ANALYST BRIEF

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The industrial environment is facing unprecedented levels of change, and companies have struggled to adapt. Rising regulatory and consumer pressure has led the industry to focus on sustainable operations, but many are unsure of the best approach to take or where to start.

Delivering Sustainable Operations in Industrial Segments Through an Ecosystem Approach

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Introduction

Corporate sustainability is a broad term that includes various initiatives and approaches that organizations use to mitigate or positively steer their impact on the environment and society. Sustainability initiatives have implications on how products and offerings are designed, sourced, manufactured, serviced, and recycled/decommissioned.

While sustainability is a topic that has been discussed for years, these initiatives must move from "posters" to "practice" for industrial organizations.

There has been a clear shift around sustainability in recent years, and most businesses across all industries recognize that change is needed. However, most companies have limited experience and expertise around sustainability, and this is especially true for the industrial sectors that are less mature in this regard.

While the bulk of industrial organizations are still in the early stages of sustainability maturity, a significant portion of leaders in these companies are motivated to change but are unsure of the best way to start. The drivers behind industrial segments becoming more focused on sustainability can vary depending on the type of company, region, or size. However, IDC's June 2022 *Industrial Environment, Health, and Safety Survey* showed the reasons most often cited are a mix of consumer pressure (27.7% of respondents), current/future regulatory compliance (24.9%), and stakeholder/investor mandates (16.1%).

AT A GLANCE

KEY STAT

The top challenge limiting industrial sustainability maturity is "defining the scope/lack of framework for sustainability initiatives," according to IDC's June 2022 *Industrial Environment, Health, and Safety Survey.*

KEY TAKEAWAY

Knowing that action needs to be taken around sustainability is an important first step. However, most industrial organizations face growing talent gaps and lack the expertise needed to start their journey, so turning to partners for help will become essential.

The fact that consumer demand is now the top driver is a notable shift when it comes to how companies think about sustainability. In the past, industrial organizations were primarily concerned with meeting any government/regulatory requirements. However, as younger consumers have entered the market, the decision-making criteria for purchases have shifted. The uncertainty around future sustainability regulations is also important to note, as businesses need to be prepared to adapt and comply with evolving mandates across regions or industries.

Today almost every organization talks about sustainability, and corporate leaders make companywide commitments to achieving it. However, putting sustainability initiatives in place is no guarantee of success. IDC's June 2022 *Industrial Environment, Health, and Safety Survey* has found that industries are held back by the following challenges:

- Defining the scope/lack of framework for sustainability initiatives — 35.1%
- Measuring the return on investment (ROI) for sustainability initiative — 34.1%
- Lack of awareness of how technology can assist in sustainability initiatives — 30.6%
- Lack of resources/no financing available for such initiatives — 25.3%
- Getting buy-in from operational-level employees — 24.8%
- Getting buy-in from senior management — 21.5%

While many industrial organizations recognize that change is needed, the trouble that most run into is limited experience and expertise around sustainability. These organizations often have a hard time building out the proper framework or road map for sustainability, one that delivers value in the short term and builds sustainable operations over the long term.

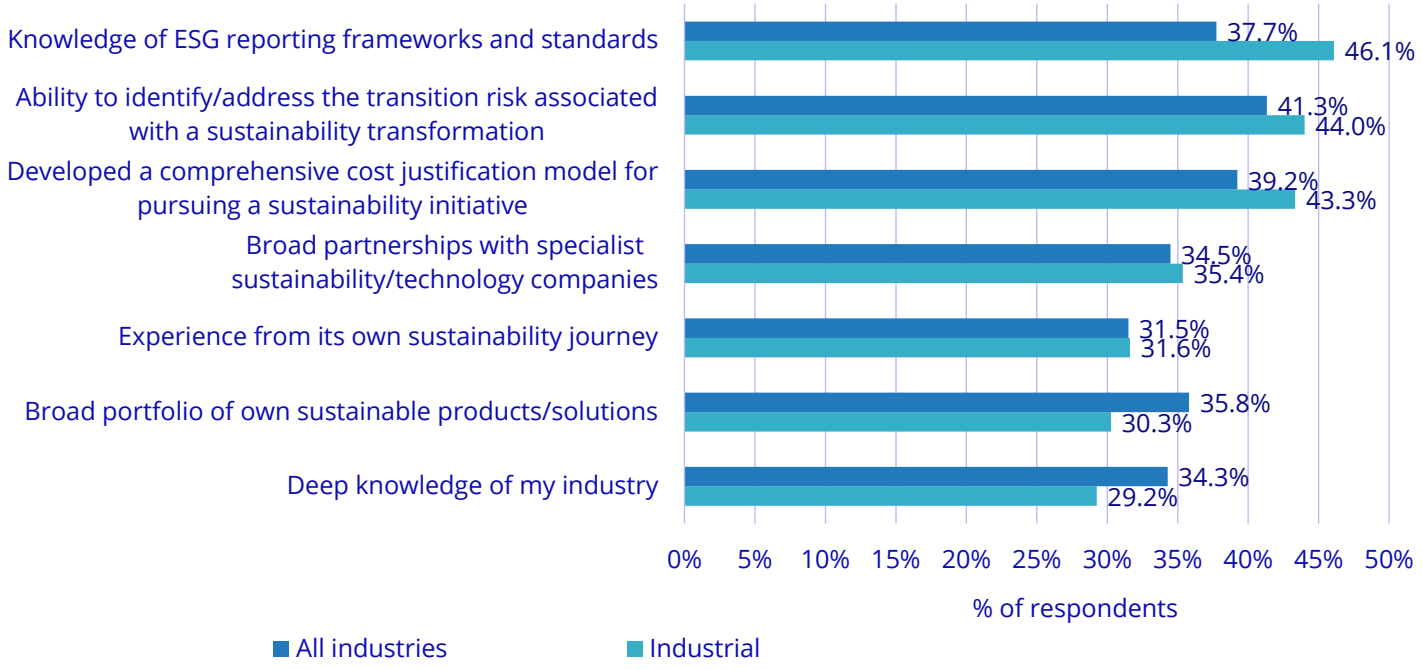
To do this requires a top-down and bottom-up approach, where the corporate office works with local operations to jointly agree on targets that are realistic and achievable. Once a company has a sustainability framework in place, it is also important to select and monitor the proper KPIs to measure success.

Finally, it is important to realize that technology will play a key role in achieving sustainability. As advancements are made in cloud computing, analytics, and AI/ML, the opportunity to apply them to foster sustainable operations is becoming a reality. Organizations are taking into consideration the sustainability of the IT equipment that they buy or rent, including its energy efficiency, carbon footprint, and circularity credentials. Of equal importance are its capabilities. These include collecting, analyzing, and extracting ESG data; reporting it to external stakeholders; and sharing this data with internal stakeholders across various functions to help them make better business decisions.

Manufacturers, oil and gas, and utilities organizations recognize that future success will depend on their sustainability performance, yet most lack the experience to define and execute a credible, ROI-driven plan that will boost their sustainability maturity. Outside partners can help industrial organizations develop and execute a sustainability road map, and the most mature industrial organizations have started to embrace this approach.

Given these challenges, industrial organizations ranked knowledge of ESG reporting frameworks and standards as the top criterion for selecting a vendor (see Figure 1). Close behind is the ability to help a company justify costs, value, and risk.

FIGURE 1: ***Top Selection Criteria When Evaluating Vendors to Support Sustainability Vision***



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Source: IDC's Future Enterprise Resiliency and Spending Survey, Wave 12, January 2022

This alludes to the most important takeaway — no business can address industrial sustainability needs alone. They are too complex and wide ranging for a single company to manage. An ecosystem approach is required that relies upon contributions from the industry, strategic consultants/systems integrators, enterprise software providers, and hyperscalers.

Technology solutions have continued to mature, and there is no need for industrial organizations to rely upon legacy systems. System modernization brings a company's existing infrastructure and application portfolio to a point where the pace of digital operations can be maintained.

The overall goal for industrial organizations should be to create a well-defined road map for sustainability, one that balances short-term and long-term goals, working closely with partners to ensure that execution is successful and enterprisewide.

Benefits

Effective decisions are always based on data analysis and information, not speculation or conjecture — and this truth is no different for sustainability-related decisions. Automated data collection is the basis for creating the real-time enterprise and is usually a telltale sign of a successful organization versus a poorly performing one.

The speed and complexity of industrial operations is increasing faster than ever before. Manual/paper-based processes can no longer be accepted by organizations hoping to foster sustainable operations. Digital technology is crucial when it comes to sustainability success. According to IDC's January 2022 *Future Enterprise Resiliency and Spending Survey, Wave 12*, industrial organizations that have made investments have experienced the following tangible benefits as a result:

- Improved financial valuation/performance — 39.1%
- Enhanced brand/reputation — 36.4%
- Improved sustainability across the supply chain — 35.6%
- Improved internal and external ESG reporting — 33.7%
- Risk mitigation/compliance — 31.2%
- Hired/retained top talent — 28.5%

Beyond brand image and compliance, sustainability initiatives can also offer tangible ways to increase profits. Reductions in energy/water usage and waste can add up to significant savings over time. For organizations that must contend with shrinking margins and uncertain economic conditions, the ability for sustainability efforts to impact the bottom line should not be overlooked.

In addition, while carbon management has been one of the least mature programs across industrial segments, IDC expects the adoption of carbon-related capabilities to increase at the fastest pace as more organizations understand the importance of managing carbon for social and business gains. This represents an opportunity for most companies to get ahead of the curve and establish such capabilities to gain a competitive advantage in the marketplace before they are industrywide or mandated.

Considerations

Even with a strong commitment to sustainability, there are significant external and internal challenges to fostering sustainable operations. There are reasons industrial organizations lag behind most others in this area of maturity. Common pitfalls holding manufacturers back include:

- **Legacy/siloed systems —** Industrial organizations tend to rely upon assets/plants/facilities that can be decades old and siloed. This issue of silos has existed for years but is becoming worse in today's data-rich world. However, silos extend to more than data and affect organizational structure, staff, and processes. The growing use of cloud-based systems will help companies address these concerns as more migrate systems away from being on premises.
- **Building/executing a data strategy —** Data must be at the core of any sustainability effort. Organizations that do not focus on their data strategy will struggle with scaling their initiatives and be unable to take advantage of the newest technologies such as AI/ML, which have the potential to dramatically improve the decision-making process. The ability to deliver actionable information in the context of its recipient's role will be the true differentiator between successful organizations and those that struggle to compete.

» **Lack of talent/expertise to support initiatives —** Not only is sustainability expertise limited, but digital literacy/skill sets are often an area lacking for industrial organizations. As digital technology has become more widely available to industrial organizations, having a workforce with the skills to take advantage of these tools is also essential to maximize investments. Partners that possess expertise in both areas are where companies should turn.

Conclusion

The industrial environment is changing faster than ever before. Sustainability is a topic that will only grow in importance, whether the primary impetus of this trend comes from governments or consumers. Organizations that act now will be best set up to succeed. While *sustainability* is a very broad term that can mean different things to different entities, industrial organizations that lack sustainability expertise in-house should look to partners for help.

Building the proper sustainability framework, executing on the road map, and demonstrating the value of initiatives are essential aspects of success. Digital technologies like cloud, mobility, big data/analytics, and AI are key drivers for sustainable operations. Industrial organizations must look to the ecosystem and find partners that can combine sustainability expertise with digital expertise to transform their operations.

About the Analysts

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Reid Paquin is Research Director for IDC Manufacturing Insights responsible for the IT Priorities and Strategies (ITP&S) practice. Mr. Paquin's core research coverage includes IT investments made across the manufacturing industry and manufacturers' progress with digital transformation. Based on his background covering the manufacturing space, Mr. Paquin's research also includes an emphasis on the technology enablers that help manufacturing executives make better-informed operational decisions.

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Bjoern Stengel is IDC's global sustainability research lead. His research focuses on how environmental, social, and governance (ESG) topics impact and shape business strategies and technology usage. He provides insights into market opportunities, adoption strategies, and use cases for sustainability-related technologies and services. Bjoern helps IDC's clients understand the impact of technology-enabled, sustainable transformation processes in the context of sustainable business strategies, operations, and products and services.

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- Improve ESG performance
- Unlock sustainable growth

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