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Building the Sustainable Enterprise:

Insights for Digital Workplace Sustainability

Introduction

Climate change is the foremost issue of our times. Large, global enterprises have a unique opportunity to combat the tide of climate change by making their operations more sustainable: from sustainable supply chain practices to the way they run their internal operations. Enterprise leaders around the globe recognize and appreciate this need for change—and yet they struggle to turn that desire for change into action.

Myriad regulatory and policy requirements are a major driving force in this push for greater sustainability, but they aren't the only ones. Customers also are beginning to demand sustainability from businesses—as are employees. Business leaders must find a way to come to grips with their current baseline and form transparent plans towards a more sustainable business future.

In the realm of IT, much of the focus has historically been on the environmental impact of enterprise infrastructure like data centers. Yet according to research from McKinsey[1], end-user devices—laptops, tablets, smartphones and printers—generate 1.5 to 2.0 times more carbon globally than data centers.

More worrisome, emissions from end-user devices are on track to increase at a rate of 12.8 percent per year, making the digital workplace a core focus for sustainable IT initiatives as enterprises strive to meet their sustainability/ESG (Environmental, Social, Governance) goals.

Tata Consultancy Services and Nexthink are each leaders in their fields, helping IT departments, enterprises and industry sectors as a whole to transform their operations and build better digital experiences. In this whitepaper, our experts share the four key pillars enterprises must develop in order to meet ESG requirements and build a sustainable digital workplace.

> "When people think of Sustainable IT, they tend to think of data centers. But today, the largest piece of energy consumption in IT is the workplace itself. With new computers every three years, and employees working remotely, this energy consumption is not controlled or measured. A DEX technology gives you the metrics and the ability to track the energy usage in your digital workplace, so you can build more sustainable IT practices."

Pedro Bados
Nexthink, CEO

> "Sustainable IT practices and commitment to achieving the ESG Goals is at the heart of our solutions helping clients reduce their enterprise impact on climate change. Our Cognix™ for Workspace solutions through integration with Nexthink DEX addresses this imperative enabling us to continuously monitor the contribution to this urgent and pressing cause of responsible energy consumption and environment protection for our future generation."

Murali Menon
CTO Enterprise Cognitive Business Operations, TCS

4 Pillars of Sustainability

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Large, global enterprises have a unique opportunity to combat the tide of climate change by making their operations more sustainable."

01:
Sustainability Beyond Compliance

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As with any project, you cannot measure your progress if you do not have a clear view of your starting point. A growing list of policy requirements are placing regulatory pressure on enterprises to report outcomes of their sustainability-focused initiatives and mitigation of Scope 1, 2 and 3 level emissions. And yet the data is spread out, and enterprises lack clarity into their current state.

Beyond this regulatory need for compliance, customers are also increasingly a driving force. Customers around the globe expect businesses to publish not only their Net Zero targets, but also to measurably prove progress towards those targets in their disclosures.

To achieve this transparency, enterprises must first set a benchmark to understand where they are today, and to identify opportunities for transformation. This methodology is a Lifecycle Assessment (LCA).

An assessment of the full cradle-to-grave lifecycle of your products and services (from raw materials, production, transport, use, and end of life) establishes a clear picture of the full extent of your carbon contribution. This processes then offers solutions to reduce hotspots of greenhouse gas (GHG) emissions and reduce your overall carbon output.

Following an LCA, businesses should engage in a materiality assessment to determine how and what to prioritize in your sustainability initiative. The materiality matrix enables your project to consider technical, economic, as well as positive and negative social factors when building out your roadmap, so you can prioritize efforts based on intended outcomes. For example, you can prioritize changes to your product or service lifecycle that impact employee wellbeing, enhance the productivity of your employees or ensure the health and safety of employees.

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01:

Sustainability Beyond Compliance (continued)

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If we narrow our view to the digital workplace, a lifecycle assessment can play a vital role in identifying the key sources of energy consumption and waste within your environment. As a major contributor of energy consumption, hardware should be a focus of this lifecycle assessment.

According to McKinsey research, 50 to 60 percent of emissions related to end-user devices can be addressed through sourcing changes, primarily by procuring fewer devices per person and extending the lifecycle of each device through recycling.

To build more sustainable hardware lifecycles, IT must be able to gather data on the internal state of the hardware. By gathering information such as disk space, RAM availability and other device health telemetry, IT can understand when a device needs to be replaced, and when it can be upgraded.

The dispersed nature of the modern workplace only increases complexity. Devices at home with employees must also be monitored for energy consumption. With an endpoint-deep Digital Employee Experience (DEX) technology deployed to monitor energy usage as well as device telemetry, IT can see the precise cause of energy consumption and take a strategic approach to reduction.

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02:
Data: The Backbone of Sustainability

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If you want to progress toward sustainability targets, you must be able to measure that progress. Identifying, collecting and collating the right data is a fundamental aspect of any sustainability initiative. Yet the data required for this work is spread out, misaligned and inconsistent. For enterprises to meet ESG disclosure and reporting requirements, the scale of data collection and collation required is enormous.

When narrowed into the digital workplace, the problem remains the same. Digital workplace data is spread out causing leaders to struggle to get a clear, unified view of their environment. Though much of the emissions from your digital workplace will fall into Scope 2, the hotspots of energy consumption can be spread across multiple facets of the workplace. Application usage, data storage and device energy consumption are all tracked separately. Some may not yet be tracked at all.

Enterprises must be able to collect and collate all required data for ESG reporting into clear view. Within the digital workplace, this requires a single view that encompasses hardware performance and energy consumption while offering insights for reduction of energy consumption and Greenhouse Gas (GHG) emissions. Then, data augmented with AI and machine learning can leverage predictive scenarios to offer actionable insights to accelerate your sustainability initiative.

For digital workplace teams, a DEX tool brings together all viable data from across your digital workplace into a single unified view. Paired with AI and industry-backed benchmark data, the right tool can not only provide the view of data required to meet sustainability targets but also offer proactive suggestions to optimize and speed up progress.

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03:
Circularity of Design, Development, Use and More

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The concept of the circular economy has risen in popularity as enterprises look for methods to reduce their carbon footprint. Circularity, or the circular economy, relates to a familiar adage: reduce, reuse, recycle. At the enterprise scale, this requires assessing the full lifecycle of products and services—both those that enterprises produce and those they consume—to look for opportunities to reduce purchases of new material, reuse whenever possible and recycle the materials and parts of the products.

In the digital workplace, a particularly relevant component is hardware. According to McKinsey, 89 percent of organizations recycle less than 10 percent of their hardware overall. And yet, as Nexthink found in our internal research[2], only 2 percent of devices actually need to be replaced. This represents a big opportunity to bring circular economy approaches into the digital workplace.

Instead of provisioning every new employee with a new device, consider reusing older devices which still have optimal function. Instead of throwing away devices on a three-year schedule, evaluate device performance to look for upgrade opportunities to prolong device life.

This approach works for other digital workplace hardware as well. Rethinking your refresh cycles for monitors, tablets, printers and other workplace technology has the potential to greatly reduce your carbon contributions over time.

But extending a device's lifecycle must be done with consideration of the employee's experience with the device. Forcing end users to use a device that is no longer performing at the level required for employees leads to inefficient work. Extending the life of a device is great, but if the device cannot support an employee's work, any sustainability gains will be overshadowed by losses in business productivity.

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04:
Behavioral Change

Most sustainability initiatives will be driven by management at the executive level. The success of all initiatives, however, depend strongly on the collective action and commitment of employees.

One of the areas of greatest complexity when it comes to the digital workplace is energy consumption. Employees now work from home, office and elsewhere—making energy consumption incredibly difficult to track, report on and modify.

In order to change the level of energy consumption of employee devices, businesses must embrace the idea of influencing employee behavior via awareness, education and actions to bring about a culture shift. Taking steps to encourage and engage employees helps them feel empowered to reduce carbon. If employees change a few behaviors, these changes can have a major impact on your carbon emissions.

Inform employees about the importance of smarter digital practices such as shutting down devices at the end of the day, reducing the volume of files stored in the cloud, deleting redundant files and practicing good charging habits. It takes consistent reminders and encouragement to influence positive behavioral change over time towards energy conservation, resource optimization and decarbonization.

Then use data enabled tooling to derive and capture the outcomes of these efforts. Endpoint agent DEX technology can offer a single pane of glass view to understand how much energy has been saved by changing employee behavior. Communicating the impact of these changes to employees will reinforce these positive behaviors.

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Conclusion

Climate change is the most pressing issue of our time. Enterprises failing to invest in sustainability will find it difficult to conduct business, as partners and customers demand sustainability from their vendors. IT and end user computing have a major role to play in helping large businesses make progress on this front. By investing in the four pillars outlined here, they can sooner meet their sustainability goals, do what's right for the planet and ensure future business continuity.

Nexthink is the leader in digital employee experience management software. The company provides IT leaders with unprecedented insight allowing them to see, diagnose and fix at scale issues impacting employees anywhere, with any application or network, before employees notice the issue. As the first solution to allow IT to progress from reactive problem solving to proactive optimization, Nexthink enables its more than 1,200 customers to provide better digital experiences to more than 15 million employees. Dual headquartered in Lausanne, Switzerland and Boston, Massachusetts, Nexthink has nine offices worldwide.

Tata Consultancy Services is an IT services, consulting and business solutions organization that has been partnering with many of the world's largest businesses for the past 50 years. We believe innovation and collective knowledge can transform all our futures with greater purpose. TCS brings in strong Sustainability driven solution capabilities around ESG data, Life Cycle Assessment, Reporting and disclosures, Supply Chain decarbonization along with Strategic partnership with enterprise on Circular business.

About the Authors

Dr. Surekha Deshmukh is a Domain Consultant at Sustainability Practice team of TCS. She has over 25 years of experience in Power and Energy sector, developing AI- ML capabilities and data analytics for Utility value Chain. She is expert in Decarbonization, Energy Transition and Life Cycle Assessment. Dr. Surekha is a senior member of IEEE and Chair -IEEE Pune Section, Chair of IEEE Climate Change CCIRCC Global Visibility committee.at TCS she is awarded with "TCS Contextual Master" award and won prizes at TCS Women in Technology ideathons, TCS Innovista 23. She is awarded with "Outstanding Engineers Award 2022", by IEEE Power and Energy Society and "Outstanding Volunteers Awards 2021" at India Council. She is a recipient of "Women in Power award 2021".

Megan Brake is the Content Strategist at Nexthink. She has over 12 years of content marketing experience across multiple sectors and has written for multiple publications, including regular contributions to Nexthink's DEX Hub.

[1] Becker, Gerrit, et al. "The Green It Revolution: A Blueprint for Cios to Combat Climate Change." McKinsey &; Company, McKinsey &; Company, 15 Sept. 2022, www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-green-it-revolution-a-blueprint-for-cios-to-combat-climate-change.

[2] "Understanding Startup Time across 3M Devices." Nexthink, 2021, www.nexthink.com/resource/insights-report-startup-time