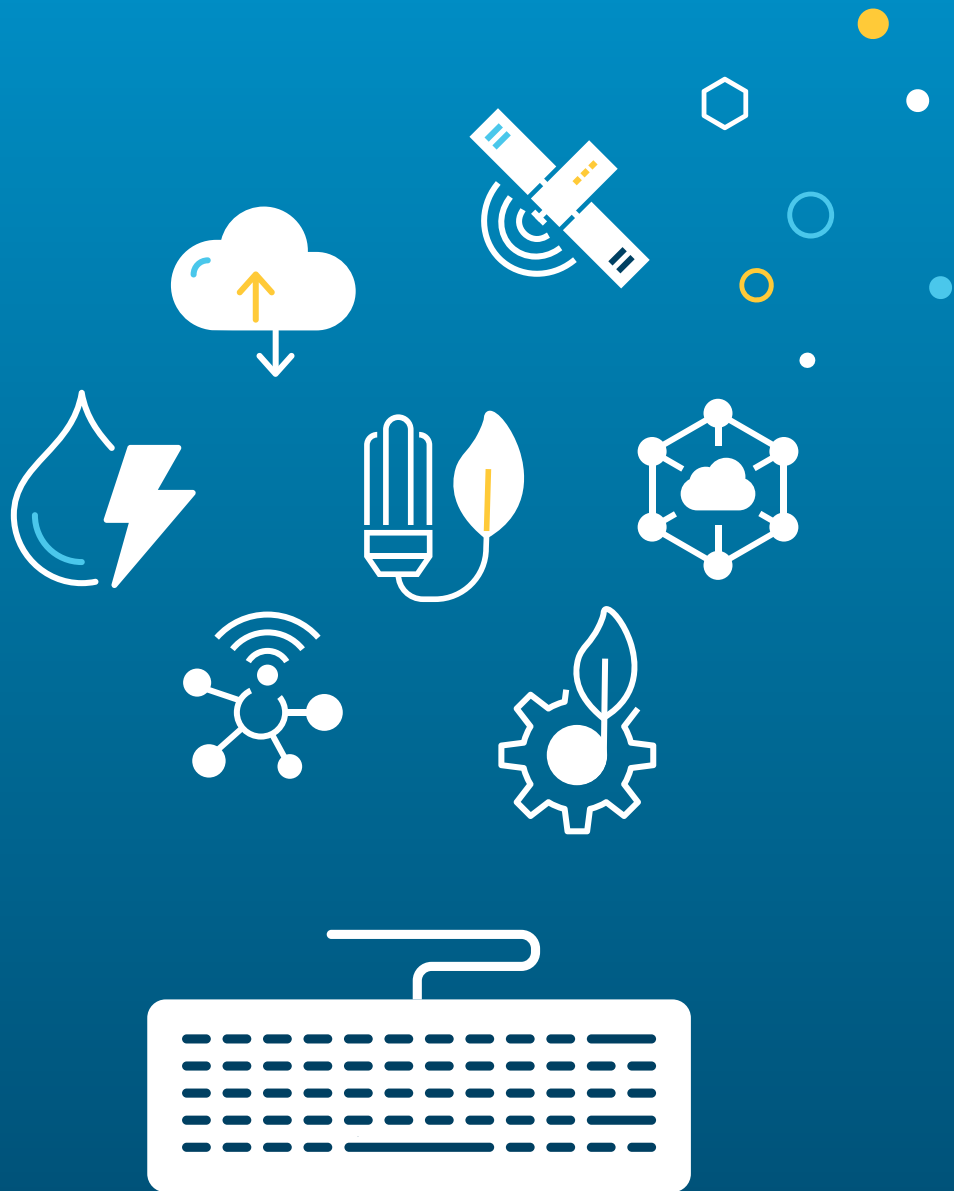


TAILORED WITH TECHNOLOGY

Sustainability



About the research and acknowledgements

Tailored with technology: Sustainability is the second in a series of papers and articles from The Economist Intelligence Unit sponsored by ANZ. This report, and the others to follow, is based on the results of a survey of more than 750 executives across eight markets.

This paper was written by Kim Andreasson and edited by Chris Clague. Findings from the survey were supplemented with research and in-depth interviews with experts and executives. Our thanks are due to the following people, listed alphabetically by affiliation:

- Michael Cooke, Senior vice president, global HSE and sustainability Affairs, ABB
- Mikkel Flyverbom, Professor of communication and digital Transformations, Copenhagen Business School
- Mark Milstein, Director of the Center for Sustainable Global Enterprise, SC Johnson College of Business, Cornell University
- Alexa Dembek, Senior vice president, Chief technology & sustainability officer, DuPont
- Tim O'Leary, Executive director, government and regional affairs & chief sustainability officer, Telstra

Executive summary

Sustainability has evolved from a perception of simply doing good from a Corporate Social Responsibility (CSR) perspective to being linked to profitability. Leading organisations nowadays see sustainability as a corporate advantage. New technology trends are also pushing organisations to do more, at a quicker pace, in order to maintain their market position.

At the same time, there are multiple challenges involved with using technologies for greater sustainability. One is a lack of strategic guidance about where to invest time and money. Another is a lack of clarity as to the best type of technologies to harness.

This report finds that successful companies understand the importance of combining technology and sustainability. These companies are also meeting the needs of an increasingly sustainability-conscious consumer base and turning it into a competitive advantage. The report's key findings are:

- **Sustainability is increasingly viewed as a way to increase profit.** Besides doing good and contributing to the United Nations Sustainable Development Goals (SDGs), companies realise there is a market opportunity in being sustainable.
- **Technology is increasingly important to boosting sustainability.** Almost all survey respondents recognise the importance of technology in achieving corporate sustainability. Certain industries are thriving as a result of this commercial opportunity.
- **Several technology trends are expected to contribute to improving sustainability.** Currently led by big data and analytics, but increasingly expected to include artificial intelligence in the development of smart cities in particular.
- **The potential benefits of technology in relation to sustainability are vast.** A large majority of survey respondents expect a spending increase on technology over the long-term, which bodes well for companies and society alike.

Introduction

The public sector has historically been the driving force behind setting and achieving sustainability goals. The private sector tended to look askance at such initiatives, claiming they ran counter to profit. This has changed. The private sector now takes a leading role in addressing social, economic, and environmental concerns (as sustainability is typically defined) while making a profit from innovation and new business models.

In the EIU survey, fifty-four percent of 112 technology industry executives describe corporate sustainability initiatives as “very significant” to their organisation; another 41% call them “significant”. At financial services organisations, thirty-nine percent agree such initiatives are very significant, as do 56% representing the resources, energy and infrastructure; food, beverage and agriculture industries. These two survey groups comprise 660 executives.

“Sustainable enterprise is different from CSR,” explains Mark Milstein, director of the Centre for Sustainable Global Enterprise at the SC Johnson College of Business at Cornell University. “The question is, what are the products and services that can address chronic problems?” Finding a market problem and addressing it in an innovative way creates a competitive advantage. “Companies can solve problems in ways unique from philanthropy,” says Mr Milstein. “Businesses grow through new products and services.”

Technology trends are accelerating such opportunities. The private sector now sees the broader social impact of sustainability as part of their mandate, and advances in technology are making such pursuits profitable. “Sustainability is about designing technology solutions that takes ethics and transparency into account and contributes to society,” says Mikkel Flyverbom, professor of communications and digital transformations at Copenhagen Business School.

The United Nations Sustainable Development Goals (SDGs) can serve as a blueprint for business in this regard. “It is a good starting point for discussion for what we should be doing,” says Michael Cooke, Senior Vice President Global HSE and Sustainability Affairs at ABB, a technology leader that is driving the digital transformation of industries. “If we can link those to our customers and business partners own strategies, then that helps us develop longer term success.”

But with 17 goals and 169 targets some have argued that it is too much, although Mr Milstein argues that from an innovation standpoint it gives businesses a good sense of what problems to look into and can serve as a catalyst.

DuPont is an American conglomerate that was formed by the merger of Dow Chemical and DuPont in 2017. Its vice president and chief technology and sustainability officer Alexa Dembek believes that technological advancement and the pursuit of sustainable solutions are inextricably linked. “We have aligned our portfolio and scientific pursuits to help answer the call of the United Nations Sustainable Development Goals,” she says. “Of the 17 [goals], we’ve identified seven where we can make a lasting impact with our science.”

The company’s AHEAD (Accelerating Hybrid-Electric Autonomous Driving) initiative, for example, is designed to substantially contribute to the electric/hybrid vehicle market with DuPont materials and innovations. “We realized we can enhance almost every part of the car during the “electrification” process, from battery safety to radar; from high-performance plastics to the infrastructure needed to keep electric cars charged and moving,” says Ms Dembek.

The fourth industrial revolution is a term popularised by the World Economic Forum (WEF) to describe the global economy being transformed by technologies such as artificial intelligence, nanotechnology, biotechnology and quantum computing. The WEF has drawn attention to the link between these new forms of technology and sustainability.¹ “To develop new products and services, businesses are inherently reliant on technology development,” says Mr Milstein. “People [Customers and partners] like a sustainability component and if you can combine that with a market-oriented approach it’s a win-win.”

¹ <https://www.weforum.org/whitepapers/driving-the-sustainability-of-production-systems-with-fourth-industrial-revolution-innovation>

Box I: Case study

DuPont creates technology-based materials, ingredients and solutions that are enabling the so-called Fourth Industrial Revolution – transforming industries and everyday life. From materials for 5G and AI, to crucial components for smart cities and automotive electrification, sustainable innovations are advancing a lower carbon economy in many industrial sectors. DuPont is a key enabler for the technologies that will drive the future.

“Another area where we are seeing a good deal of progress is in our adoption of Digital Transformation, which encompasses the emerging tools in artificial intelligence, machine learning, big data analytics, etc., as well as the simpler human augmentation tools that you might find on your smartphone,” says Alexa Dembek, SVP, Chief Technology & Sustainability Officer, DuPont. “In 2019, we launched our own company-wide Digital Transformation effort called Spark Digital designed to further drive the innovation process. We are already piloting dozens of efforts,

from machine learning in chemical design to new personal safety apps for our workers, which will have lasting impact on DuPont’s efficiency and sustainability.”

The technologies being piloted have the potential to accelerate research and development efforts—with the added benefit that they also make the company more efficient.

“Our newly released sustainability roadmap is predicated on the notion that our products underpin emerging technologies—from 5G to artificial intelligence to clean water—that enable our customers to thrive,” says Ms Dembek. “To make that happen, our scientists and engineers utilise the full spectrum of emerging digital tools to help us find new efficiencies and reduce our energy footprint.”

Constant organic improvements to operations are enabled by advances in machine learning and accumulate efficiencies over time. This goes on behind the scenes, but customers see it in the form of better, more affordable products.

The state of play: New opportunities

Among those who regard technology opportunities as significant in terms of corporate sustainability initiatives, about a third (34%) of those from the technology industry cited positive brand image as one such opportunity. Another 29% cited an improvement in profitability. [Q12] This is similar to other industries, although the roles are reversed: executives representing the resources, energy and infrastructure; food, beverage and agriculture; and financial services industries cited profitability (31%) as the main reason, followed by positive brand image (27%). The survey results point in the same direction: there is a clear connection between technology and sustainability initiatives, whether in terms of profitability or brand image, or both. However, different industries appear to assess the trade-off between them differently.

“You have to come back to value proposition in the marketplace,” explains Mr Milstein. “In energy in particular, we have seen competitive, non-traditional approaches,” he says, citing renewables as an example. But investment in technology solutions that take away the worst parts of people’s work can also help improve the brand of companies as a side benefit, says Mr Flyverbom. In fact, the survey results mimic related studies supporting the connection between technology development and brand development.²

Technology is considered “very important” (60% and 56%) or important (36% and 43%) to achieving corporate sustainability, according to all executives and to those in

the technology industry respectively. The biggest expected benefits from technology as it relates to corporate sustainability are increased innovation (43%), internal efficiency (42%) and revenue growth (39%), according to technology industry executives. [Q14] The results are similar across all industries.

² <https://blog.global.fujitsu.com/fgb/2017-03-16/attaining-sustainability-by-digital-transformation/>

Box II: Case study

“Today it’s almost impossible to be offline,” says Tim O’Leary, executive director, government and regional affairs and chief sustainability officer at Australian telecoms company Telstra. That is why his company supports a digital inclusion index to measure connectedness and identify any gaps. The company’s 2019 sustainability report also includes a chapter on what our digital future may look like, both externally and internally.

“Technology has become more ubiquitous and our availability is more profound,” says Mr O’Leary. “But that also comes with challenges, such as ethics, cyber safety and security.” Such unintended consequences of technology can have a profound impact on a telecommunications company trying to do what’s right. In 2018, Europe introduced the General Data Protection Regulation (GDPR) to protect the privacy of EU citizens.³ But in 2019, hackers infiltrated a dozen global telecom firms and stole personal data, illustrating the challenges companies face in protecting customer data.⁴

“From a telecoms perspective, we have challenges,” acknowledges Mr O’Leary. “But technology also needs to be linked to the core business because the interconnectedness of technology can leverage other [business] aspects and be a positive development.” This relates also to sustainability efforts in which the company uses technology to improve the environment.

Telstra is pursuing sustainability through a number of digital inclusion initiatives. ‘Ask Izzy’ is an app that helps homeless people understand the benefits of being online, such as being able to access vital services.⁵ We give customers unmetered access to this site so they can access the benefits and services that come with connectivity,” says Mr O’Leary. The Australian Digital Inclusion Index seeks a deeper and more fundamental understanding of why people don’t go online. “The index is a tool for policy-makers to better understand challenges in accessibility affordability, and capability,” explains Mr O’Leary.

³ https://ec.europa.eu/info/law/law-topic/data-protection/reform_en

⁴ <https://www.reuters.com/article/us-cyber-telecoms-cyberreason/hackers-steal-data-from-telcos-in-espionage-campaign-cyber-firm-idUSKCN1TQ0BC>

⁵ <https://askizzy.org.au/>

Next steps: The road ahead

According to technology industry executives, the most important technology trends today are big data and analytics (39%), cloud computing (34%), and IoT (32%). [Q19] Five years from now, they predict artificial intelligence (AI) becoming the second-biggest trend (cited by 44% compared with 30% today) after big data and analytics (cited by 45% as the biggest trend five years from now). [Q20] Among those in the resources, energy and infrastructure; food, beverage and agriculture; and, financial services industries, big data and analytics (38%) is considered most important today. However, cyber security (34%) and artificial intelligence (31%) are regarded as having more immediate relevance. Indeed, five years from now, other businesses also predict artificial intelligence rising to the top (predicted by 37%), followed by big data and analytics (31%) and cyber security (30%).

“AI is probably the most important trend but you have to do it from an ethical / sustainability perspective and see the link between technology and society,” says Mr Flyverbom. The integration on what kind of society and corporation we want to build is fundamental to sustainability in his opinion.

“The main challenge in a lot of industries is not having a sense of what to do with technology because they have not developed a vision for what to do,” says Mr Flyverbom. “Many companies need a more nuanced approach,” as opposed to throwing their money away. This is reflected in the survey conducted for this report: more than nine in 10 (92%) of all executives say budgets have an impact on

technology spending. Technology executives also expect businesses to increase their technology spending “more” over the long-term (cited by 46%) compared to one-half (50%) of other executives.

“The biggest challenge remains project selection,” says Ms Dembek. “Where can we have the biggest impact possible given the size our global organization and the numerous markets we serve,” she asks rhetorically. Understanding the market, having that market viewpoint, is critical to DuPont in keeping the company in front of the curve. “This means we must work very closely and collaborate with our customers to understand their markets and provide timely solutions,” adds Ms Dembek.

Box III: Case study

Some companies have improved their corporate sustainability by investing in technology, and have seen positive business development as a result. One such company is Swedish-Swiss conglomerate ABB. “Sustainability is also about creating profitable returns,” says Michael Cooke, senior vice president global HSE and sustainability affairs at ABB.

ABB has a long tradition of community engagement, trust, partnerships and equality. The company works with multiple partners, including data centers to conserve energy, NGOs, governments, cities, and regulators, to promote smart city solutions. “We’re in a strong position to capitalise on the growth markets for sustainability solutions,” says Mr Cooke. “We can create more sustainable outcomes for customers and other stakeholders, helping to create a better world.”

Unsurprisingly, improving profitability was cited as being very important to survey respondents. [Q12] This is particularly relevant to a company such as ABB though, as it provides technology-driven solutions to old problems and helps streamline work processes. To keep track of its progress, ABB publishes an annual sustainability report.⁶ Internally, it works with sales and marketing teams to highlight sustainability as a competitive advantage because customers now demand it.

ABB also uses a sustainability dashboard to keep track of its efforts. It also documents its progress on company diversity. “We track sustainability objectives on a quarterly basis,” says Mr Cooke. “In most markets, we articulate sustainability as a competitive advantage.”

⁶ <https://new.abb.com/news/detail/18251/abb-publishes-2018-annual-report>

Conclusion: Towards greater sustainability through technology

Technologies hold much hope but many challenges remain the same as it relates to sustainability initiatives. “They need to be linked to the core purpose of organization,” advises Mr O’Leary. “There are also some new challenges unintended consequences [of introducing technology], such as ethical challenges and cyber safety and security.”

“We have been through a period of negative technology effects, the so-called ‘tech-lash,’” says Mr Mr Flyverbom. He predicts a positive integration of technology with society. “You need to make a number of smaller bets and understand customer needs... all this is process-oriented,” adds Mr Milstein. Integrating technology into sustainability initiatives takes time and careful forethought. For Telstra though, the intersection is clear. “Sustainability is about bringing social and environmental change into organisations and creating commercial, reputational and cultural value,” says Mr O’Leary.

Technology advancements will always impact a company’s ability to achieve their own sustainability goals and the goals of their customers. “Where we can find synergies, streamline operations, enable our workforce to work smarter, we will always do that,” says Ms Dembek. The commitment to maximizing impact must come from the top. “Leadership must be committed to making the investment choices that drive an organization towards more and more sustainable solutions.”

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