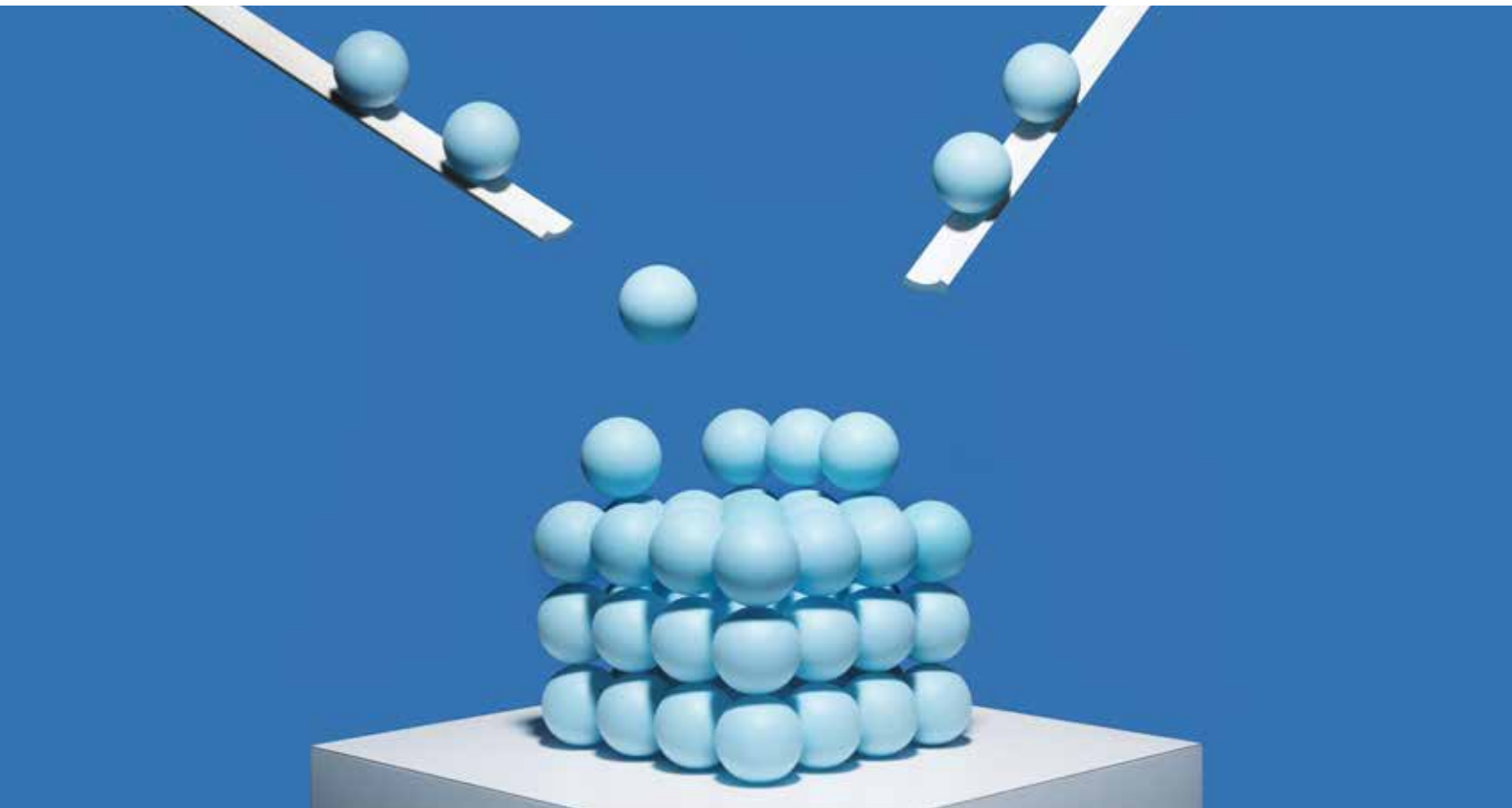McKinsey
& Company

Operations Practice

The imperatives for automation success

New survey findings show that organizations that successfully automate business processes follow a few common practices.

August 2020

At a time when companies are increasingly embracing technologies such as robotic process automation, natural language processing, and artificial intelligence, and as companies' automation efforts mature, findings from our second McKinsey Global Survey on the topic show that the imperatives for automation success are shifting.[1] Two years ago our survey found that making business-process automation a strategic priority was conducive to success beyond the piloting stage.[2] This year's findings show that prioritizing automation has become even more important to enable success. They also suggest that successful organizations continue to focus on employees as much as technology—and that they have instituted new ways of doing so in which employees work alongside the new technologies. Finally, rethinking operating models, including how different functions work together, has emerged as a new imperative.

The survey, conducted just before the COVID-19 pandemic, suggests that while more companies are pursuing automation, there hasn't been a significant change in the share achieving success over the past two years. Just 61 percent of respondents say their companies have met their automation targets.[3] This makes it even more important to understand the factors that enable success.

Looking at respondents from larger companies that are meeting their automation targets, we found three distinguishing factors: they make automation a strategic priority, focus on people as much as technology, and develop an operating model that enables scaling.

The use of automation is growing

The findings suggest that more companies are pursuing automation now than two years ago. Two-thirds of respondents say their organizations are at least piloting the automation of business processes in one or more business units or functions, compared with 57 percent who said so in the previous survey (Exhibit 1). Most of that change comes from an increase in the percentage of respondents reporting pilot projects; the share of organizations that respondents say are moving beyond the piloting phase hasn't grown significantly since 2018. Of those who report that their organizations have not begun to automate, nearly half say there are plans to do so within the next year.

The most commonly deployed technologies, according to respondents, are business-process-

Exhibit 1

The findings suggest that more organizations are pursuing automation now than two years ago.

Actions organizations have taken to automate business processes, % of respondents[1]

	2018 (n = 1,303)	2020 (n = 1,179)	More automation
Have set up an automation program and are scaling automation technologies across multiple parts of the business	16	15	
Have fully automated a process in at least 1 function or business unit, but have not scaled automation technologies across multiple parts of the business	13	16	
	57	**66**	
Piloting the automation of business processes in at least 1 function or business unit	28	35	
Have not begun to automate business processes but plan to do so within the next year	18	14	
Have not begun to automate business processes and have no plans to do so	20	16	

[1]Respondents who said "don't know" are not shown.

management platforms and robotic process automation (Exhibit 2). These are followed by image-recognition technologies, such as optical character recognition (OCR), and by machine-learning algorithms and automated process-mining, -discovery, and -documentation tools. We also see evidence of adoption of conversation-automation technologies such as voice assistants and chatbots.
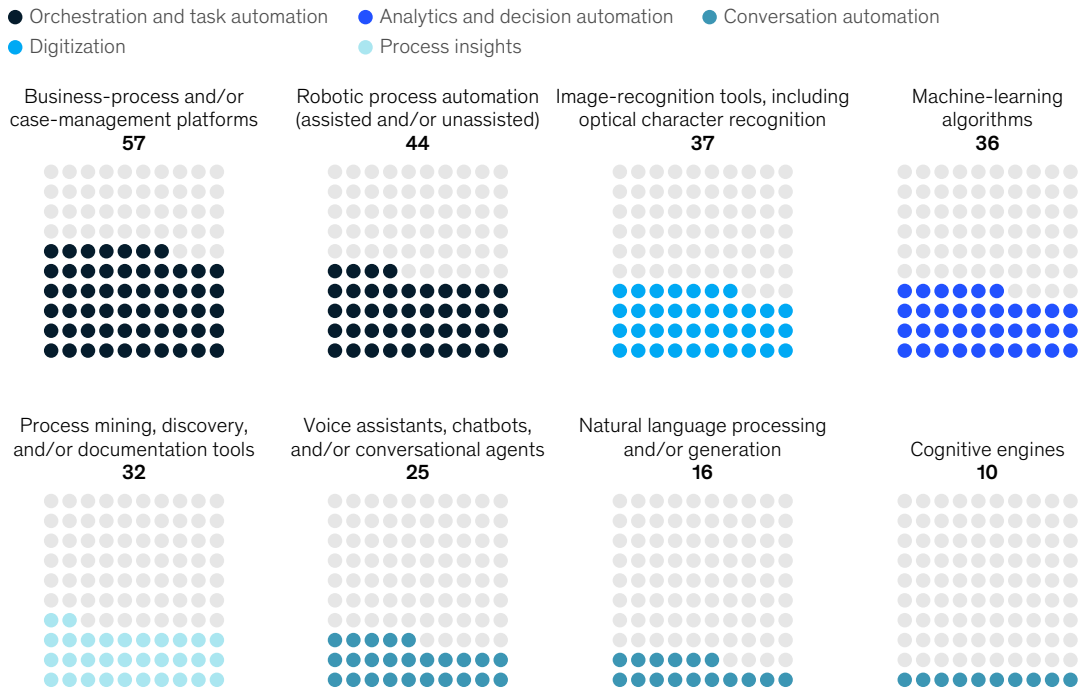
The evolving factors in successful automation

Looking at respondents from larger companies (with $1 billion or more in annual revenues) that are meeting their automation targets,[4] we found three distinguishing factors: they make automation a strategic priority, focus on people as much as technology, and develop an operating model that enables scaling.

Exhibit 2

The most commonly deployed technologies are business-process platforms and robotic process automation.

Automation technologies currently deployed beyond the piloting phase, % of respondents[1]

● Orchestration and task automation   ● Analytics and decision automation   ● Conversation automation
● Digitization   ● Process insights

Business-process and/or case-management platforms
57

Robotic process automation (assisted and/or unassisted)
44

Image-recognition tools, including optical character recognition
37

Machine-learning algorithms
36

Process mining, discovery, and/or documentation tools
32

Voice assistants, chatbots, and/or conversational agents
25

Natural language processing and/or generation
16

Cognitive engines
10

[1]Respondents who said "other" or "don't know" are not shown; total n = 793.

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[4] We define "large companies" as those with annual revenues of $1 billion or more, according to respondents. Those with annual revenues of less than $1 billion are classified as "smaller companies."
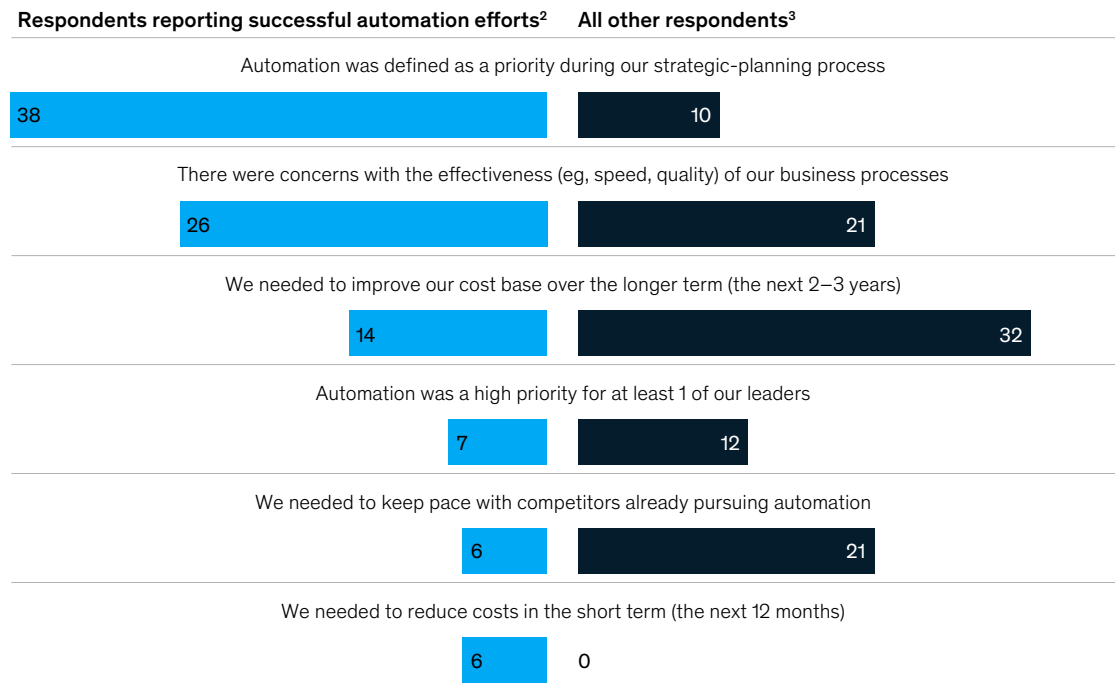
1. Make automation a strategic priority
In 2018, respondents from organizations with successful automation efforts were nearly twice as likely as others to say their organizations designated automation as a strategic priority, aligning the automation strategy with the overall business strategy and placing automation high on the C-suite agenda. The 2020 findings reinforce this imperative. When we asked respondents the primary reasons their companies are pursuing automation, 38 percent of those reporting success say their companies defined automation as a priority during their strategic planning process— nearly four times the share from other companies (Exhibit 3). What's more, among respondents reporting success, 72 percent credit making automation a strategic priority with being one of the most important factors in their companies' achievements with automation. Respondents from companies that haven't succeeded with automation

Exhibit 3

Respondents reporting automation success are more likely than others to say their organizations designated automation as a strategic priority.

Primary reason for the organization's pursuit of automation, % of respondents at large organizations[1]

Respondents reporting successful automation efforts[2]	All other respondents[3]

Automation was defined as a priority during our strategic-planning process

| 38 | 10 |

There were concerns with the effectiveness (eg, speed, quality) of our business processes

| 26 | 21 |

We needed to improve our cost base over the longer term (the next 2–3 years)

| 14 | 32 |

Automation was a high priority for at least 1 of our leaders

| 7 | 12 |

We needed to keep pace with competitors already pursuing automation

| 6 | 21 |

We needed to reduce costs in the short term (the next 12 months)

| 6 | 0 |

[1]Organizations with annual revenues of $1 billion or more; respondents who said "other" or "don't know" are not shown.
[2]Respondents who said (a) that their organizations have fully automated a process in at least 1 function or business unit or have scaled automation technologies across multiple parts of the business and (b) that their automation efforts have been successful or very successful at meeting their targets; n = 95.
[3]n = 74.

most commonly say their companies are pursuing automation programs for long-term cost savings, to keep pace with competitors, or to address concerns about the effectiveness of their business processes.

We also see successful companies scaling automation across the organization. Respondents from organizations with successful efforts are nearly five times more likely than others to say the scope of their automation efforts covers the entire organization.

2. Focus on people as much as technology
While the 2018 findings showed that organizations with successful automation efforts were focused on skill gaps and talent acquisition, this year's research finds that successful organizations now consider the human elements of these efforts in three ways. First, they consider and build the automation-related capabilities of their personnel. Respondents from these organizations are more likely than others to say their organizations make addressing potential automation-related skill gaps a top five priority (Exhibit 4). These respondents are also more than twice as likely as others to identify employee training and capability building as one of the primary reasons for their organization's automation success.

Second, successful organizations also gather individuals' expertise and embed it in the design of automation solutions. Respondents reporting success are much more likely than others to say their companies scale up their automation programs by using "human in the loop" solutions—that is,

Exhibit 4

Organizations that have seen success with automation make addressing skill gaps a priority.

Share of respondents at large organizations[1] who say addressing potential automation-related skill gaps is a top 5 priority at their organizations, %

Respondents reporting successful automation efforts[2]
31

All other respondents[3]
13

[1]Organizations with annual revenues of $1 billion or more.
[2]Respondents who said (a) that their organizations have fully automated a process in at least 1 function or business unit or have scaled automation technologies across multiple parts of the business and (b) that their automation efforts have been successful or very successful at meeting their targets; n = 95.
[3]n = 74.

training automation platforms with people's input over time (Exhibit 5).

Finally, successful organizations prioritize communication across the organization while implementing automation-related changes. Respondents from companies with successful efforts are seven times more likely than others to say they formally involve the communications function while implementing automation efforts, and they are more than twice as likely to say the HR function is involved.
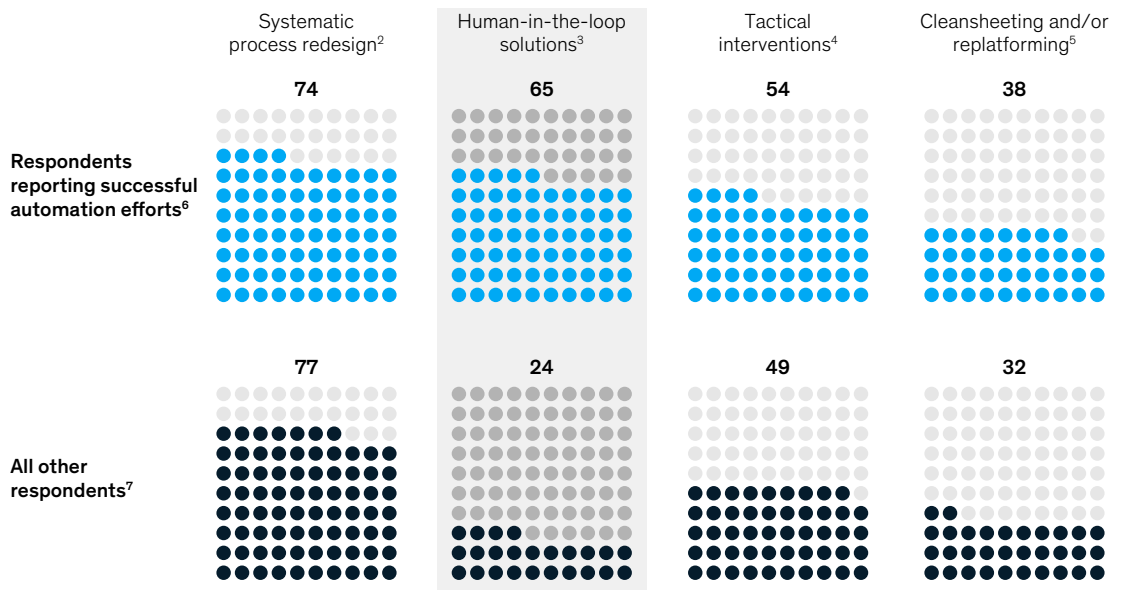
3. Develop an operating model that enables scaling

The responses show that large companies have automated at least one business process in an average of four functions, such as finance, IT, and customer service. As automation programs expand and grow more complex, silos within the organization can hinder performance if business areas do not coordinate closely with one another.[5] The findings suggest that successful companies' operating models—their structures for coordinating activities across the organization—allow their

Exhibit 5

Successful organizations adopt human-in-the-loop solutions to scale their automation programs.

Methods adopted to scale automation programs, % of respondents at large organizations[1]

	Systematic process redesign[2]	Human-in-the-loop solutions[3]	Tactical interventions[4]	Cleansheeting and/or replatforming[5]
Respondents reporting successful automation efforts[6]	74	65	54	38
All other respondents[7]	77	24	49	32

[1]Organizations with annual revenues of $1 billion or more.
[2]That is, modifying legacy processes by employing a combination of traditional levers, such as reduction of bottlenecks, and automation solutions, such as RPA bots.
[3]That is, training automation platforms using reinforcement learning methods over time.
[4]That is, deploying one-off solutions to address specific pain points within processes.
[5]That is, building organizational processes from scratch to incorporate automation technologies.
[6]Respondents who said (a) that their organizations have fully automated a process in at least 1 function or business unit or have scaled automation technologies across multiple parts of the business and (b) that their automation efforts have been successful or very successful at meeting their targets; n = 95.
[7]n = 74.

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[5] Ruben Schaubroeck, Felicita Holsztejn Tarczewski, and Rob Theunissen, "Making collaboration across functions a reality," *McKinsey Quarterly*, March 2016, McKinsey.com; Julie Goran, Laura LaBerge, and Ramesh Srinivasan, "Culture for a digital age," *McKinsey Quarterly*, July 2017, McKinsey.com.

automation programs to properly manage the complexity of deploying automation technologies, which makes it easier for those programs to scale.

Indeed, respondents at successful companies are more likely than others to say that coordination across business units or functions is one of the elements that will have the greatest influence on automation efforts' outcomes in the coming years (Exhibit 6).

As operating models become more complex, the findings suggest it's also important for leaders to have a full view of the costs of automation

programs that may span across the organization. Forty-six percent of respondents who report automation success at larger companies say their leaders understand very well or completely the total cost of ownership for their automation efforts. Just 10 percent of respondents at other companies say the same.
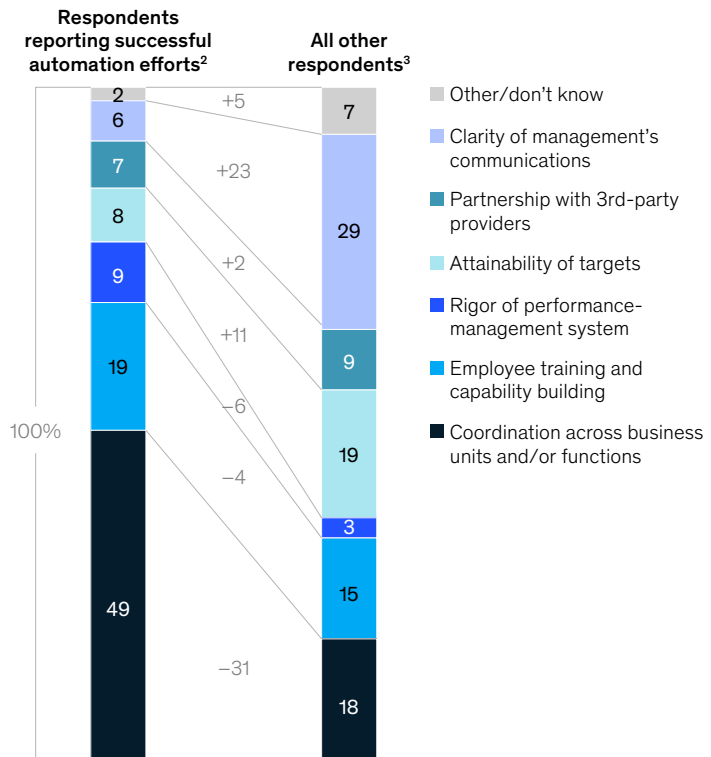
What success looks like at smaller companies

The findings indicate that smaller companies are less likely than large companies to have automated any of their processes,[6] but those that have done

Exhibit 6

Respondents reporting success often cite coordination across business units as a factor in their future automation outcomes.

Expected contributing factors to automation success in the next 3 years, % of respondents at large organizations[1]

Respondents reporting successful automation efforts[2]

All other respondents[3]

- Other/don't know
- Clarity of management's communications
- Partnership with 3rd-party providers
- Attainability of targets
- Rigor of performance-management system
- Employee training and capability building
- Coordination across business units and/or functions

Successful: 2, 6, 7, 8, 9, 19, 49 (100%)
Differences: +5, +23, +2, +11, −6, −4, −31
All other: 7, 29, 9, 19, 3, 15, 18

[1]Organizations with annual revenues of $1 billion or more.
[2]Respondents who said (a) that their organizations have fully automated a process in at least 1 function or business unit or have scaled automation technologies across multiple parts of the business and (b) that their automation efforts have been successful or very successful at meeting their targets; n = 95.
[3]n = 74.

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[6] Among respondents at large companies, 41 percent say their organizations are using automation across the organization or have fully automated processes in at least one function or business unit. At smaller organizations, 26 percent of respondents say the same.

Companies should view automation as a way to enhance human productivity, rather than a way to replace manual labor.

so are seeing a higher success rate than larger organizations. Sixty-five percent of respondents at smaller companies report success with automation, compared with 55 percent at large organizations. While the smaller companies meeting their automation targets exhibit several of the same success factors as successful large organizations, one additional factor appears to be a marker of success for smaller organizations.

As with large companies, respondents at smaller organizations are much more likely than others to consider the entire organization under the scope of automation efforts. Leaders' understanding of automation programs' costs also distinguishes smaller successful companies. Just over half of respondents at these companies say their leaders clearly understand the total costs, compared with one in five at other relatively small companies.

But at smaller companies, unlike large ones, another factor—taking a tactical approach and setting tangible objectives for automation initiatives—is also significant. Fifty-five percent of respondents at successful smaller companies say their organizations have established key performance indicators to track the impact of automation efforts, compared with 37 percent of respondents at other smaller companies.

Looking ahead

The three imperatives for successful automation shouldn't be looked at separately but rather as parts of the same automation mandate. As we look ahead, leaders can take the following steps to capitalize on the potential of automation.

Identify and focus on the most critical business processes. As organizations think about incorporating automation, they should identify the processes that, if automated, will best support their strategy. For example, in healthcare services, crucial processes can be found in customer journeys such as patient access and claims processing. Organizations can benefit from looking at these critical processes and taking a systematic approach to automating them, rather than focusing on solutions to specific pain points.

Invest in people and new ways of working. Companies should view automation as a way to enhance human productivity, rather than a way to replace manual labor. For example, using bots in contact centers allows employees to trigger automated data retrieval from different systems, thereby allowing them to focus on building relationships with customers. But before employees can work effectively with automation technologies, they must be taught how to do so. Companies should promote a culture of continuous learning while incorporating new technologies and should determine what skills people will need to help the organization meet its automation goals. Implementing automation programs typically requires creation of new roles as well as modification of existing ones. That calls for a well-engineered talent-management and reskilling program.

Encourage cross-functional collaboration. Automating a process can require expertise in customer experience, digitization, analytics, and organizational design. These capabilities often exist in different parts of the organization, such as IT, finance, and analytics. Companies can therefore benefit from adopting an operating model that brings together capabilities from across the organization—in collaboration with third-party service providers and vendors, as needed—to reinvent critical processes with automation. Talent rotations, cross-functional automation labs, and other mechanisms can support such an operating model and thereby help organizations realize their goals for using automation technologies.

The contributors to the development and analysis of this survey include **Gary Herzberg**, a consultant in McKinsey's New Jersey office; **Rohit Panikkar** and **Rob Whiteman**, both partners in the Chicago office; and **Anand Sahu**, a consultant in the Silicon Valley office.