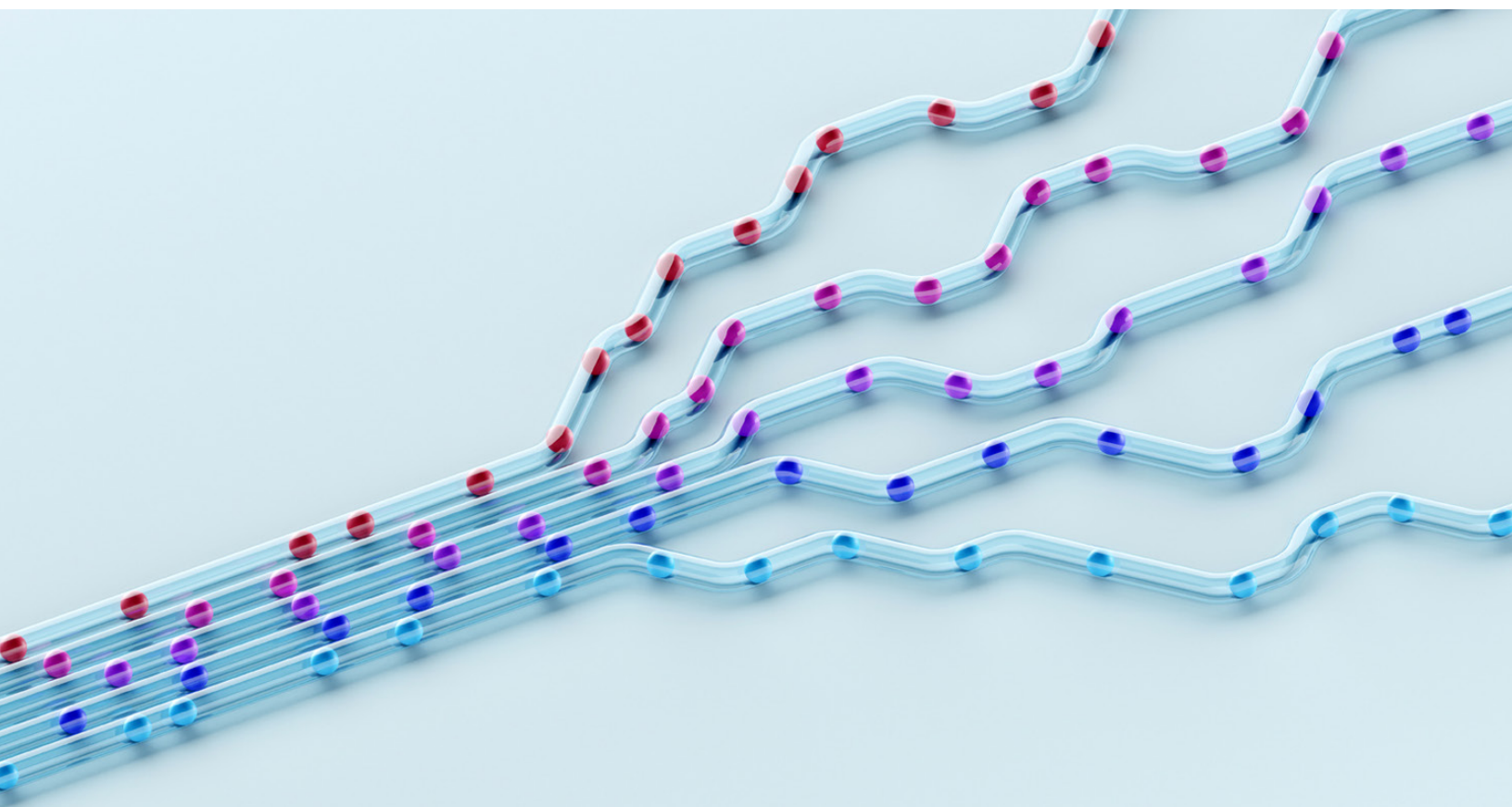


Operations Practice

Your questions about automation, answered

A new survey sheds light on the state of automation, the benefits that automation brings, and best practices for scaling automation technologies successfully.



The share of companies adopting automation technologies is steadily climbing, according to our latest McKinsey Global Survey on the topic.¹ Yet few of these companies have achieved automation's full potential: although most respondents say it's possible to automate at least one-quarter of their organizations' tasks over the next five years, less than 20 percent say their organizations have already scaled automation technologies across multiple parts of the business.

Effectively automating such a significant portion of companies' work won't be easy. It will require organizations to change how they structure their technology efforts and how they train employees—no small task—but there's substantial value at stake. Organizations that are already making these changes are meeting their automation targets and, crucially, improving both customer and employee satisfaction. The organizations that are meeting their targets—we call them “automation leaders”—offer valuable lessons for companies seeking to reap automation's many benefits.²

Adoption trends

How has the adoption of automation changed over the past two years?

Automation continues to take hold in all industries and regions. Seventy percent of respondents say their organizations are at least piloting automation technologies in one or more business units or functions, up from 66 percent in 2020 and 57 percent in 2018. These technologies are being adopted globally: at least six in ten respondents in each region report at least piloting automation. Respondents in financial services are the most likely to say their organizations are scaling automation technologies across the business, while those in professional services are the least likely.

How has the COVID-19 pandemic affected the pace of adoption?

Nearly half of respondents (46 percent) say the COVID-19 pandemic accelerated their organizations' deployment of new automation technologies. The main motivators for companies to speed up their efforts were the increased need to reinvent their business models and customers' greater adoption of digital channels. On the other hand, 16 percent of respondents say the pandemic delayed their companies' automation plans, most often citing shifting priorities due to changes in business demand as the top reason.

Why are companies pursuing automation—or not?

The top reason for automating is concern about the effectiveness of organizations' business processes. The second most common reason for automating processes is to improve experiences for customers or employees.

Of the 13 percent of respondents who say their organizations have no plans to automate, the largest share say it is because there are few clear opportunities for doing so. Insufficient resources is now the second most-cited reason for not automating, up from fourth in 2020.

Which technologies are organizations deploying?

Respondents most often report their organizations' adoption of intelligent document processing tools, which digitize analog documents and allow computers to understand the data within them (Exhibit 1). More than half of respondents from organizations that are at least piloting automation say their organizations are using these tools. Robotic process automation and business-process and case-management platforms are also commonly adopted technologies.

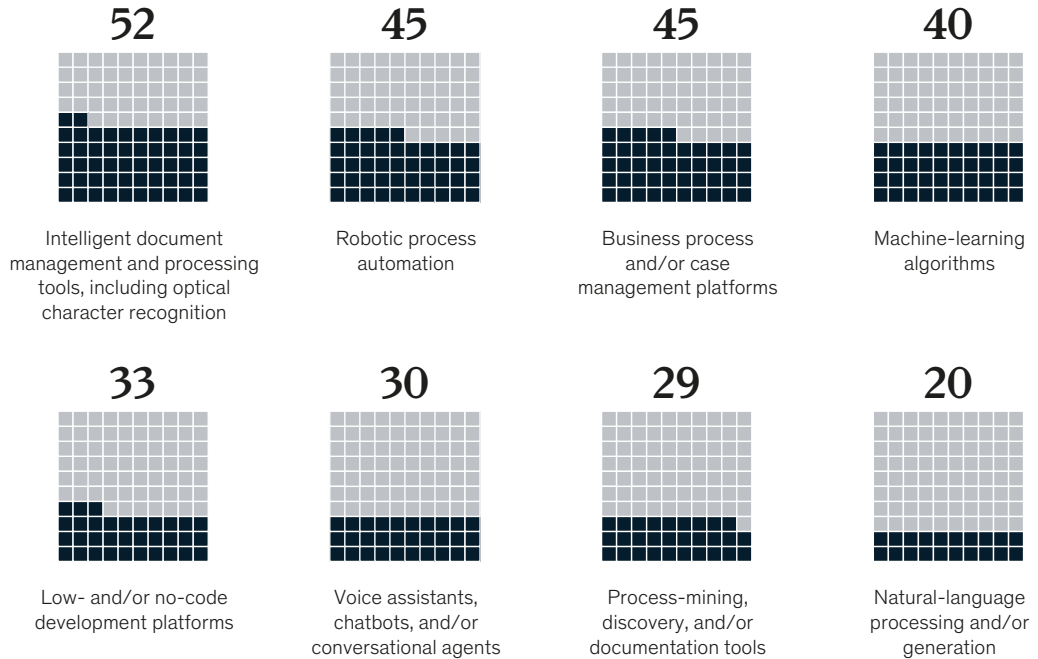
¹ The online survey was in the field from October 5 to October 22, 2021, and garnered responses from 639 participants representing the full range of regions, industries, company sizes, functional specialties, and tenures; 424 respondents reported that their organizations were at least piloting automation technologies. To adjust for differences in response rates, the data are weighted by the contribution of each respondent's nation to global GDP.

² We define an automation leader as an organization that, according to respondents, has deployed automation technologies beyond the piloting phase and has been successful or very successful at meeting its automation targets.

Exhibit 1

The most commonly deployed automation technologies are intelligent document management and processing tools.

Automation technologies currently deployed beyond piloting phase, % of respondents (n = 424)¹



¹Respondents who said "don't know," "other," and "not applicable; we have not deployed any automation technologies beyond the piloting phase" are not shown.

Effects of automation

Respondents from organizations that are at least piloting automation technologies see a variety of effects and challenges stemming from automation efforts, and most respondents expect their automation programs to alter the skill sets their organizations will need over the next few years.

What benefits are companies seeing from their automation programs?

Respondents report a wide range of benefits from automation. About two-thirds say their companies experienced each of the positive outcomes we asked about: improvements in quality control, customer satisfaction, and employee experience, in addition to reduced operating expenses. Overall, respondents are most likely to cite reduced expenses as the biggest benefit, though responses differ by industry.

For example, while respondents in financial services are much more likely than those in other industries to report cost savings as the biggest benefit, those in professional services are likelier than others to cite improvements in quality control.

What automation-related challenges are companies facing?

The decision to automate presents a wide array of challenges that respondents say their organizations confront, but the most commonly cited one isn't *how* to deploy automation—it's *where*. Respondents most often say their organizations' biggest challenge is understanding the opportunities for automation. Smaller shares of respondents mention challenges such as managing the technical aspects of deploying automation technologies and making trade-offs between automation and leaders' other priorities. Budget doesn't seem to be a common

issue, once organizations commit to automating: just 5 percent say the main challenge is obtaining the necessary financial resources.

How will automation change what skills employees need?

As more transactional tasks are automated, respondents expect to see growing demand for new skills. Seventy-seven percent of respondents from companies that are at least piloting automation say that within the next two years, their organizations will require more advanced cognitive skills—such as quantitative and statistical skills, critical thinking, and project management—as a result of their automation efforts. Sixty-seven percent also expect to see increased demand for social and emotional skills, such as those needed for communication and negotiation, leadership, and entrepreneurship.³ With these advanced skills in short supply, companies are undertaking reskilling efforts to help employees build the capabilities they'll need to shift to higher-value tasks.⁴

Success with automation

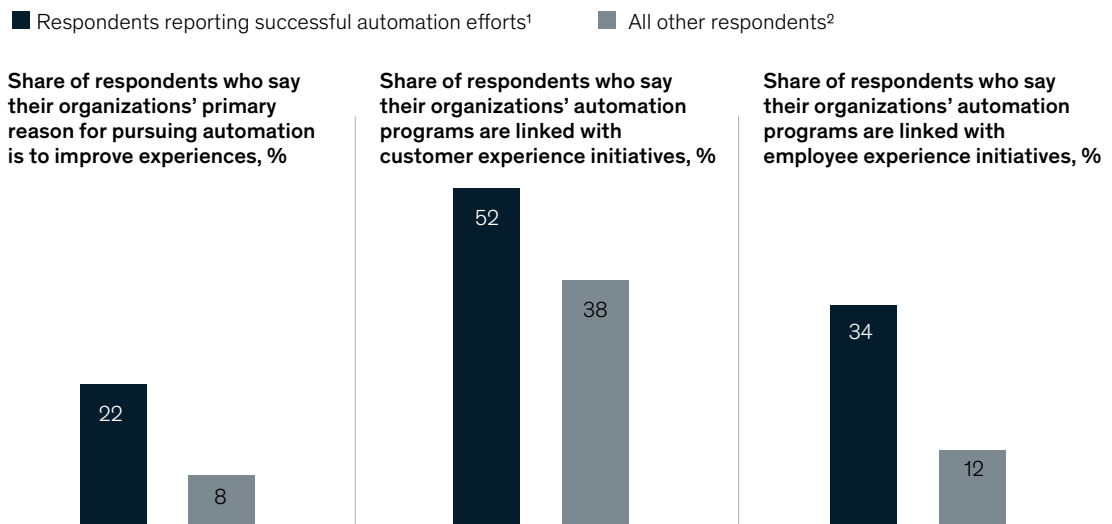
In our 2018 and 2020 surveys, we reported that organizations with successful automation efforts make automation a strategic priority. The latest results show that this is still true: respondents from these organizations—the automation leaders—most often point to prioritizing automation as the main element that influenced their success. We also find that these organizations use automation to enable other strategic priorities, and that employees continue to play a pivotal role in automation efforts.

What are successful automation programs trying to achieve?

Organizations with successful automation programs tend to be those that treat customer and employee experience as a strategic priority. In other words, a major goal of their automation efforts is not just to reduce expenses or make processes more effective but to increase satisfaction among customers and employees. Respondents from automation leaders are more than twice as likely as others to cite improved customer and employee experience as their organizations' chief motivation for automating (Exhibit 2).

Exhibit 2

Successful automation efforts are more likely than others to be driven by an interest in improving customer and employee experience.



¹ Respondents who said that their organizations have been "successful" or "very successful" at meeting their automation targets; n = 154.
² n = 64.

³ We also asked about the expected need for physical and manual skills and basic cognitive skills, such as data input and processing. For physical and manual skills, 14 percent expect increasing need, while 40 percent predict a decrease. For basic cognitive skills, 47 percent expect an increase and 27 percent a decrease.

⁴ Jutta Bodem-Schrötgens, Angelika Reich, Bill Schaninger, and Kartik Sharma, "Three keys to building a more skilled postpandemic workforce," *McKinsey Quarterly*, July 30, 2021.

The survey also finds that, even when improving experiences isn't their top reason for automating, automation leaders' initiatives to improve customer and employee experience are often linked with automation efforts, which experience shows can make these initiatives more effective. Just over half of respondents from automation leaders say their organizations have customer experience initiatives that are coordinating with their automation efforts, and respondents from these successful organizations are much more likely than those from other organizations to say they have employee experience initiatives that are linked with their automation efforts.

Another lesson from automation leaders: make sure that employees participate in your automation efforts. The survey results show that automation leaders are more apt to have nontechnical employees—rather than IT or algorithm developers—help to train automation technologies to improve the technologies' accuracy, thereby giving those employees the tools to improve their own

productivity. Among respondents at automation leaders, 44 percent report using this method of human-in-the-loop design—double the share at other organizations.

Is success more likely if a company makes big changes or small ones?

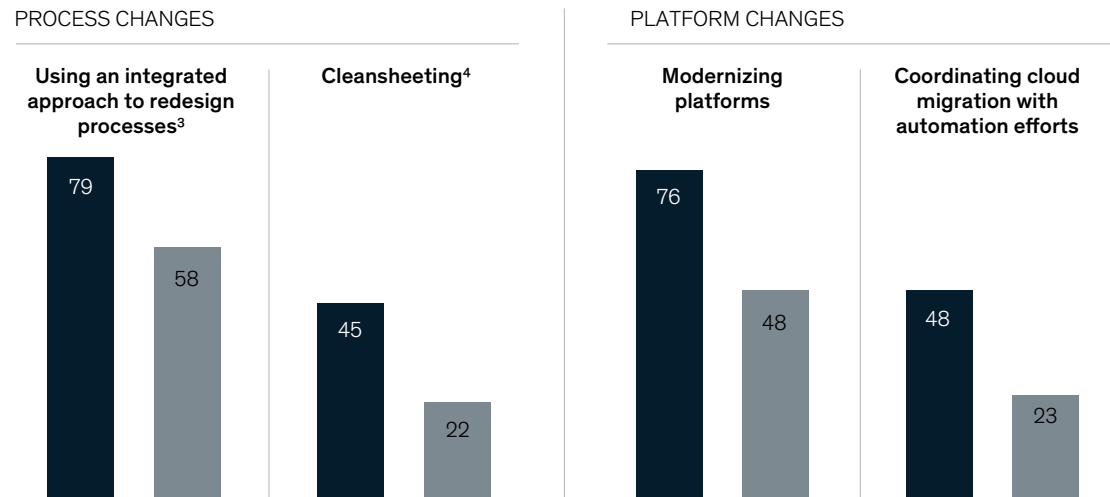
Automation leaders are making sweeping (rather than incremental) process changes part of their automation agenda (Exhibit 3). The survey suggests that automation leaders are much more likely than others to use an integrated approach, taking a variety of actions such as demand reduction, process streamlining, zero-based redesign, automation of manual work, and use of advanced analytics.⁵ Responses show automation leaders are also more than twice as likely as others to use a particular technique: cleansheeting. Using this technique, organizations build processes from scratch to incorporate automation technologies, thereby reaping the full benefits that the technologies can offer.

Exhibit 3

Organizations that are automation leaders make large changes to their processes and platforms.

Methods used while scaling automation,
% of respondents¹

■ Respondents reporting successful automation efforts²
■ All other respondents



¹For respondents reporting successful automation efforts, n = 154. For respondents at all other organizations, n = 64.

²Respondents who said that their organizations have been "successful" or "very successful" at meeting their automation targets.

³That is, modifying legacy processes by employing a combination of traditional levers, such as reduction of bottlenecks, and automation solutions, such as robotic process automation.

⁴That is, building organizational processes from scratch to incorporate automation technologies.

⁵ In the survey, we define this approach as modifying legacy processes by employing a combination of traditional levers (such as reduction of bottlenecks) and automation solutions (such as robotic process automation bots).

Automation leaders are also making significant technological changes. They are much more likely than other organizations to modernize their platforms. Also, while a majority of all survey respondents report cloud migration efforts, respondents from automation leaders are much more likely than others to report coordinating cloud migration with their automation programs.

How are successful automation programs implemented?

The latest survey results show a continuation of the broad shift toward a federated governance model for a company’s automation efforts,⁶ both at organizations that have seen success and those that haven’t. In this model, a central support team provides the necessary tools and capabilities to enable parts of the business to automate processes autonomously.

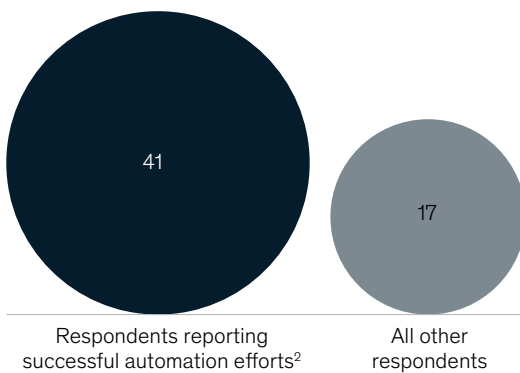
In addition, automation leaders tend to adopt tools that empower parts of the business to take part in automation efforts. They are much more likely than other organizations to use process-mining, discovery, and documentation tools, in particular (Exhibit 4). These tools, which analyze and codify actions taking place within a process, allow business functions and units to quickly identify the biggest automation opportunities within existing processes. While the survey results suggest these tools are among the least commonly adopted automation technologies, our experience has shown them to be among the easiest to deploy.

Low-code and no-code development platforms are other tools that can help functions and business units implement automation more efficiently. Because these platforms require few programming skills, companies can train employees with low

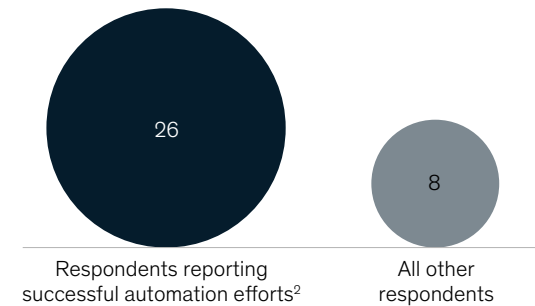
Exhibit 4

Automation leaders often use process-mining, discovery, and documentation tools, as well as a citizen developer model.

Adoption of process-mining, discovery, and documentation tools, % of respondents¹



Moderate or complete adoption of a citizen developer model for building new automation products, % of respondents¹



¹For respondents reporting successful automation efforts, n = 154. For respondents at all other organizations, n = 64.
²Respondents who said that their organizations have been “successful” or “very successful” at meeting their automation targets.

⁶ In 2021, 33 percent of respondents report a federated model, up from 29 percent in 2020 and 26 percent in 2018.

levels of technical proficiency to pursue automation opportunities—so business units don't need to rely exclusively on professional developers. While 57 percent of respondents say their organizations have adopted such a citizen developer model at least to some degree, automation leaders are more likely to have fully embraced citizen developers: more than one-quarter of respondents at automation leaders say their organizations have adopted such a model moderately or completely, compared with just 8 percent of respondents from other organizations.

How much of the organization is involved in successful automation efforts?

The more, the merrier: more parts of the organization are closely involved in successful automation efforts than they are in less successful ones. Respondents reporting success are much more likely than others to say that the operations,

finance, and communications functions, as well as business units, are formally involved in their organizations' automation efforts. Furthermore, 86 percent of respondents reporting success (compared with 69 percent of other respondents) say the IT function engaged with automation planning from the very first project discussions.

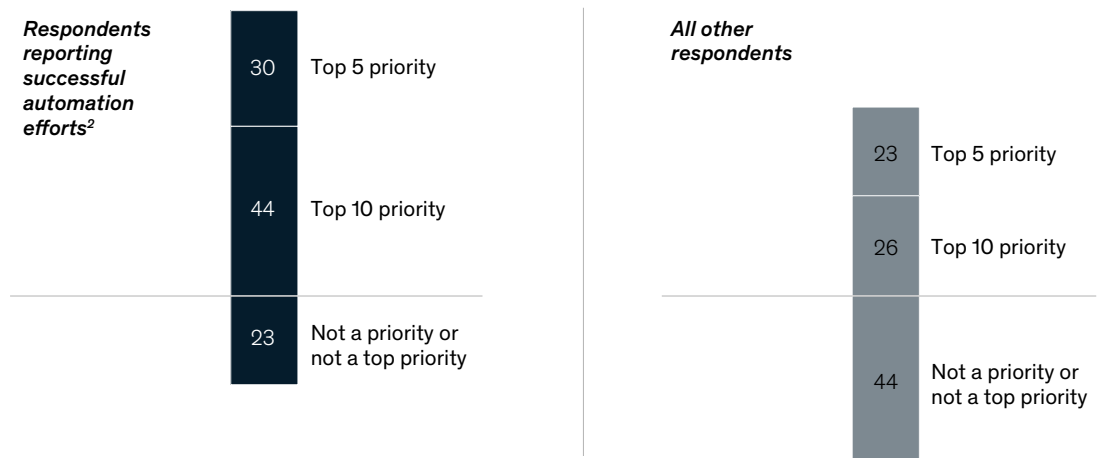
How important are training and reskilling to automation success?

Very important. About three-quarters of respondents from automation leaders say that addressing automation-related skill gaps is at least a top ten priority for their organizations, whereas less than half of respondents from other organizations say the same (Exhibit 5). Furthermore, respondents from automation leaders most often cite employee training and capability building as the factor that had the biggest impact on their organizations' automation outcomes.⁷

Exhibit 5

Automation leaders prioritize filling automation-related skill gaps.

Importance of addressing potential automation-related skill gaps within organizations' workforce, compared with other priorities, % of respondents¹



¹For respondents reporting successful automation efforts, n = 154. For respondents at all other organizations, n = 64. Respondents who said "don't know" are not shown.

²Respondents who said that their organizations have been "successful" or "very successful" at meeting their automation targets.

⁷Of respondents from automation leaders, 24 percent cite employee training and capability building as the factor that most affected automation-effort outcomes, followed by 21 percent citing coordination across business units or functions, 19 percent citing clarity of the management team's communications, 17 percent citing rigor of performance-management systems, and 12 percent citing attainability of targets.

Automation leaders also use different training methods and formats from other organizations. Responses show that automation leaders are less likely than other organizations to rely on self-directed online courses as their primary method of automation-related retraining and reskilling,⁸ instead focusing on formats such as virtual or in-person facilitated workshops and coaching by sponsors, managers, or experts.

Organizations with successful automation efforts make it a strategic priority to improve customer and employee experiences, and they use automation to do so. Simply pursuing automation technologies to reduce expenses is not sufficient. To see success while scaling new technologies, companies should focus on the people involved (both customers and employees), commit to overhauling existing processes, and develop new skill sets within the workforce to pursue more innovative ways of working.

⁸ The category includes self-directed online courses hosted by respondents' organizations and by third parties.

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