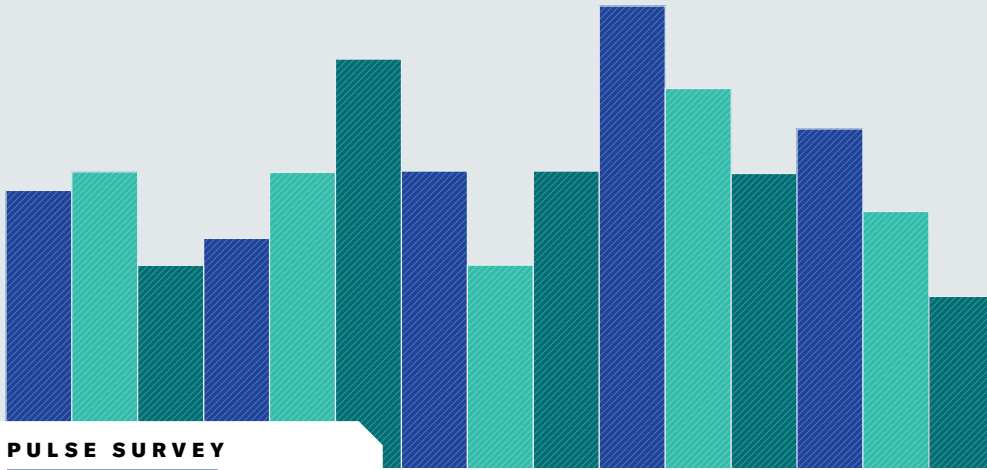




**Harvard
Business
Review**

ANALYTIC SERVICES



PULSE SURVEY

Taking the Lead on IT Automation: IT Leaders as Evangelists for Their Automation Strategies



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Tom Anderson
Vice President and General Manager
of the Ansible Business Unit
Red Hat

After being relegated to the role of an obscure, secondary technology for decades, automation is now taking the main stage and becoming foundational for both consumer lifestyle and enterprise solutions. In the comfort of our houses, devices from Amazon, Apple, and Samsung, to name a few, feature home automation as a key design requirement. In our shops, we are starting to see automation provide cashierless experiences in Seattle, London, and New York. And, of course, on our roads, automation is a critical ingredient to achieve self-driving.

However, automation in cars is not new. Over the decades, we saw the introduction of technologies like automatic transmission and cruise control. These technologies have been deployed in a tactical way to address specific problems unrelated to each other. But a new era has dawned in the history of car manufacturing, given that automation is being applied to every aspect of the vehicle to achieve self-driving and transform the journey.

As with the evolution of the car, for 30 years, IT has deployed automation in a tactical way to sustain the business. Think about scripts and macros. What's different now is that, for the first time, we are looking at automation in a strategic, holistic way, applying it to every aspect of the business.

This evolution is happening in two parallel ways:

- On one front, we are moving from deploying automation in small, sparse pockets of IT operations to pervasive adoption across all aspects of the IT environment, marching to achieve self-healing, self-defending, and self-optimizing IT systems.
- On another front, we are expanding the adoption of automation to domains that are beyond IT, working to automate business processes in every area of the organization, from marketing to legal departments.

It's not an easy transformation, though. It will take a long time for people to be comfortable in a car with no steering wheel. For generations, we have grown accustomed to the feeling of being in control, no matter how tiring and imprecise, and now we are asked to forget all of that.

In the same way, automation in the workplace won't be embraced overnight.

More leaders than ever realize that automation has become a strategic priority. Many have come to the conclusion that today's computing environments depend on a scale, complexity, and speed that cannot be achieved without automation. Without automation, there will be increasingly less opportunity to compete and win.

Now it's time to share that realization with the rest of the company and advocate for automation as a business imperative.

It's up to the ones who see far into the future to share the vision and chart the way forward. If you are one of those leaders, you can start with this report. It shows how automation goes beyond saving costs and the elimination of repetitive tasks. It shows that, ultimately, automation is about velocity, agility, and survival. It's time to give your organization the encouragement and support needed to make change happen.

Taking the Lead on IT Automation: IT Leaders as Evangelists for Their Automation Strategies

As companies strive to become more agile and digitize their operations, IT automation has evolved into a business imperative. IT automation, once thought of exclusively as simple tools or scripts to help IT professionals streamline tasks, is now being seen as a strategic initiative and long-term IT strategy.

A Harvard Business Review Analytic Services survey of 338 business executives worldwide highlights the importance of IT automation: 80% of respondents say adopting IT automation is “extremely important” or “very important” to the future success of their organization. More than two-thirds of respondents (68%) agree that in the past 12 months, IT automation at their organization has shifted from a “nice to have” to a “must have.”

Those companies that are currently exploring or implementing IT automation anticipate many business benefits from the technology. Increased efficiency of business processes, cited by 75% of respondents, is the top business benefit organizations most aim to realize from their IT automation investments. Other benefits that organizations seek to gain the most include reducing operational cost (63%), improving the customer experience (53%), and improving agility/flexibility (48%).

“The mega trend behind IT automation is recognizing the need to reduce friction in a highly digitalized business world,” explains Mary Johnston Turner, research vice president, the Future of Digital Infrastructure Agenda program, at the technology consultancy IDC. “You really have to look carefully at what’s slowing things down in your operations, because that has a direct impact on the customer experience and other important business objectives.”

Ironically, a key factor that is slowing down the adoption of IT automation is IT leaders themselves. Sixty-eight percent of survey respondents say IT leaders should be sharing a vision of how IT automation will benefit their

HIGHLIGHTS



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68% of respondents say IT leaders should be **developing and sharing a vision for how IT automation will benefit** the organization and IT workers’ jobs—but only 34% say IT leaders are doing this now.

Due to rounding, some figures in this report may not add up to 100%.



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organization and workers’ jobs. However, only half that number of respondents (34%) say that IT leaders are actually embracing that role.

The disconnect between what IT leaders should be doing to advance IT automation versus what they are doing was reflected in several areas. Fifty-three percent of respondents say IT should be serving as a proponent of culture change to assure automation is accepted, but only 26% say that is happening. There is a double-digit gap between action and expectation of actions in setting IT automation priorities and seeking buy-in from the broader executive team, as well. **FIGURE 1**

“Historically, organizations have taken a one-size-fits-all approach to change management and some of the internal processes,” says Jayne Groll, CEO of the DevOps Institute, a global professional IT organization that advances the human elements of the DevOps profession. “The result was muddy and bureaucratic. IT leaders need to step up, understand the strategic objectives that IT automation will achieve, and then communicate those benefits throughout the ranks. They need to shape an organization that is happy, trusted, and self-organizing, so people wake up every day knowing what they’re going to do, why they need to do it, and how they can work together to achieve those goals.”

The consequences of IT leaders not advancing IT automation are severe. “In the short term, the digital business will suffer because they won’t be agile enough,” IDC’s Turner says. “The bigger danger is, in the long term, the IT function will lose its relevancy if it can’t keep up with the pace of the digital business.”

The vision from IT leaders must have a focus on business outcomes rather than just technology. “This is a fast-evolving space, where we’re trying to deliver really quality technical experiences internally and externally,” DevOps Institute’s Groll says. “It could be incredibly overwhelming for IT leaders, and almost paralyzing. I would say, first, figure out what you’re trying to achieve and how you create value, and then start looking at your automation strategy, because it will be less overwhelming.”

Beginning the Journey

Sometimes referred to as infrastructure automation, IT automation is the use of software to create repeatable instructions and processes to replace or reduce the amount

of manual interaction IT professionals have with IT systems. There are automation offerings, ranging from vendor management tools that automate a singular function for a specific vendor solution to full platforms that can flexibly automate across domains.

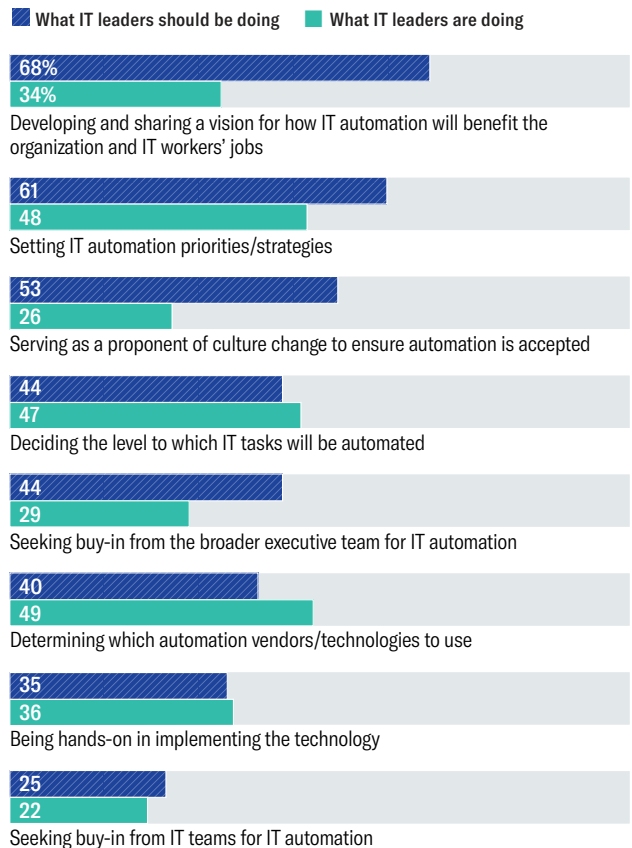
FIGURE 1

Looking for Vision

Companies challenge IT leaders to set IT automation priorities and promote culture change

What roles should IT leaders at your organization play in adopting IT automation? [SELECT ALL THAT APPLY]

What roles do IT leadership at your organization currently play in adopting IT automation? [SELECT ALL THAT APPLY]



Source: Harvard Business Review Analytic Services survey, November 2021

While automation has become common in many areas of business, many organizations are in the early stages of their IT automation journey. Nearly half (49%) of respondents are now only planning/exploring IT automation, or at best have only automated some simple, repetitive IT processes. Just 16% have automated some complex IT processes, and only 13% have deployed IT automation at scale across the organization. **FIGURE 2**

The division between the stated importance of IT automation and its lack of widespread use might be due to the way these tools have historically been employed.

“In the past, companies sometimes automated for automation’s sake,” Groll says. “Ironically, IT automated processes for customers, but forgot to automate itself. We were so busy providing technology to our external and internal customers, we forgot about the advantages of automation internally. But we’re catching up.”

Historically, IT automation has been largely in the province of relatively task-oriented administrative roles within organizations, such as DevOps teams and network administrators. Many senior leaders recognize that IT automation is paramount for a fast-moving digital business environment, and IT automation needs to be tied to more significant business outcomes. “A lot of senior leaders haven’t quite recognized that they need to pivot the conversation away



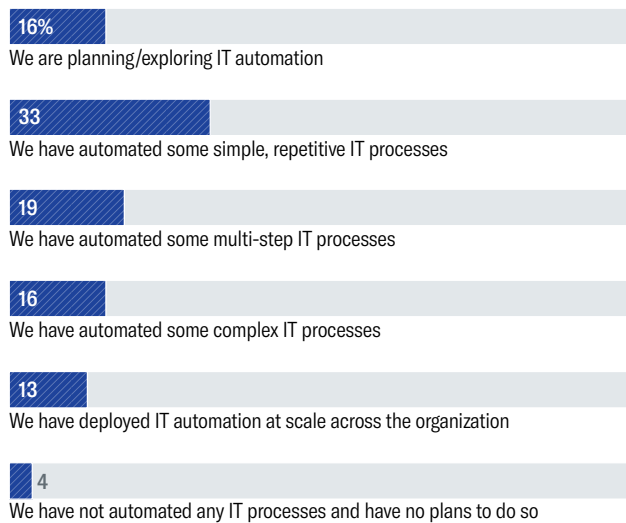
Many senior leaders recognize that IT automation is paramount for a fast-moving digital business environment, and IT automation needs to be tied to more significant business outcomes.

FIGURE 2

Beginning the Journey

Companies are just at the start of implementing IT automation

What is your organization’s current level of IT automation?



Source: Harvard Business Review Analytic Services survey, November 2021


from what individual workers can do with automation tools to better enable the end-to-end outcomes that the business is seeking, such as giving the customer the best online experience possible,” Turner says.

In her view, companies tend to focus on an exhaustive list of key performance indications for automation, such as the number of transactions as a percentage of tasks automated. However, these granular metrics don’t always pinpoint how IT operations impact customer satisfaction, develop new markets faster, or drive other business outcomes. Without that laser-focus on business benefits, it’s easy to discount the impact that IT automation can have.

In the same way, some IT leaders may be missing opportunities to promote IT automation. Instead of focusing on organizational change and culture, survey responses indicate that IT leaders are more likely to overemphasize technical issues such as determining which automation technologies and vendors to use. In that case, 40% of survey respondents say IT leaders should be focused on choosing vendors and technologies, and 49% say they are doing this task.

The irony is that the enthusiasm for IT leaders to become bigger evangelists of IT automation is precisely what many of those IT leaders were hired to do, says Lee Howells, digital expert at PA Consulting, a global innovation and transformation consultancy. “Over the past two to five years, IT leaders have become technology evangelists, because they have seen the need for their organizations to progress their IT capabilities,” he says. “They probably won the role because of these forward-looking attitudes, especially at the current epoch, where there are so many capabilities available. The pandemic has pushed us forward in digital capability; it has provided a demonstration of what can be done up to the board level, which holds the funds.”

Indeed, more than half of respondents (55%) say the greatest consequence of not adopting organization-wide IT automation is the inability to successfully execute a digital transformation strategy. **FIGURE 3** Inability to respond to changing market



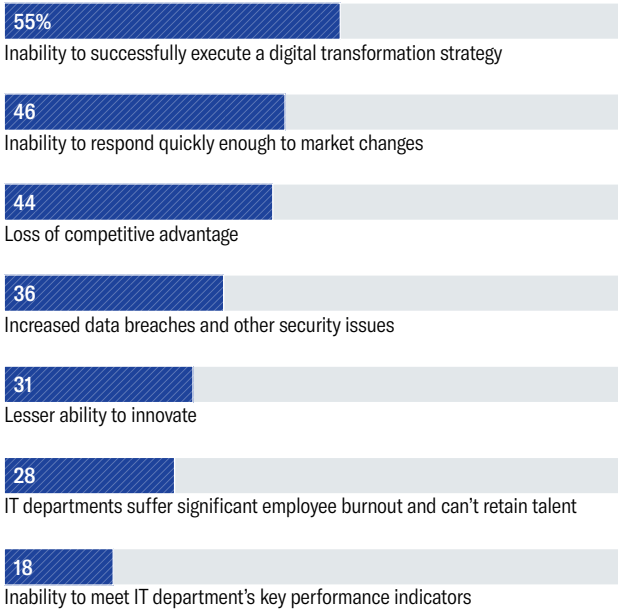
Many chief information officers and IT leaders focus on an exhaustive list of key performance indications for automation. However, these granular metrics don't always pinpoint how IT operations impact customer satisfaction, develop new markets faster, or drive other business outcomes.

FIGURE 3

Becoming Agile and Digital

Without IT automation, companies are concerned whether they can execute critical strategies

What are the greatest consequences of not adopting organization-wide IT automation? [SELECT ALL THAT APPLY]



Source: Harvard Business Review Analytic Services survey, November 2021

conditions and loss of competitive advantage are the next biggest consequences.

The three greatest consequences most cited by respondents intermesh. Implementing digital transformation strategies depends on using IT automation to speed development processes and relieve IT workers of manual, low-value tasks. By failing to adopt IT automation, companies can be hindered in executing their digital transformation strategy. That hindrance, in turn, can prevent companies from responding quickly to market changes, and the lack of agility will inevitably lead to a loss of competitive advantage.

The pandemic showcased the need for both digital transformation and IT automation. During the pandemic, IT departments began making greater use of automation, as they frantically tried to shift workers and customers to online tasks and interactions. As a result, IT workers became more conversant with automation more quickly. And that had a ripple effect throughout IT departments, as they have addressed many of the technology issues brought by the pandemic and are now focusing on what the new normal will require in terms of new workforce strategies, heightened

customer expectations, and the need to respond to future disruptions quickly.

“In the last 21 months, we’ve seen if you don’t understand your business systems and the architecture underneath them, and you don’t augment and automate them, you are going to miss out on opportunities and lose out to challenges,” says Brad Shimmin, chief analyst for artificial intelligence platforms, analytics, and data management for the technology consultancy Omdia.

As the pace of business becomes faster, the faster IT leaders embrace and evangelize IT automation, the quicker they can get ahead of competitors. “If they don’t overcome that inertia, they will maintain legacy processes and procedures, which become increasingly brittle over time, increasingly resistant to change, and increasingly blind to unanticipated requirements or changes in the environment,” Shimmin asserts. “The longer you wait, the fewer people you have working there who understand how these processes function.”

Organization-wide Strategy Needed

Implementing a unified, organization-wide IT automation strategy, as opposed to a patchwork approach, has become critical for companies to improve efficiencies and pursue digital transformation efforts. More than three-quarters (79%) of respondents say a unified, organization-wide approach is “extremely important” or “very important” when implementing IT automation.

“If we develop automation and pipelines that aren’t cohesive and don’t interoperate, there’s a lot of risk of chaos,” Groll says. Companies face a risk of disruption if they “approach IT automation in a patchwork manner,” she adds. “You could inadvertently encourage a silo culture, where everyone chooses the tools they like, and that could slow processes down and pull the culture of automation apart.”

At the same time, only 53% of respondents agree with the statement, “Our organization plans to completely automate IT processes end to end, rather than just automate parts of the processes.” This finding could reflect the fact that organizations are not being aggressive enough in their approaches to IT automation. However, the fact that some organizations plan to automate only parts of their processes may also denote a lack of trust or inexperience with IT automation, say analysts interviewed for this report.

In Groll’s view, humans will always be a part of IT automation, even if the technology relieves them of mundane, manual chores. “Automation is going to perform all the consistent, redundant work, and humans will oversee the automation and interpret the results,” she says. “The reticence some companies have about IT automation is a trust factor. Hopefully, organizations trust their humans. They have to learn to trust the formula, humans plus automation.”



Implementing digital transformation strategies depends on using IT automation to speed development processes and relieve IT workers of manual, low-value tasks.

Turner says the reticence often diminishes as companies become more familiar with IT automation and develop and implement policy-based guardrails for organization-wide automation strategy. “There is definitely a learning curve,” she says. “As automation is implemented and replaces some of the older, slower, manual processes, organizations increasingly understand the benefits and gain comfort with becoming more aggressive in their approach to IT automation over time. They also learn more about how to create more sophisticated automations tied directly to business goals.”

The most successful approaches to implementing IT automation vary from company to company. Many enterprises are setting up centers of excellence, or teams that interface with different parts of the business, to determine which processes have the most errors and risk.

“Those approaches are set up like a hub and spoke, where you have central authority and control, but you still have autonomy and responsibility in the departments that are affected by automation,” Omdia’s Shimmin says. “At the end of the day, we are trying to sell IT automation not just to the CXO [C-level executives], but to the frontline people who interface with the processes.”

In his experience, companies that are the most successful with IT automation identify the lowest-hanging fruit, beginning with initiatives that provide an immediate payback such as automating security patches and other tedious but necessary tasks. IT departments “understand IT automation needs to be an architecture that is going to envelop the entire business eventually, so IT needs to own it and give the autonomy to the marketing department to use the software that works with our back end.”

Groll has seen the most success with IT automation in highly regulated industries, such as financial services, that began with pilots in non-business critical services in a particular business unit or application stack. But she also sees the common denominator for achieving success as having a sound strategic vision behind these efforts.

“Companies who take a strategic approach have been able to experiment and reorganize their teams,” she says. “It becomes kind of a proof of concept. A team adopted a new way of working, and other teams see that and want it too, so it becomes very organic. But the leadership has to understand what is happening, because if there is not a strategic objective to it, it could get out of control. Transformational leadership

inspires the projects that are happening and provides the objectives for those projects, but lets teams self-organize to carry out the projects.”

Overcoming Barriers

For some IT organizations, IT automation can be viewed as a daunting task, since they have to deal with legacy systems that have not been properly instrumented to access all the needed data. Yet, starting with a well-defined use case with a clear payback can help companies start to develop their IT automation muscles.

Barriers to enterprise-wide adoption of IT automation vary from organization to organization, but legacy tools and lack of talent are top impediments. No single barrier was identified by more than half of the survey respondents, but many were named by a notable share of respondents. **FIGURE 4**

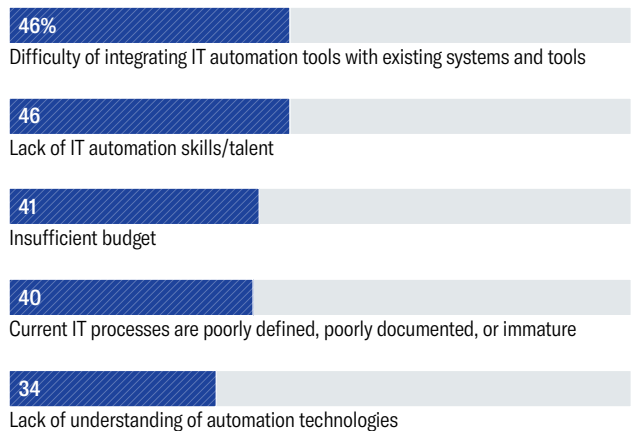
Experts interviewed for this report say some of the challenges will naturally resolve as IT automation becomes an

FIGURE 4


Barriers to Automation

IT departments must deal with integration challenges and lack of skills

What are the biggest barriers to enterprise-wide adoption of IT automation at your organization? [SELECT UP TO FIVE]



Source: Harvard Business Review Analytic Services survey, November 2021



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“If there’s one thing IT leaders should do, it’s provide clear, simple, consistent, regular communication of the strategy for IT automation,” says Lee Howells, digital expert at PA Consulting.

intrinsic part of operations. While survey respondents noted that lack of IT automation skills/talent is a challenge, Howells says access to talent is easier than it was in the past. “Many people are getting cloud certifications independently for their own personal enjoyment and progression,” he says. “They are becoming more IT automation savvy as a matter of course. University students are learning about IT automation as a matter of course, so the talent pool is growing and growing.”

Many companies are working to develop a culture of IT automation, but significant resistance to change must be dealt with. Even though survey responses suggest that IT leaders can do more to advance cultures of IT automation, many respondents’ organizations see the importance of doing this: 61% agree that their organization puts effort and resources into developing a culture of IT automation.

Still, nearly half of respondents (49%) agree that their organization encounters significant resistance to change when implementing IT automation solutions, demonstrating the need for proponents of culture change.

“Many enterprises have done their work and workflow one way for a long time,” Turner says. “Their internal processes align in a certain way. The cloud and automation can change a lot of the internal processes.” It’s critical for IT leaders to communicate to assure their staffs that they will remain important contributors to the company, as they reduce tedious tasks and improve their skills in other areas. “You’re not displacing anybody—you’re desperate to gain and retain staff,” she adds.

Still, the success of IT automation often hinges on IT leaders helping the workforce understand how this rebalancing will optimize business outcomes and remove tasks that workers find tedious.

“If there’s one thing IT leaders should do, it’s provide clear, simple, consistent, regular communication of the strategy for IT automation,” PA Consulting’s Howells says. “IT leaders constantly have to let their people know what’s happening and why it’s happening, because if employees don’t know why change is happening, they feel things are going negatively for them and they resist.”

In particular, he recommends town halls, so IT leaders can get face-to-face with their staffs as they evangelize the need for IT automation. “When you have that interaction, you can look in people’s eyes and see if they’re encouraged or fearful,” he says. “You can augment that with newsletters, emails, and Slack channels. You need to do it consistently.”

Some enterprises have used clever approaches to encourage workers to get on board with IT automation. For example, one company gamified their approach by featuring an IT automation use case of the month, which gave out bonuses to groups that were able to automate the highest percentage of workflows based on that use case. Turner says their approach was, “Go forth and see how you can apply this. If you can demonstrate a measurable benefit, you’ll get a reward.”

Conclusion

As IT automation becomes a critical element in digital transformation and for achieving other top business goals, IT leaders must not focus solely on technical matters like selecting the right technology. They should also become evangelists by developing a strategic vision for IT automation and serving as a proponent of culture change to overcome the resistance present at many organizations today.

“Digital business success and resilience require a secure, highly autonomous, self-healing infrastructure that is consistent across all the different footprints, from the public cloud to the edge,” Turner says. “You need a top-down vision that aligns the operational and funding models of this complex technology with what the business needs.”

Understanding how IT automation will benefit the business, and spreading that word throughout the IT ranks and across the enterprise, will not only boost IT automation efforts, but also help IT maintain its relevance and standing throughout the organization.

“The business is going to suffer if you don’t have a highly efficient, scalable, agile infrastructure,” Turner says. “If IT doesn’t provide that infrastructure, the business will go to someone else who will. DevOps and the cloud were the warning shot. But many companies have realized it’s a multi-platform world, and everything needs to work together, which requires a high degree of IT automation.”

METHODOLOGY AND PARTICIPANT PROFILE

A total of 338 respondents drawn from the HBR audience of readers (magazine/ newsletter readers, customers, HBR.org users) completed the survey.

Size of Organization	Seniority	Industry	Job Function	Region
18% 10,000 or more employees	39% Executive management/ board members	15% Technology	28% General/executive management	42% North America
8% 5,000–9,999 employees	29% Senior management	13% Financial services	11% IT	23% Europe
15% 1,000–4,999 employees	30% Middle management	15% Government/ not-for-profit	8% Consulting	19% Asia/Pacific/ Oceania
10% 500–999 employees	2% Other	10% Health care	8% Administration	9% Latin America
21% 100–499 employees		10% Business/ professional services	All other functions less than 8% each.	7% Middle East/Africa
27% Fewer than 100 employees		9% Consulting		
		All other sectors less than 8% each.		

Figures may not add up to 100% due to rounding.



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