Engineering at MIT. He is the author of *Balancing Green: When to Embrace Sustainability in Business (and When Not To)* (MIT Press, April 2018).