

Retailers on the road to sustainability should seek a range of tools to help them set goals, track progress, and report on their sustainability performance.

# Retail Sustainability Management: Leveraging Data for Action

December 2024

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## Introduction

Sustainability has become a key initiative for retailers, which are increasingly integrating it into their core business strategies and operations, impacting the design, selling, competitive positioning, and disposing of products. Retailers' approach to sustainability may differ depending on their goals: For instance, IKEA has pledged to use renewable or recycled materials in its products, Walmart has invested in energy-efficient technologies, and H&M is implementing takeback programs to recycle clothing. However, regardless of a retailer's approach to sustainability, these initiatives bring additional complexity, and often scrutiny, to their business.

With the challenges that sustainability programs bring, why are so many retailers embracing these initiatives? Numerous internal and external drivers for sustainability improvement are impacting retailers, as they are with many other organizations. Risk management, cost savings (through energy efficiency and reduced waste), executive or board of director mandates, consumer demand, and regulations are all important levers; however, the most important driver for sustainability in retail is improved sustainability performance, which is measured through environmental, social, and governance (ESG) metrics. Many retailers have made public statements regarding sustainability goals, with rapidly approaching deadlines heightening this imperative so that they are now highly focused on identifying actions and making changes that will improve their sustainability performance.

Following improved performance, the next most relevant driver for retailers is strategic advantage. Sustainability has emerged as an important competitive differentiator, with 46.6% of consumers indicating that they make decisions about where to shop based on a retailer's commitment to sustainability and 74.5% of consumers claiming a willingness to pay more for sustainably produced products (source: IDC's *Consumer Sentiment Survey*, May 2024). Retail is facing a consumer who has a lot of power, and that consumer wants to know that a retailer is taking steps to improve ESG performance, which is why, in addition to strategic advantage, consumer demand is a leading sustainability driver.

## AT A GLANCE

### KEY STATS

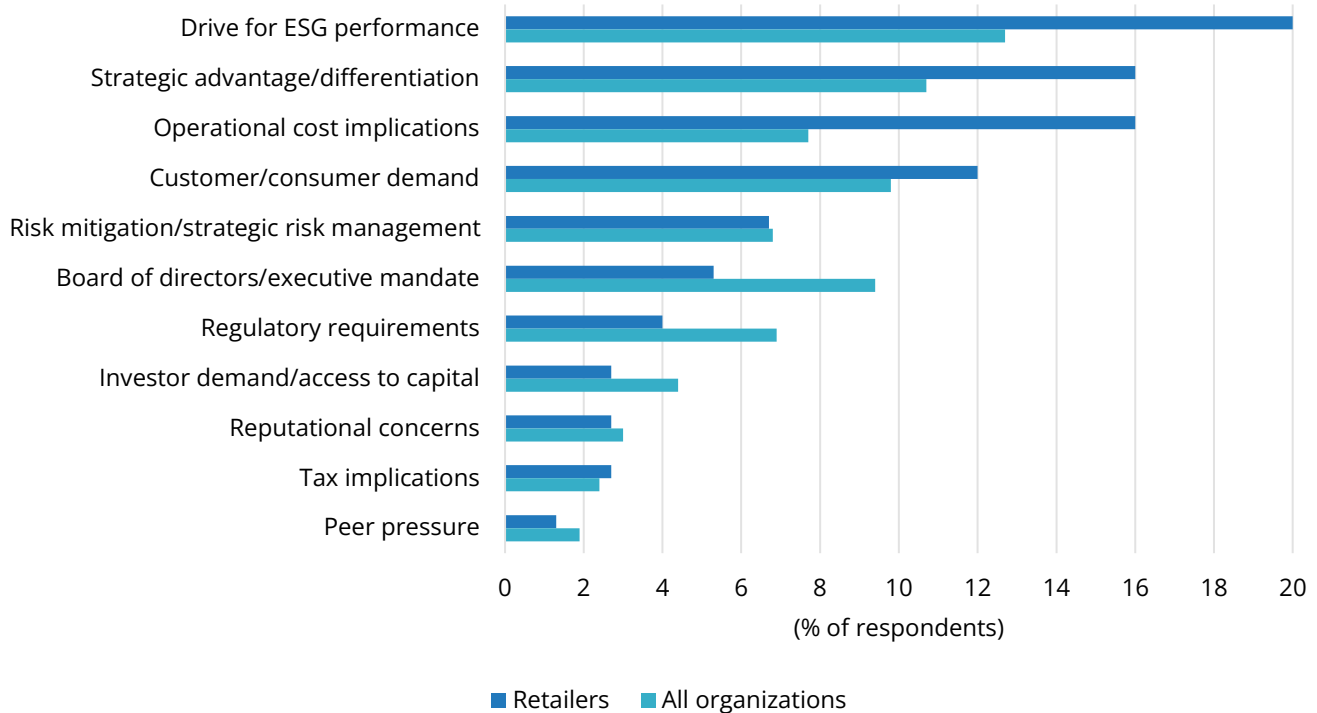
Sustainability has emerged as an important competitive differentiator. According to IDC's May 2024 *Consumer Sentiment Survey*:

- » 46.6% of consumers said that they make decisions about where to shop based on a retailer's commitment to sustainability.
- » 74.5% claimed a willingness to pay more for sustainably produced products.

Many retailers are following the carrot when it comes to sustainability, appealing to consumers and competitive differentiation, but there is also a stick that they need to be aware of in emerging ESG regulations. Key legislation, such as the Corporate Sustainability Reporting Directive (CSRD) in Europe or California SB 253/SB 261, adds regulatory pressure and the potential for fines to the list of reasons why retailers are tracking and managing ESG performance metrics. Of the retail organizations that IDC surveyed, less than one-quarter are currently not complying with CSRD, and among those that are complying, half are fully compliant while the other half are partially compliant. While many of these companies are not yet legally required to report, a number are implementing a CSRD reporting structure as a best practice in preparation for the upcoming regulation. (CSRD will be implemented in multiple phases, with select large European organizations required to report in 2025 and additional European and non-European organizations required to report in ensuing years.)

With so many drivers for sustainability (see Figure 1), the incentive for retailers is evident. The complexity of these initiatives, however, can present roadblocks to their successful implementation. One challenge is prioritizing the myriad of stakeholder demands, which may vary by the type of project or expected outcome. Retailers are undergoing materiality assessments, aligning projects to organizational KPIs, and doing a cost/benefit analysis to identify the most critical sustainability risks and opportunities.

FIGURE 1: **Drivers for Organizational Sustainability**



n = 1,390 for total, n = 57 for retail

Source: IDC's Sustainability Software Survey, July 2024

An additional consideration for retail organizations is the complexity of the value chain, which includes both a downstream (sourcing) and upstream (circularity) focus. Retailers often struggle to gain visibility across this value chain

because they are further away from suppliers and eventual product disposal, creating a longer value chain and more complexity in Scope 3 emissions. Furthermore, the growth in omni-channel retail, encompassing both online and brick-and-mortar retail, adds further complexity with multiple Scope 3 implications.

## The Retailer ESG Journey

For retailers, the ESG journey is incredibly complex. IDC's July 2024 *Sustainability Software Survey* asked organizations to report their distribution on a maturity curve, and it reveals a somewhat stratified community with heavier concentrations on both the high and the low ends of the curve. For many reasons, some retailers jumped in earlier and with greater gusto to build sustainable practices and ESG processes into their businesses while doing so was voluntary. Others have not had either the resources or the impetus to address ESG in their organizations and will find themselves scrambling when they are forced to comply with reporting structures set to come into effect in the near future.

Whether retailers come willingly or not, the areas to tackle on the ESG journey are many and varied. Like all organizations, retailers are responsible for their direct and indirect emissions. However, retailers have a more complex landscape to manage. When it comes to their own "four walls," retailers typically have a multitude of them beyond their headquarters locations — that is, brick-and-mortar stores, which may be distributed nationally or even globally. Across these assets, retailers are responsible for a wide variety of emissions that come from the activities and equipment required to sell. But even with a vast portfolio of brick-and-mortar stores, each with its own carbon footprint, a retailer's primary source of carbon emissions is Scope 3 — that is, the emissions involved in the extraction and harvesting of raw materials and the manufacturing, logistics, and transportation across the end-to-end supply chain — the emissions attributable to the products they sell. Scope 3 emissions originate from the activities across many tiers of suppliers and employees throughout vast global networks and ecosystems that are complex at peak performance and infinitely more so when upsets occur, which they inevitably do. It's no surprise that today, only 21% of retailers are able to report Scope 3 emissions (source: IDC's *Supply Chain Survey*, 2024).

Furthermore, in the past several years, traditional retail has been largely replaced by omni-channel, which is broadly characterized by anytime-anywhere digital shopping and virtually anytime-anywhere order delivery, with a retailer's vast network of stores often serving as ecommerce fulfillment nodes supported by an elaborate ecosystem of last-mile delivery and shipping partners. This business model shift has acted as a force multiplier on the complexity of retail operations and on their carbon emissions, given the increased responsibility retailers now have for post-purchase activities and for the increased cyber footprint that online shopping necessitates. With their positions as the last stops on the source-to-consumer supply chain and the first stops on the purchase-to-end-of-life cycle, retailers must deliver sustainably and profitably across the enterprise and ecosystem while building and maintaining trust with consumers, employees, investors, and other stakeholders.

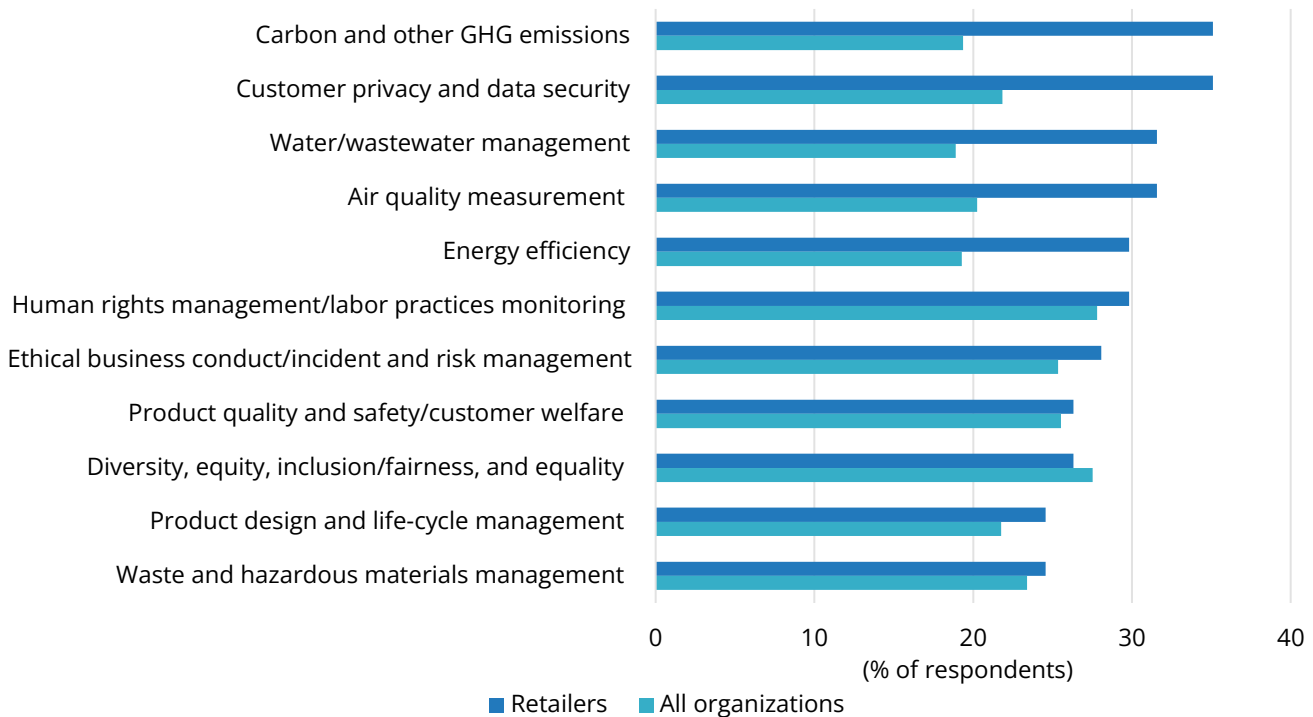
Finally, organizations must consider the IT that supports sustainability efforts from two different perspectives: IT for sustainability and sustainable IT. Retailers require technology that can enable successful sustainable operations by providing visibility and tracking of greenhouse gas (GHG) data across the enterprise ecosystem. IT for sustainability includes the adoption of applications and platforms that can integrate with sources of emissions, capture data, measure, report, analyze, and provide guidance and direction for continual improvement.

Retailers are turning to AI-enabled solutions to support these efforts, with a particular emphasis on leveraging them to measure environmental impact. The top AI for sustainability applications include the measurement of carbon, air quality, and water usage. AI is able to enhance sustainability software through diagnostic analytics, anomaly detection, and

predictive analysis, improving visibility into environmental performance. Furthermore, AI models for prescriptive analytics provide simulations and recommendations for optimal actions to achieve sustainability goals.

Retailers also require IT that is in itself sustainable, meaning hardware and software, datacenters, and other IT assets that use fewer energy resources and/or run on renewable and clean sources of energy. These assets must incorporate circular economy principles to enable responsible and effective ewaste management. Selecting and optimizing across all resources is the key to successful sustainability. Retailers are also leveraging AI-enabled offerings to provide analytics across IT operations, providing data-driven insights for improving operational sustainability (see Figure 2).

FIGURE 2: *Use of AI Applications for Organizational Sustainability*



n = 1,390 for total, n = 57 for retail

Source: IDC's Sustainable AI and AI for Sustainability Survey, March 2024

**Tying the Journeys Together**

Given the intricacy and length of the retail value chain, retailers should take a holistic approach to ESG. No matter the specific starting point of sustainability efforts, a retailer needs a modern foundation for data collection and analysis and a means to manage complex IT systems to enable organizational resilience, sustainability, and innovation. Following a structured path along an ESG maturity journey can involve three phases: developing an overall strategy, enabling a sustainability reporting capability, and implementing environmentally friendly IT. In detail:

- » **Strategy:** The strategic journey begins with assessing the current state of sustainability across the enterprise, gathering baseline data, and determining where retailers need to collect data from. As a picture comes into view,

retailers can determine the policies they'll need to put in place and the people responsible for maintaining oversight of regulatory bodies and new demands. They will need to establish GHG targets, the means for securely sharing data with relevant stakeholders, and a road map to meet decarbonization goals.

- » **Reporting:** In tandem with the overall strategy, retailers will need to ensure that they have tools in place to support established sustainability reporting frameworks, such as the Global Reporting Initiative (GRI) or the Carbon Disclosure Project (CDP), to enable efficient submission to regulatory bodies to which they must report, as well as internal reporting needs. To be effective, sustainability/carbon reporting and accounting tools will need to integrate with the systems, energy agencies, databases, and other entities that contain GHG and other data necessary for reporting, both within and without the enterprise. This may include core retail end-to-end supply chain applications, such as enterprise resource planning (ERP), product life-cycle management (PLM), warehouse management systems (WMS), transportation management systems (TMS), order management systems (OMS), last-mile delivery platforms, and other related systems. For example, an apparel retailer using a PLM application to manage design and product development might integrate with a Scope 3 impact tool for the fashion industry to pull in emissions data related to the use of specific materials and trims. A carbon reporting tool could integrate with PLM to pull in data related to item-specific sustainability.
- » **Environmentally friendly IT:** In the search for appropriate solutions, retailers will need to validate that the IT and the service organizations they work with adhere to regulatory requirements such as the EU Code of Conduct. They require a means for monitoring and optimizing their IT assets in effective ways, including device life-cycle management that minimizes physical waste and energy use. Adoption of cloud and server virtualization is another means for establishing sustainable IT and driving sustainable operations. Retailers should seek a solution that allows them to measure and collect datacenter equipment energy usage and GHG emissions, providing real-time sustainability KPI performance and emission reduction tracking on a centralized dashboard.

### **A Holistic Enterprise**

The compounding effects of taking an integrative approach by developing and managing these three paths in tandem open the opportunity for significant transformation. In developing strategies, by selecting and implementing tools and taking a green approach to end-to-end operations as well as the IT and services that run them, a retailer can shed elements that contribute to a slow, unconnected, wasteful, and noncompliant organization and adopt measures that enable modernization and optimization across the enterprise, driving outcomes that enable sustainability. This includes rationalization and consolidation of IT energy use and supply chain assets and practices related to materials, logistics, transportation, and delivery. Retailers on the road to sustainability should seek a range of tools to help them set goals, track progress, and report on their sustainability performance.

### **Benefits**

The impact of modern technology and service can and should enable the transformation into a sustainable retail organization. Sustainability is a smart strategy, driving a wide range of benefits that have a flywheel effect on retail organizations, leading to improved outcomes. Sustainable organizations are better able to:

- » **Innovate and gain a competitive advantage.** Sustainability aligns well with a retailer's typical strategic and operational goals and leads to increased innovation across the ecosystem. For example, more than 23% of retailers identify the reduction or elimination of packaging as a top sustainability goal, according to IDC's April 2024 *Supply*

*Chain Survey.* Reducing packaging not only decreases the retailer's carbon footprint but also reduces packaging costs and transportation expenses, as more products can fit into trucks or containers when they are less bulky. That creates a competitive advantage.

- » **Address consumer demand and build trust.** Sustainability efforts, such as the aforementioned example, and many others, such as incorporating sustainability requirements into the product designs themselves (a top sustainability goal of 20.7% of retailers in the IDC survey) and building more energy-efficient products (21.9%), address demands by consumers. When consumers learn about these sustainable products or practices, retailers build trust and loyalty, which is also a significant competitive advantage.
- » **Improve efficiency and operational savings.** Sustainable practices can improve business in a multitude of ways. The visibility required to collect relevant data, benchmark, report, and so forth enables businesses to gain insight into areas of redundancy and waste and to address them. Sustainable practices, such as gathering Scope 3 data, often involve automating data collection, which leads to more efficient communication among partners and potentially to greater collaboration. Sustainable practices can lead to rationalization across assets that subsequently lower the costs of inventory, logistics, and transportation. For example, a retailer might come to understand through data collection that switching to a supplier with a closer facility significantly reduces transportation emissions, resulting in faster delivery times and lower logistics costs. Green IT and datacenters lead to lower energy consumption and thus lower costs.
- » **Improve energy management and use.** From a sustainability perspective, IDC's survey found that energy consumption is near the top of the list of what's most important to retailers (24.8%), second only to warehouse/inventory efficiency/optimization, suggesting that many retailers are still working to get a handle on Scope 1 and 2 emissions. Efforts to measure and collect emissions in real time, such as from datacenter equipment, allow retailers to better understand where they are expending the most energy and to make changes as needed. Dashboards that provide clear views of consumption can help uncover this knowledge and provide speed mitigation, such as through implementing green IT or partnering with green datacenters.

## Considering Kyndryl and Microsoft

Kyndryl's Security and Resiliency practice has co-innovated with Microsoft to develop Kyndryl's Sustainability Advisor, which helps organizations measure and achieve their environmental goals. This solution leverages Microsoft's cloud technologies and data analytics capabilities alongside Kyndryl's IT services and expertise. Together, they provide tools for measuring and managing carbon emissions, optimizing energy usage, and enhancing overall sustainability practices.

### Kyndryl

Kyndryl is a leading global technology services provider that operates across numerous countries, serving a diverse array of industries with a commitment to enhancing customer success. Specializing in IT infrastructure management, Kyndryl offers a comprehensive range of solutions, including cloud services, data management, and digital transformation, aimed at helping businesses optimize their IT environments. With an emphasis on innovation and sustainability, Kyndryl leverages advanced technologies and industry expertise to provide tailored services that drive operational efficiency and support organizations in their digital journeys.

Kyndryl's Sustainability Advisor is a managed service designed to measure energy use and GHG emissions across enterprise and colocation datacenters as well as hybrid multicloud environments. It offers comprehensive reporting and

advanced analytics to enhance operational sustainability. The solution enables organizations to measure and collect datacenter equipment energy usage and GHG emissions, providing real-time sustainability KPI performance and emission reduction tracking on a centralized dashboard.

Kyndryl's Sustainability Advisor meets the growing sustainability demands of datacenter operators, leveraging AI- and machine learning (ML)-driven insights to address data collection and KPI reporting to provide actionable recommendations within a hybrid multicloud framework. The Sustainability Advisor distinguishes itself by offering a solution that covers an entire datacenter portfolio rather than specific segments. It is backed by Kyndryl's consulting services, which include a maturity assessment and ongoing support and visibility via the Kyndryl Bridge platform. With over 250 datacenters managed, Kyndryl can help organizations navigate sustainability challenges. Kyndryl's Sustainability Advisor presents a robust solution for organizations looking to enhance sustainability reporting and improve their environmental impact across hybrid multicloud environments.

### Microsoft

Founded in 1975, Microsoft has 221,000 employees worldwide with fiscal 2023 revenue of \$212 billion. Three primary lines of business categorize this revenue: Productivity and Business Processes, More Personal Computing, and Intelligent Cloud. Microsoft's sustainability initiatives span these core areas, and the company is committed to sustainability in its datacenters, using renewable energy and improving energy efficiency. By leveraging Microsoft Azure, businesses can reduce their carbon footprint compared with maintaining on-premises servers. The platform's commitment to using renewable energy in its datacenters enhances the sustainability of cloud operations, allowing businesses to reduce their overall carbon emissions compared with traditional on-premises infrastructure.

Microsoft Azure also supports an organization's sustainability initiatives through its data analytics and IoT capabilities. Organizations can leverage Azure's data processing tools to monitor and optimize resource usage across various operations, such as energy consumption in buildings. By utilizing Azure IoT services, businesses can connect devices to gather real-time environmental data, enabling them to make informed decisions that reduce waste and improve efficiency. In addition, Azure's machine learning algorithms can analyze consumption patterns and predict future needs, allowing for proactive management of resources and further decreasing environmental impact.

Microsoft Azure supports organizations in tracking and reporting their carbon footprints, aligning with sustainability goals and regulatory requirements. With Azure's tools for circular economy initiatives, organizations can optimize material reuse and recycling processes. By harnessing these features, companies can drive significant improvements in their sustainability practices, fostering a more environmentally conscious approach to their operations.

### Challenges

Many retailers have embraced sustainability, yet there remains a bifurcation in the market in sustainability maturity. While many organizations have advanced sustainability practices, others still perceive significant barriers to ESG reporting and sustainability management. Even with regulatory developments unfolding, the fragmentary application of these regulations has left many retailers wanting increased legislation to level the sustainability playing field. In fact, the need for more regulatory incentives is the top structural barrier retailers have identified, according to IDC's July 2024 *Sustainability Software Survey*, and it impacts this industry significantly more than others (21% for retailers versus 12% for total respondents). Retailers also struggle with garnering senior-level support compared with other industries (15% indicate this to be a barrier versus 8% of total respondents), and as a result, they often do not have the budget for these initiatives (19% of retailers site budget as a barrier versus 13% of total respondents). As organizations advance their

sustainability maturity and discover core business KPIs that are enhanced through their sustainability initiatives, these barriers will lessen.

Solution providers also struggle with a saturated market with numerous vendors competing for an organization's dollars. An influx of software and service providers have entered the sustainability market over the past five years, which means that players must differentiate based on solution, service, or price to gain market share. Like others in this arena, Microsoft and Kyndryl face a challenge in establishing a market presence in this highly competitive environment.

## Conclusion

The journey toward sustainability in retail is not just a trend but a critical evolution shaped by a confluence of consumer demands, regulatory pressures, and the imperative for strategic differentiation. As retailers navigate this complex landscape, they face significant challenges in managing their environmental, social, and governance metrics while striving for operational efficiency. However, the rewards of embracing sustainability are compelling; improved performance not only enhances brand loyalty and trust among consumers but also fosters innovation and cost savings across the supply chain. Retailers that proactively integrate sustainable practices into their business models will not only mitigate risks but also position themselves as leaders in an increasingly eco-conscious market. Ultimately, the successful execution of sustainability initiatives will depend on a holistic approach that encompasses risk management as well as strategy, ensuring that retailers not only meet compliance requirements but also drive meaningful change within their organizations and the wider community.

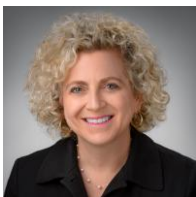
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## About the Analysts



### ***Amy Cravens, Research Manager, Sustainability and ESG Software***

Amy Cravens is research manager contributing to IDC's Sustainable Strategies and Technologies team. In this role, she is responsible for the Sustainability and ESG Software research program, providing strategic guidance and research on market trends, technology usage, and business strategies.



### ***Jordan K. Speer, Research Director, Worldwide Retail Product Sourcing, Fulfillment and Sustainability Strategies***

Jordan Speer is research director for IDC Retail Insights, responsible for covering the global retail supply chain, with emphasis on product sourcing, fulfillment, and sustainability. Ms. Speer's core research examines how digital technology opens opportunities to better connect and optimize the execution of the end-to-end product life cycle from the design and sourcing stages through order orchestration and fulfillment to the customer.



## MESSAGE FROM THE SPONSOR

Kyndryl has a strong commitment to operating a sustainable and responsible business and infuses sustainability into all our operations. Together, Kyndryl and Microsoft are enabling organizations to gain the transparency and insights they need to manage their environmental footprint, embed sustainability through their organization and value chain, and make strategic business investments that drive value for customers.

- » Enable ESG data intelligence
- » Deliver sustainable IT systems
- » Improve ESG performance
- » Unlock sustainable growth

Kyndryl and Microsoft offer a powerful combination of mission-critical expertise, innovation focused on outcomes that matter, and customer centricity. With Kyndryl's deep domain knowledge and Microsoft's industry-leading technology platform, we deliver end-to-end business solutions that enable enterprises to accelerate and extend the impact of technology across their business. The convergence of technological innovation, resolute leadership and a global commitment to net zero emissions is paving the way for a more sustainable future. To achieve our ambitious climate goals, we must foster collaboration across sectors and borders. By uniting our efforts, we can develop the transformative solutions needed to create a resilient and equitable world for generations to come. Please read ["From Insights to Action: The Technology Impact on Sustainability."](#)



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