



The Executive Guide to Industrial Data



VansonBourne



Introduction

Data is proliferating, and organizations are struggling to make full use of it for decision making. While many decision makers have begun to realize the benefits of data-driven insights, in doing so they have also recognized hurdles still exist when it comes to interpreting data in a way that most strongly benefits their business.

This report delves into the internal situation faced by organizations as they navigate their industrial/operational data usage in day-to-day operations. The following research, commissioned by AspenTech DataWorks, reveals both the benefits of successfully utilizing industrial/operational data, as well as the factors holding organizations back – all based on the cornerstones of people, processes and technology.

While technology continues to evolve, it will be up to organizations to make sure their people and processes can keep up. Inter-departmental collaboration, investing in software with a reduced learning curve, bridging skills gaps and attracting and retaining talent will be critical to maintaining a competitive advantage.

Once the ideal combination of skills, industrial/operational strategy, and data has been established, the organizational improvements and applications are almost endless.



Organizations' Approach to Utilizing Industrial/Operational Data

Data is constantly being produced within organizations, with digitalization only continuing to gain momentum in the post-pandemic era. Despite having large amounts of industrial/operational data at their fingertips, only one in four respondents' organizations (25%) have a formal actively executed industrial/operational strategy, which

should, in fact, be core to digitalization efforts. However, six in ten (61%) organizations surveyed report that they are in the process of rolling out their strategies, where they may already be experiencing the benefits of efficiency and improved decision making, to name a few.

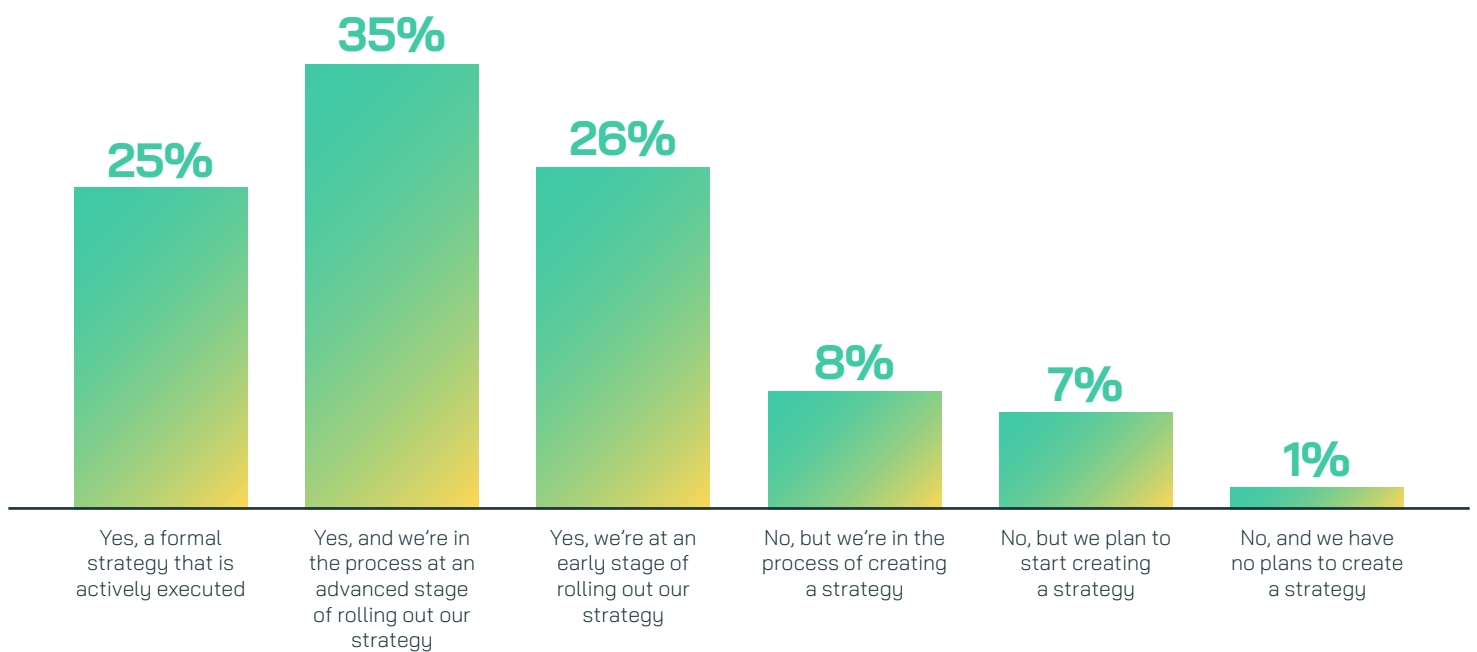


Figure 1. Does your organization have an industrial operational data strategy? (200). Not showing all answer options.

Innovation, productivity, decision making and product quality are well noted benefits experienced by both IT and Operations (OT) departments alike. While some benefits are magnified due to their relevancy in day-to-day departmental tasks, the top benefit is increased speed of innovation (31%), encompassing the feel of the

current business atmosphere. Innovating is a way through unprecedented times in an effort to remain ahead of the competition. Organizations are working through a global economic downturn, climate change, and geopolitical tensions among others, and innovation seeks to provide a light at the end of the tunnel.

Both IT and OT departments reap organizational benefits from industrial/operational data

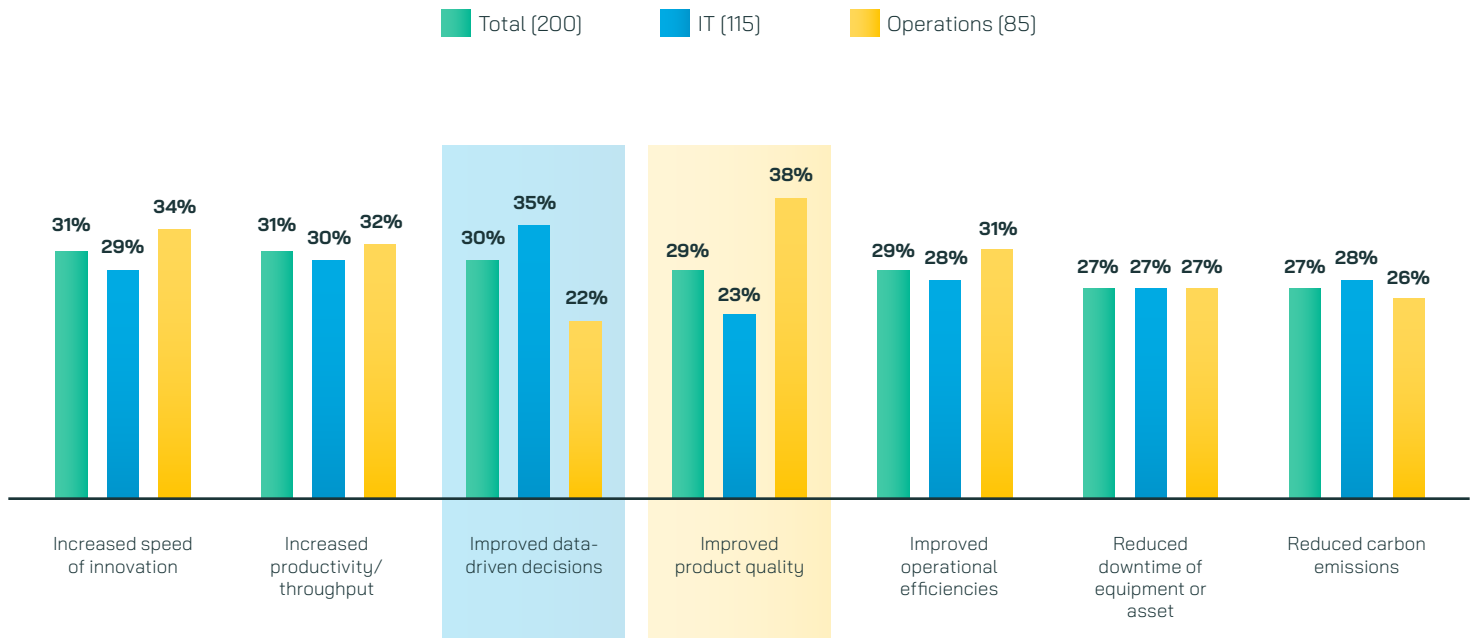


Figure 2. Has your organization gained any of the following benefits from using industrial/operational data? Combination of responses ranked first, second and third (Base sizes in chart). Split by department. Not showing all answer options.

IT and Operations acknowledge mutually beneficial advantages are present such as increased speed of innovation, productivity, reduced downtime and reduced carbon emissions. However, when considering their day-to-day organizational roles and responsibilities, there is an unsurprisingly less unified approach. The pattern indicates that departments more likely to highlight the benefits aligned with their own responsibilities, with IT decision makers noting improved data-driven decisions (35%) and OT respondents observing improved product quality (38%) as their top data gains.

IT decision makers are making better decisions based on data, and OT decision makers are seeing their product quality improve as they leverage industrial/operational data across their organization. The data gains extending across both departments are an indication of breadth of opportunities offered by data.

	Formally executed industrial/operational data strategy in place	No industrial/operational data strategy in place
Reduced carbon emissions	36%	24%
Increased productivity/throughput	30%	17%
Improved product quality	28%	10%
Improved data-driven decisions	28%	21%
Supply chain optimization	24%	35%
Reduced costs	18%	28%

Figure 3. Has your organization gained any of the following benefits from using industrial/operational data? Combination of responses ranked first, second and third. Split by organizations with or without a formally executed strategy in place. Not showing all answer options.

Those with a formally executed industrial/operational data strategy in place are more likely to report intensified benefits at a top-end strategic level, and internally too. Notably, the uptick in their reduced carbon emissions is noticeable, and extremely relevant as ESG requirements are only likely to grow. For those without a strategy in place, their benefits reported remain more low-level and functional.

It's notable that those with a fully executed strategy will see their organization's operational efficiency increase, data driven insights will be more accurate, and the sustainable benefits of reduced carbon emissions will be prevalent.

Organizations behind on their strategies must realize they're losing their competitive advantage, and it should inspire a new strategic approach to utilizing industrial/operational data. Regardless of an organization's maturity when it comes to adopting an industrial/operational data strategy, people, processes and technology need to be working in sync to properly realize strategic gains.

Despite the benefits observed, both IT and OT decision makers are faced with roadblocks due to lack of collaboration and infrastructure as well as a skills gap.

These top 4 barriers are:

Barrier	Total (200)	IT (115)	Operations (85)
Lack of clean/high quality data	33%	27%	40%
Lack of relevant analytics tools	33%	33%	32%
Inability to share data between different departments or geographies	32%	36%	26%
Too few employees with analytical skills	31%	23%	41%

Figure 4. Which of the following are barriers to your organization being able to draw insights from its industrial/operational data? Combination of responses ranked first, second and third (Base sizes in table). Not showing all answer options.

These barriers could be reduced through strategies like implementing company-wide initiatives to improve interdepartmental collaboration or investing in software scalable across various departments. However, departments need to join forces to knock down barriers before seeing full benefits.



Limited Collaboration Is Hindering Organizations

Organizations are not only facing the usual data barriers, such as data quality or relevant skills, but underneath this, their internal departments are struggling to communicate and collaborate with each other. Although both IT and OT are in agreement on collaboration issues being present, they're facing slightly different challenges.

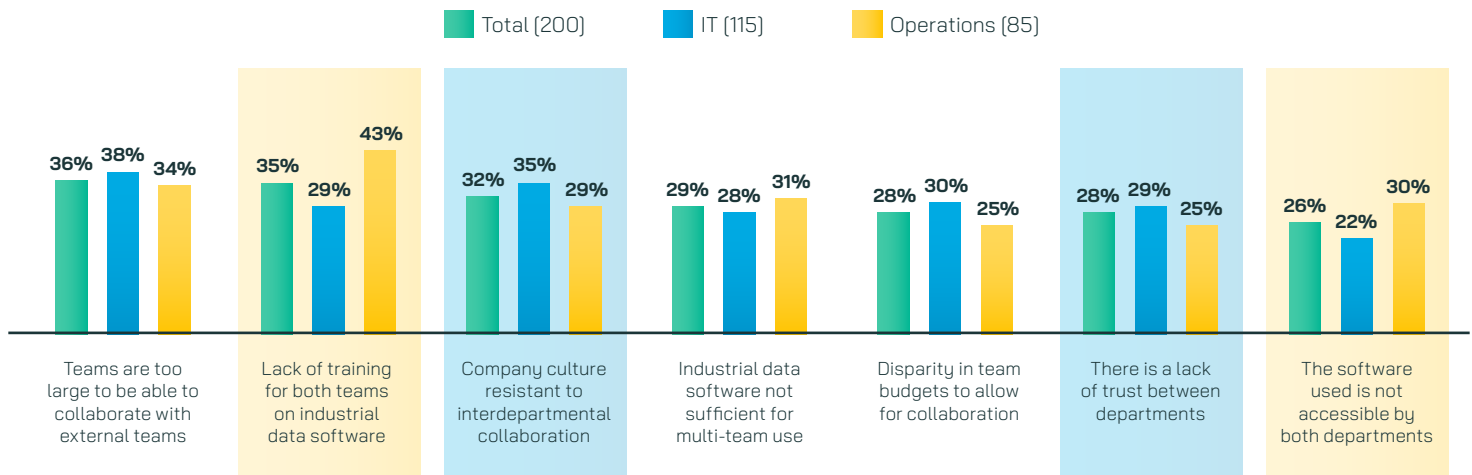


Figure 5. What barriers, if any, does your organization face with collaboration between IT and OT when it comes to utilizing industrial data? Respondents who selected "They work completely in silos", "Minimal collaboration", "Some collaboration" or "Substantial collaboration." (Base sizes in chart). Split by department. Not showing all answer options.

Operations are claiming lack of training on industrial/operational data software (43%), and that software used is not accessible by both departments (30%) which would require a functional fix, overcome by training and improved strategies. However, the IT department's barriers will be ones that require more time and effort as they are reporting their company culture is resistant to interdepartmental collaboration (35%) and that there is a lack of trust between departments (29%).

To resolve these collaboration issues, a company-wide effort is needed to intervene on the company culture issues expressed by IT decision makers. Once these are resolved, it may, in turn, ease the issues expressed by OT, as IT barriers may be why OT feel so disconnected and isolated. While the resolution of the collaboration issues may seem like a feat to overcome, they should not be ignored. In fact, as many as 98% of organizations surveyed are reporting their IT/OT departments are not working as one function while utilizing their industrial data.

With the velocity and volume of data being produced organization-wide, there needs to be an intervention to improve interdepartmental collaboration to handle the data and extract its full benefits. However, organizations are responding with plans to hire new staff with relevant skills,

both temporary (60%) and permanent (50%) upskill existing employees (47%) and automate work with technology (42%) to bridge the data analytics skills gap faced. These are strong indications that relevant skills and technology are needed for data and are currently missing. While hiring temporary staff may fix some issues in the short term, that won't improve collaboration, nor will it contribute to the needed change in company culture.

We also cannot forget about the technology needed alongside the people. Ensuring the tools used have intuitive user interfaces that can help guide the users through the software, as well as features such as contextualized help within the software, informative error messages and feedback messages/suggestions, can all help with the adopting new technologies.

Therefore, it is a balanced approach between people, processes and technology that will enable organizations to move forward on their digitalization journeys.

Where do you feel your organization sits when it comes to a collaborative infrastructure and culture? Do you understand the needs of your employees? And do you have what it takes to support the changes required?

Summary

Today's executives are aware of the numerous and growing benefits of leveraging industrial/operational data. However, organizations are building their own barriers to fully unlocking the benefits, through perpetuating a culture of siloed working and looking for temporary solutions rather than more strategic and long-term choices. To unlock the potential of industrial/operational data, it's important to realize that people, processes and technology don't each exist in a vacuum, but rather must be balanced in a way that enables organizations to make the most of the vast amount of data they have available.

The blending together of a physical world of machines, devices and equipment, with a digital world of servers, networks and clouds, will not happen overnight. Nor

will the breakdown of silos between IT and Operations departments. But ultimately, business success relies on both.

Consider these elements within your own organization, identify challenges and investigate changes. Both streamlining and future-proofing your own data will help your business gain a competitive edge and scale effectively.





Methodology

Vanson Bourne surveyed 200 senior IT and Operations respondents across North America (US, Canada) and Europe (UK, France, Germany) working in a range of sectors (Energy, oil and gas, Chemicals, Pharmaceuticals, Construction/engineering, Mining and Metals). Research was conducted in Spring 2023.

About Vanson Bourne

Vanson Bourne is an independent specialist in market research for the technology sector. Our reputation for robust and credible research-based analysis is founded upon rigorous research principles and our ability to seek the opinions of senior decision makers across technical and business functions, in all business sectors and all major markets.

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For more information, go to: www.aspentech.com/dataworks