2019 Global RPA Survey Results

TAKING **RPA** TO THE **NEXT LEVEL**

How companies are using robotic process automation to beat the competition

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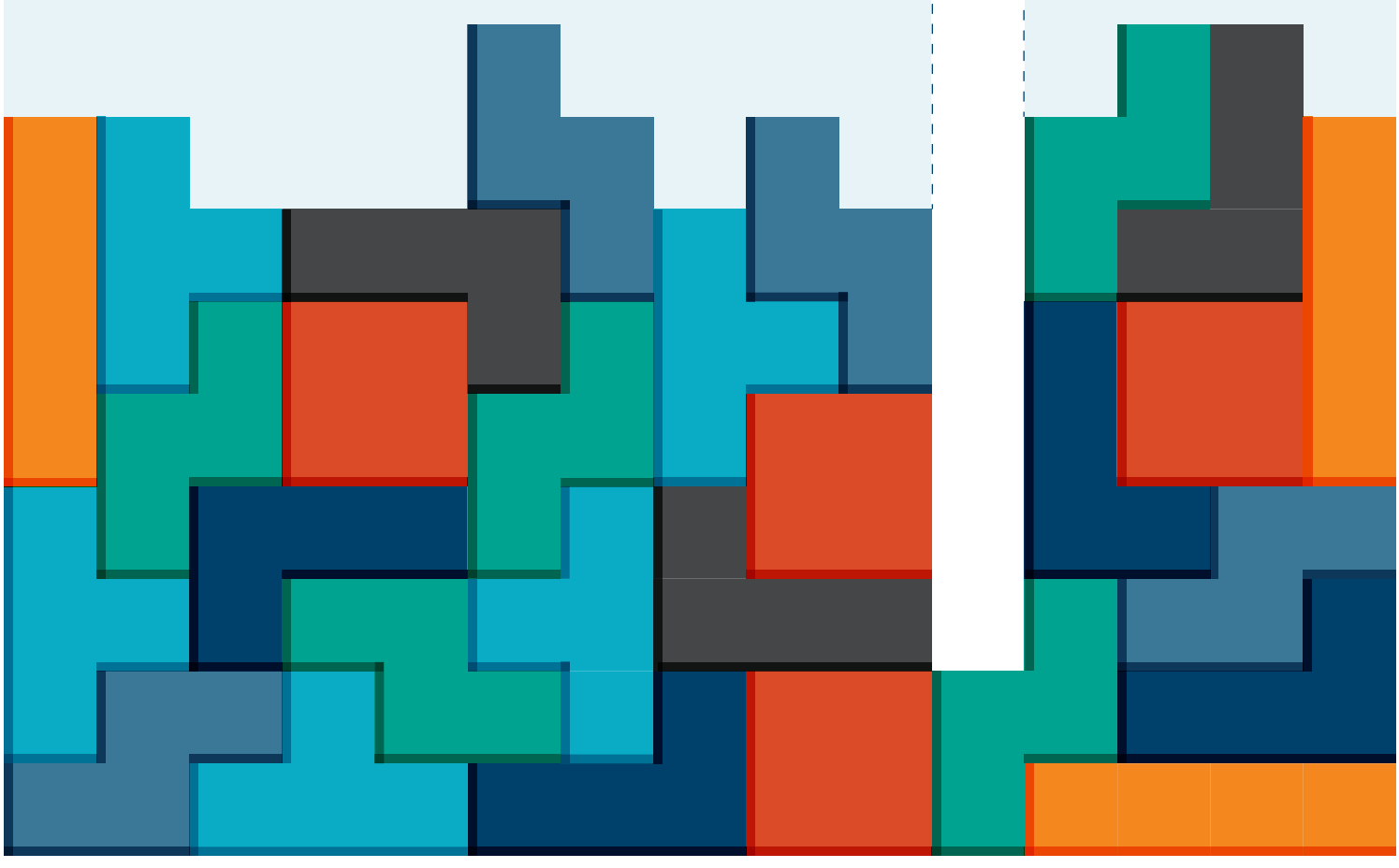


INTRODUCTION: WHAT YOU SHOULD KNOW ABOUT RPA

Companies across all industries are pumping resources into robotic process automation (RPA). In as little as two years, RPA leaders — those companies we've identified as already ahead of the curve — will be using bots in virtually every function within their organizations.

Furthermore, they will be using RPA for much more than just cost-cutting. RPA leaders are making this technology an important component of sleek and agile operations that will fortify their market positions. In functions ranging from IT management to sales and business development, RPA leaders are using the technology to drive efficiencies, boost speed to market and bolster financial performance.

RPA leaders are ahead of the pack when dealing with employee concerns. They are transparent about their automation plans and actively train affected employees. RPA leaders are also the most likely to insist that increasing employee engagement serves as a critical metric in evaluating RPA investments.

RPA leaders are the organizations to watch, not only because of their more advanced use of RPA but also because this is a broader indicator of their digital maturity. Conversely, organizations that fall behind in these areas will quickly find themselves at a distinct competitive disadvantage, as RPA leaders take market share, generate higher revenue and improve customer satisfaction.

These are among numerous key takeaways from a global survey conducted by Protiviti and ESI ThoughtLab. To help executives make the most of this fast-growing technology, Protiviti and ESI ThoughtLab joined forces to conduct a worldwide survey of executives across multiple regions, industries and company size. Our research highlights the most effective best practices and powerful lessons learned when adopting RPA. Specifically, we found that RPA leaders:

- **Use RPA for much more than cost savings.** They are already putting RPA to use to improve quality, speed and performance. In the future, they plan to significantly increase the use of bots in everything from IT management and marketing to research and development and product development.
- **Invest heavily.** RPA leaders are spending five to 10 times as much on RPA as other companies. Failing to invest sufficiently in RPA technology as well as people and governing processes can damage an organization as competitors outflank them in efficiency and effectiveness.
- **Create business cases that deliver value in a broad range of areas.** RPA leaders are garnering a wide variety of benefits from these tools. The top three criteria for their business cases are better quality, speed to market and employee engagement.
- **Scale RPA across the enterprise.** RPA leaders ensure IT infrastructures can support the use of the technology across the company and carefully monitor and maintain each application. They also ensure the RPA tools they use today will support the adoption of advanced artificial intelligence (AI) in the future.
- **Tackle employee concerns.** RPA leaders thoroughly understand employee concerns about job disruption. To allay these fears, RPA leaders explain their plans, communicate with employees and proactively train staff for more productive work.
- **Reap payoffs before everyone else.** RPA leaders are far more likely to see improvements in revenue generation, productivity and cost reductions than other companies. They also have the most aggressive expectations of growth driven by RPA in the next two years.

However, the road to competitive advantage through RPA has many potholes. Companies have difficulty prioritizing potential projects. They also struggle with choosing the best applications and scaling them across the enterprise.

Meeting talent needs is another major challenge as employment markets tighten and demand for RPA skills exceeds supply. To surmount these hurdles, our study found that companies need to:

- Create effective RPA implementation plans, including selecting the right solutions and ensuring future scalability.
- Deploy proper performance controls built around sound business cases and ongoing measurement of ROI.
- Craft people strategies that take into account the future of work.

Our report, in addition to detailing the results of our global survey, highlights best practices needed to excel in these areas and provides executives with the insights to drive their RPA efforts forward.

ABOUT OUR STUDY: WHO ARE RPA LEADERS?

To provide executives with greater insights into successful RPA approaches, we conducted a global survey of 450 companies across various regions, industries and sizes of organization to understand the differences between the practices of RPA leaders and organizations that are less advanced (for additional details on our respondents, see the Demographics section on page 41). As part of the survey, we asked respondents to compare their use of RPA against that of their competitors. Based on their answers, we grouped companies into three categories: leaders, which are ahead of the competition in their use of RPA (32% of the total); intermediates, which are on par with others (41%); and beginners, which are behind others (27%). We then correlated these self-ranked usage levels with each company's reported stage of RPA maturity, based on their progress along five phases of self-reported RPA development:

1. **Not considering** (or not applicable)
2. **Planning/experimenting:** developing plans and business cases and testing RPA applications
3. **Implementing:** implementing RPA applications in some processes
4. **Maturing:** maintaining many RPA applications and implementing new ones
5. **Advanced:** most processes are automated and delivering major cost-benefits

Beginners are typically in the planning/experimenting stage, intermediates in the planning/experimenting and implementing stages, and leaders in the implementing and maturing stages of RPA use. (See chart on page 5, "RPA use and maturity stage.")

Robotic Process Automation versus Artificial Intelligence

We recognize that RPA is being used with other forms of artificial intelligence by many organizations. However, for the purposes of this study, we are specifically assessing the use of robotic process automation. RPA is a software tool used to automate manual processes and improve workflow. Unlike AI technology, RPA mimics human actions, not human thinking. For example, RPA is often deployed to automate invoice processing and verify that the invoice amounts match the corresponding purchase order. Exceptions are usually handled by people.

On the other hand, the three major types of AI (natural language processing, machine learning and deep learning) are forms of advanced analytics that can understand written and spoken speech, identify data patterns and learn from them, and make decisions based on the data much like humans would. For an analysis of how companies are using advanced AI, see Protiviti's recent study, *Competing in the Cognitive Age: How companies will transform their businesses and drive value through advanced AI* (www.protiviti.com/AI).

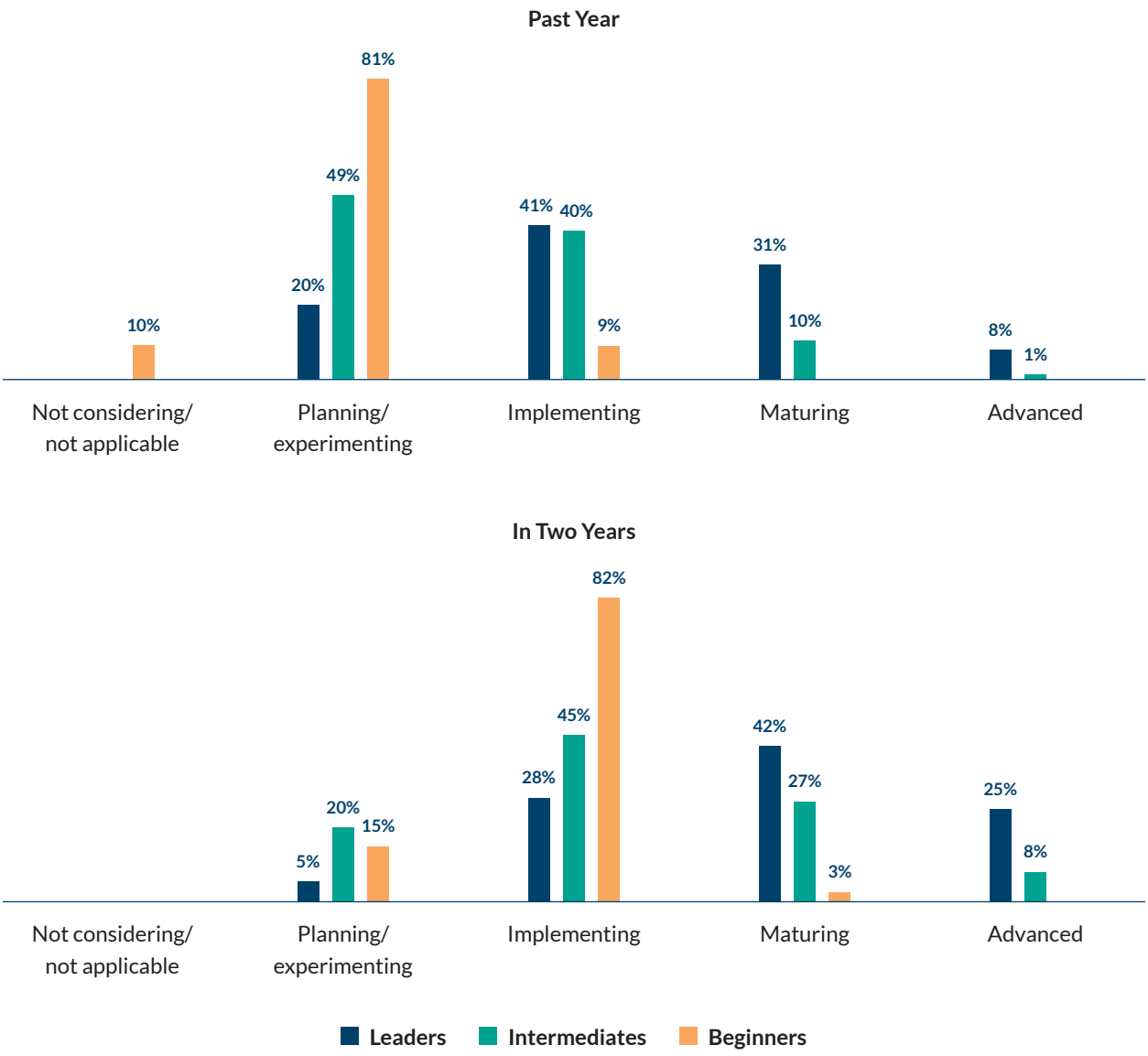
SECTION 1: HIGH EXPECTATIONS FOR RPA

What you should know

- While executives know the value that RPA offers, many companies are still in the early stages of deployment. Yet businesses overall are investing heavily in RPA (about $5 million annually on average) and are planning to up the ante over the next two years.
- The benefits of RPA go well beyond cost savings. Increased productivity, better quality and stronger competitive market position are the top three benefits reported by companies.
- Organizations will deploy RPA across virtually every corporate function over the next two years.

Most executives recognize the value RPA delivers to their businesses. Although many organizations are in the early stages of RPA implementation, every company that participated in our survey plans to expand its RPA usage within the next two years. In addition, while less than one in five companies overall are currently at the maturing or advanced stages of RPA development, that proportion is expected to more than double within the next two years. It also is important to note that lower RPA adoption in some industries may not be a case of lagging, but rather an indicator of a more integrated and/or modern application landscape. Organizations that are more advanced in terms of digital operations and capabilities may have less need for RPA because they already have high levels of automation in place.

RPA USE AND MATURITY STAGE

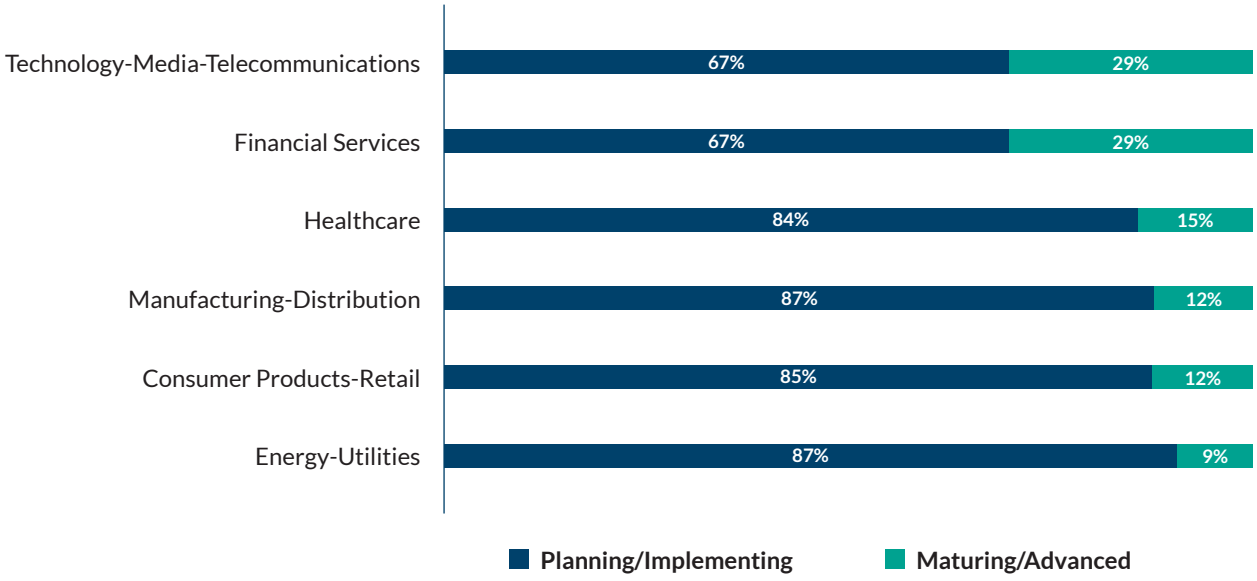


Percentage of beginners, intermediates and leaders (as measured against their competitors) at each stage of maturity, currently and in two years.

Industry views

RPA maturity stage varies by industry. Financial services and technology/media/telecommunications companies are the farthest ahead, while healthcare, consumer goods (including retail), and manufacturing and distribution organizations lag. Energy and utilities companies have progressed the least, with only 9% at the maturing or advanced stages. In two years, all industries expect to make headway, but those currently in the lead will remain so.

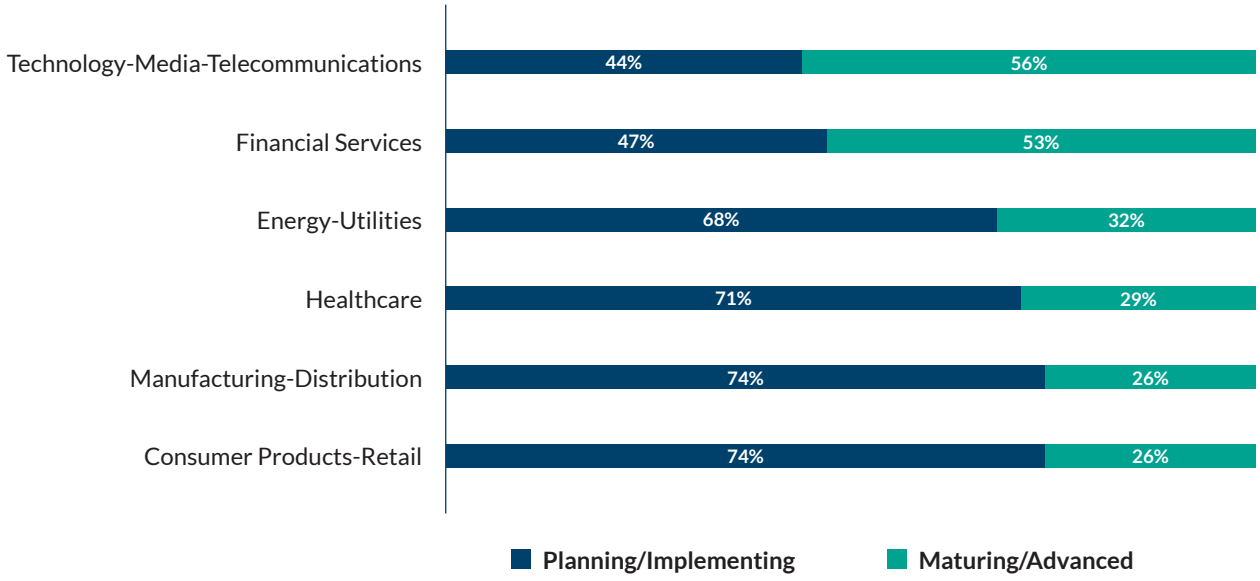
RPA STAGE BY INDUSTRY (TODAY)



Growing numbers of manufacturing organizations worldwide are pursuing some form of digital transformation, with many viewing it as a chance to get their IT right the second time around. Having spent years — even decades — building up their IT infrastructure, new technologies like RPA as well as AI can extend the life of many of those legacy investments and get more value from them than they ever thought possible. And they can better see what solutions are no longer adding value, or even holding them back.

— Sharon Lindstrom, Managing Director, Global Leader, Manufacturing and Distribution Industry Practice, Protiviti

RPA STAGE BY INDUSTRY (IN TWO YEARS)



For oil and gas companies that have proved capable of innovating to survive the industry's periodic downturns, the time is ripe to explore new technologies that promise to help drive an even faster rate of growth. RPA offers a relatively inexpensive and disruption-free solution from which these companies can derive benefits quickly. Not only can it free workers to concentrate on more productive tasks, but it can also provide a stepping stone to further automation initiatives.

— Tyler Chase, Managing Director, Global Leader, Energy and Utilities Industry Practice, Protiviti

This progress will not come cheaply. Overall, companies are spending heavily on RPA — averaging around $5 million in the current fiscal year — and plan to up the ante over the next two years. The numbers are highest among the largest organizations we surveyed, which report average annual RPA spend in the range of $10 million to $20 million.

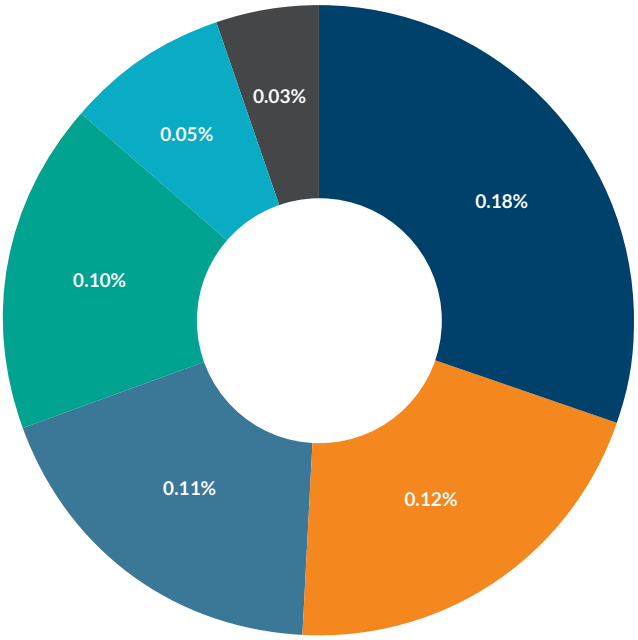
To help organizational leaders easily compare their level of investment within and across industries, we calculated RPA spend as a percentage of a company's overall revenue.

As expected, spending level by industry generally correlates with maturity stage. Technology, media and telecommunications companies and financial services firms are dedicating the most resources, followed by consumer products and retail companies. Healthcare organizations are spending around the average, while manufacturing organizations and energy and utility companies are investing far less in the technology.

AVERAGE ANNUAL RPA SPEND (BY RPA MATURITY LEVEL)

Beginners	Intermediates	Leaders
$923,000	$3.9 million	$10 million

RPA SPEND AS A SHARE OF REVENUE



RPA delivers many benefits

Companies are learning firsthand that their RPA investments produce benefits far beyond cost savings. "We see RPA as a huge driver of improved performance and efficiency," says Prakash Mall, senior director of RPA and chatbots at Target. "That correlates back to productivity gains, accuracy and customer experience."

Target isn't the only company recognizing the wider advantages of RPA. In our survey, increased productivity, better quality and stronger competitive position rank highest on the list of benefits — and this is across nearly all industries. It's telling that just a scant 3% of organizations view reduced costs to be among the top benefits of RPA.

Since companies often begin deploying RPA in production-related functions, manufacturing and procurement/supply chain executives are among the more experienced and thus are the most likely to perceive better market position as one of the top three RPA benefits. Given their focus on people, human resources executives are more apt to see greater employee engagement and customer satisfaction as benefits. Interestingly, C-level executives and their direct reports are aligned in their views on how RPA can help, which can accelerate adoption.

> *"We see RPA as a huge driver of improved performance and efficiency. That correlates back to productivity gains, accuracy and customer experience."*
>
> ***— Prakash Mall, Senior Director, RPA and Chatbots, Target***

WHAT ARE THE BIGGEST BENEFITS OF RPA USE? (BY INDUSTRY)

	Financial Services	Technology-Media-Telecommunications	Healthcare	Energy-Utilities	Manufacturing-Distribution	Consumer Products-Retail
Increased productivity	19%	19%	22%	24%	23%	23%
Better quality	11%	21%	16%	13%	18%	15%
Stronger competitive market position	18%	15%	13%	16%	14%	15%
Higher customer satisfaction	12%	12%	14%	10%	10%	12%
Greater speed	8%	10%	9%	11%	14%	10%
Greater employee satisfaction from elimination of mundane tasks	11%	5%	6%	5%	8%	8%
Improved compliance	6%	6%	5%	6%	4%	6%
Fewer errors	6%	5%	6%	6%	5%	4%
Higher revenue generation	5%	4%	6%	5%	3%	4%
Reduced costs	4%	3%	3%	4%	1%	3%

Weighted average for importance of RPA benefits by industry. The average was derived by assigning a weight of 3 to the top benefit, 2 to the second most important benefit, and 1 to the third most important benefit, then dividing by the number of weights (6) and multiplying by 100.

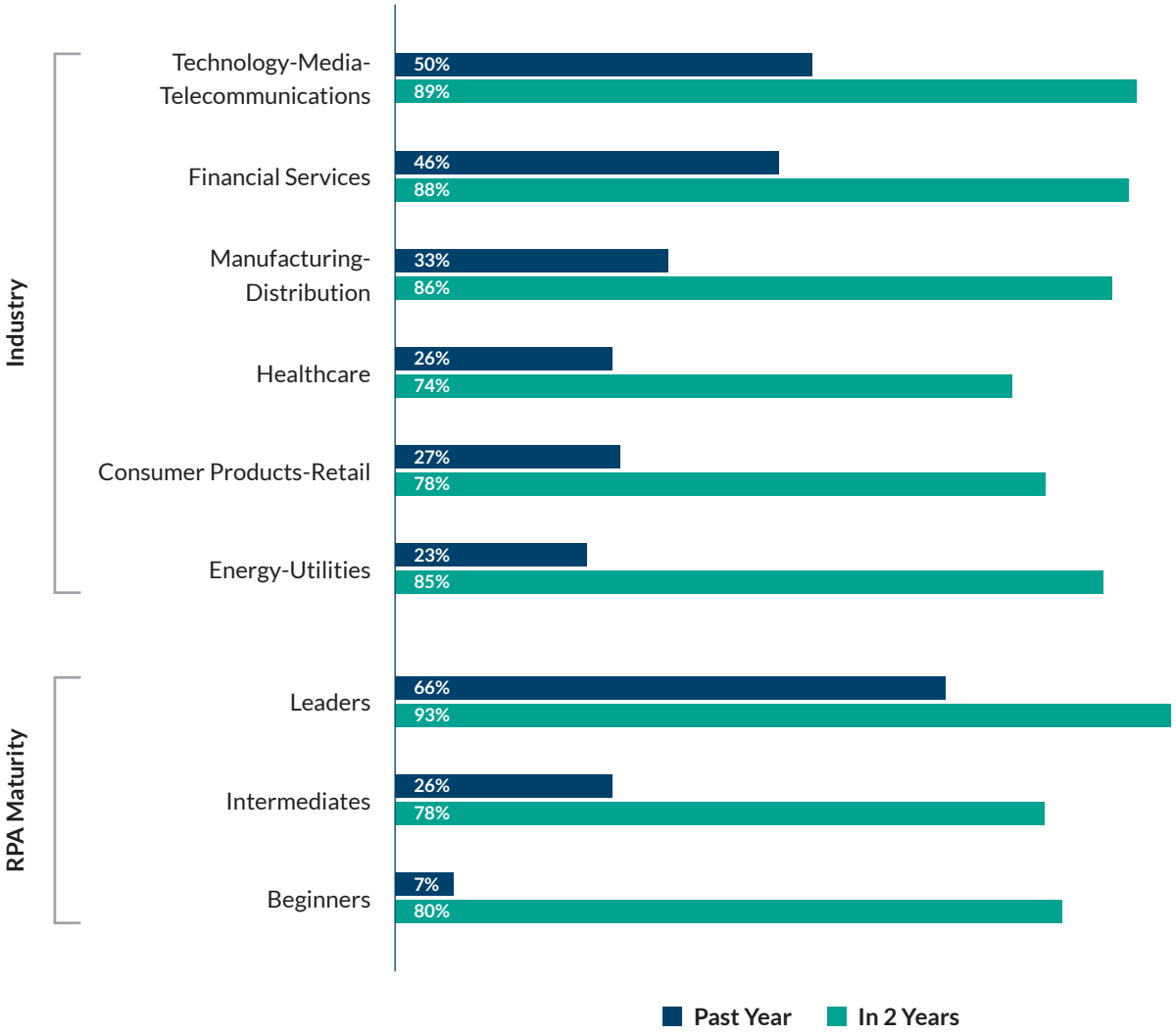
WHAT ARE THE BIGGEST BENEFITS OF RPA USE? (BY RPA MATURITY LEVEL)

	Beginners	Intermediates	Leaders
Increased productivity	24%	23%	18%
Better quality	12%	17%	17%
Stronger competitive market position	10%	16%	18%
Higher customer satisfaction	10%	14%	10%
Greater speed	10%	11%	11%
Greater employee satisfaction from elimination of mundane tasks	4%	6%	12%
Improved compliance	8%	6%	4%
Fewer errors	5%	3%	8%
Higher revenue generation	9%	3%	1%
Reduced costs	8%	1%	1%

Not only did increased productivity emerge as the top-ranked benefit at present for most companies, but as the chart on the following page illustrates, productivity growth will ramp up substantially over the next two years across all industries and RPA maturity levels. Although technology, media and telecommunications companies will stay ahead of the pack in terms of productivity gains, other sectors will catch up quickly. For example, in the energy and utilities sector, the smallest percentage of organizations currently see moderate to very large productivity gains but 85% expect to see such benefits in two years.

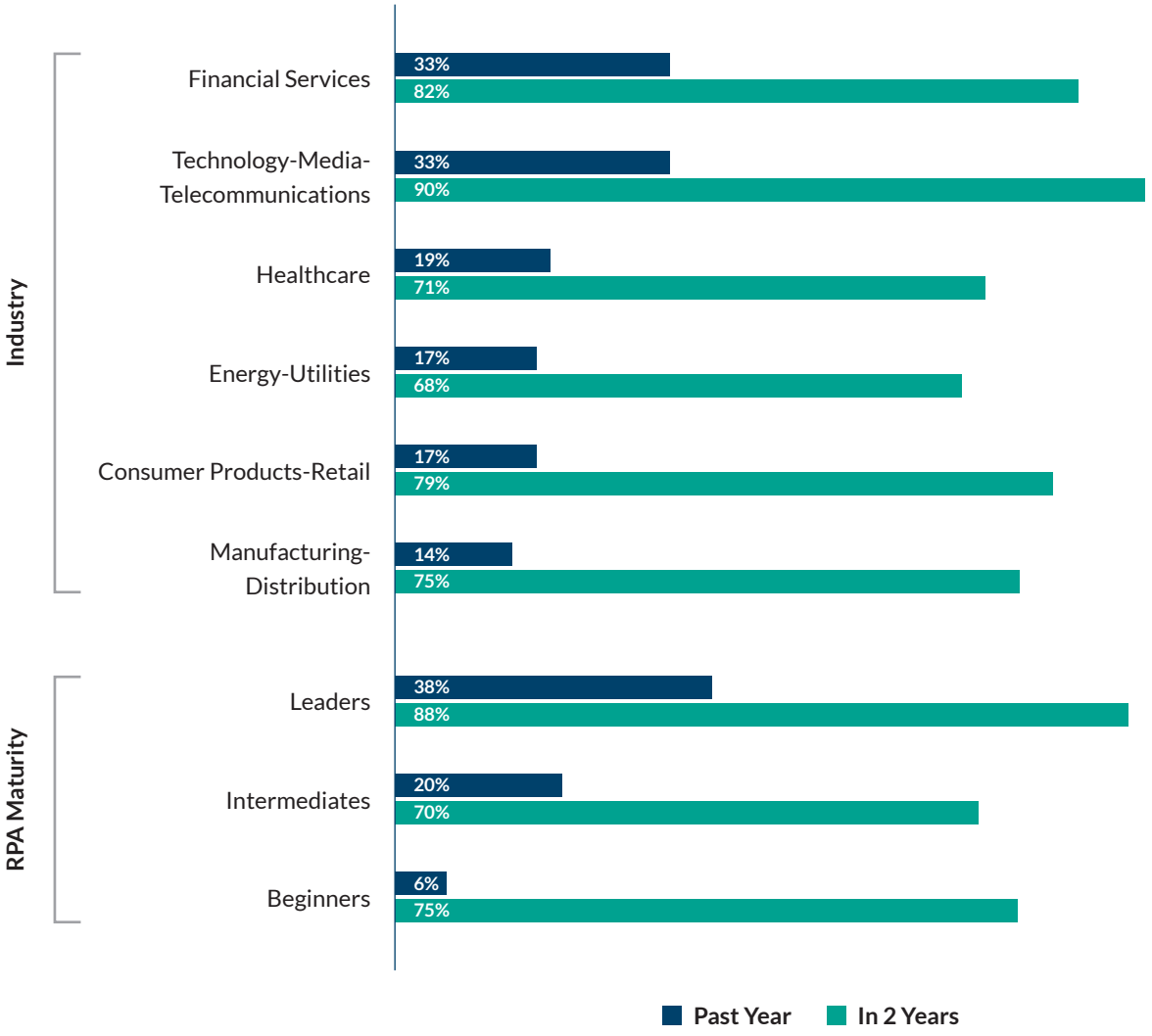
Jonathan Wyatt, a managing director at Protiviti and global head of Protiviti Digital, cites the example of one of his clients. A consumer loan company had introduced RPA in its shared services center to cut down on paperwork and processing time, freeing up staff for other activities. Reducing the administrative burden enabled the organization to spend more time on debt recovery. The additional time on these activities resulted in a more than tenfold return on its RPA investment.

PRODUCTIVITY GROWTH FROM RPA



Percentage of respondents indicating moderate, large or very large increases now and expected in two years.

REVENUE GROWTH FROM RPA

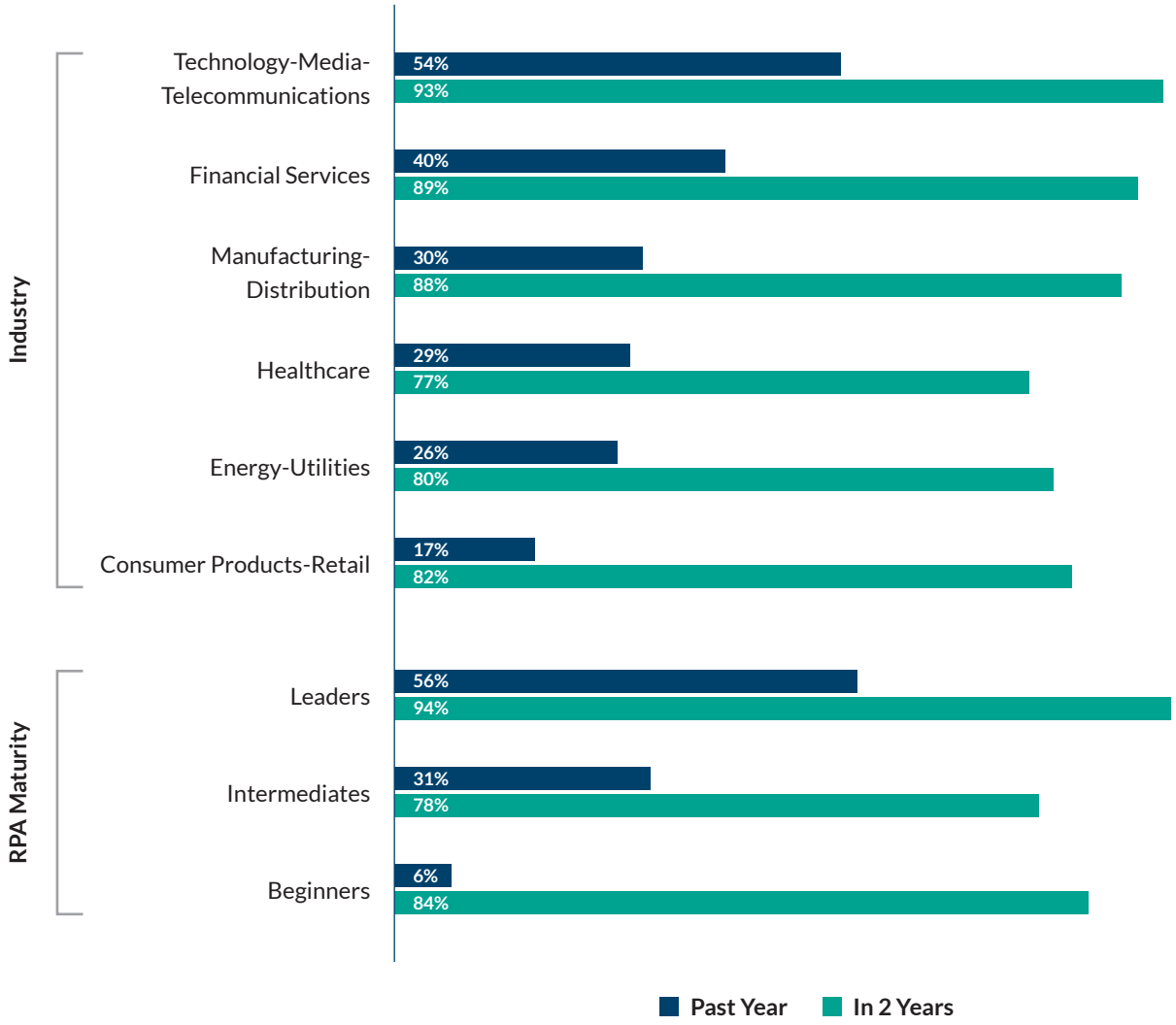


Percentage of respondents indicating moderate, large or very large increases now and expected in two years.

Executives also expect huge jumps in revenue growth through the use of RPA. For example, 90% of companies in the technology, media and telecommunications sector foresee moderate to very large increases in two years' time, and 82% of financial services firms anticipate the same. Perhaps most telling: Only 6% of beginners are posting revenue gains at present from RPA, but even for these organizations, the figure will skyrocket to three-quarters in two years.

To use RPA to boost revenue, business leaders should think ahead about what the organization can do with the time given back to employees. Eliminating a few hours of administrative work for executives can allow more time for generating and implementing new ideas. Moreover, RPA can be used to increase the frequency and amount of data reported to managers. These improvements can boost a company's ability to respond quickly to market changes.

COST REDUCTIONS FROM RPA



Percentage of respondents indicating moderate, large or very large decreases now and expected in two years.

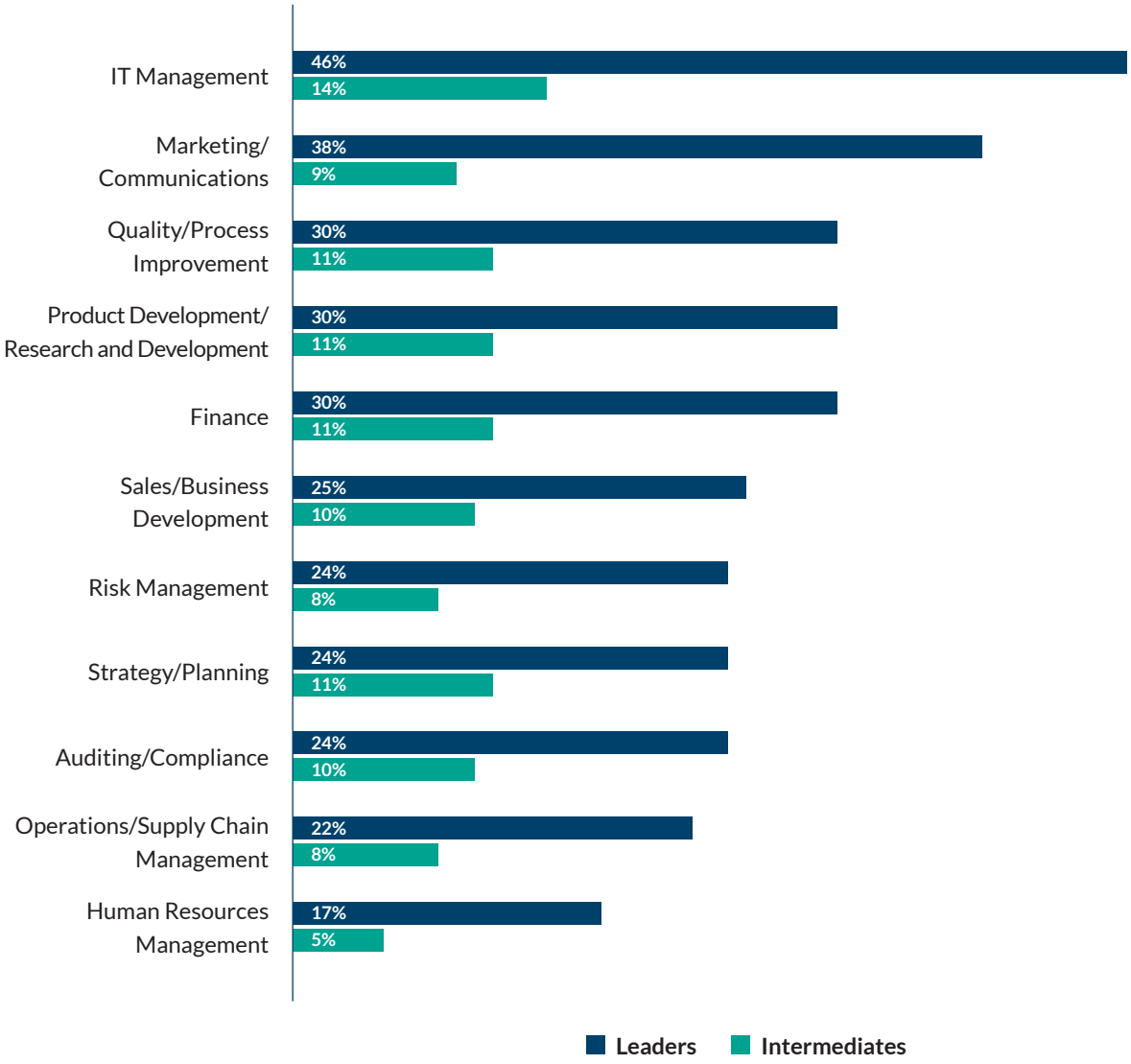
Although cost reduction is not among the most important direct advantages of RPA (see page 10), companies nonetheless anticipate substantial benefits in this area. Between 77% and 93% of organizations, depending on the industry, expect to see cost cuts as a result of RPA usage over the next two years. It's also important to note that other cited benefits of RPA, such as increased productivity, will lower costs.

Once again, RPA beginners will see the largest relative increases.

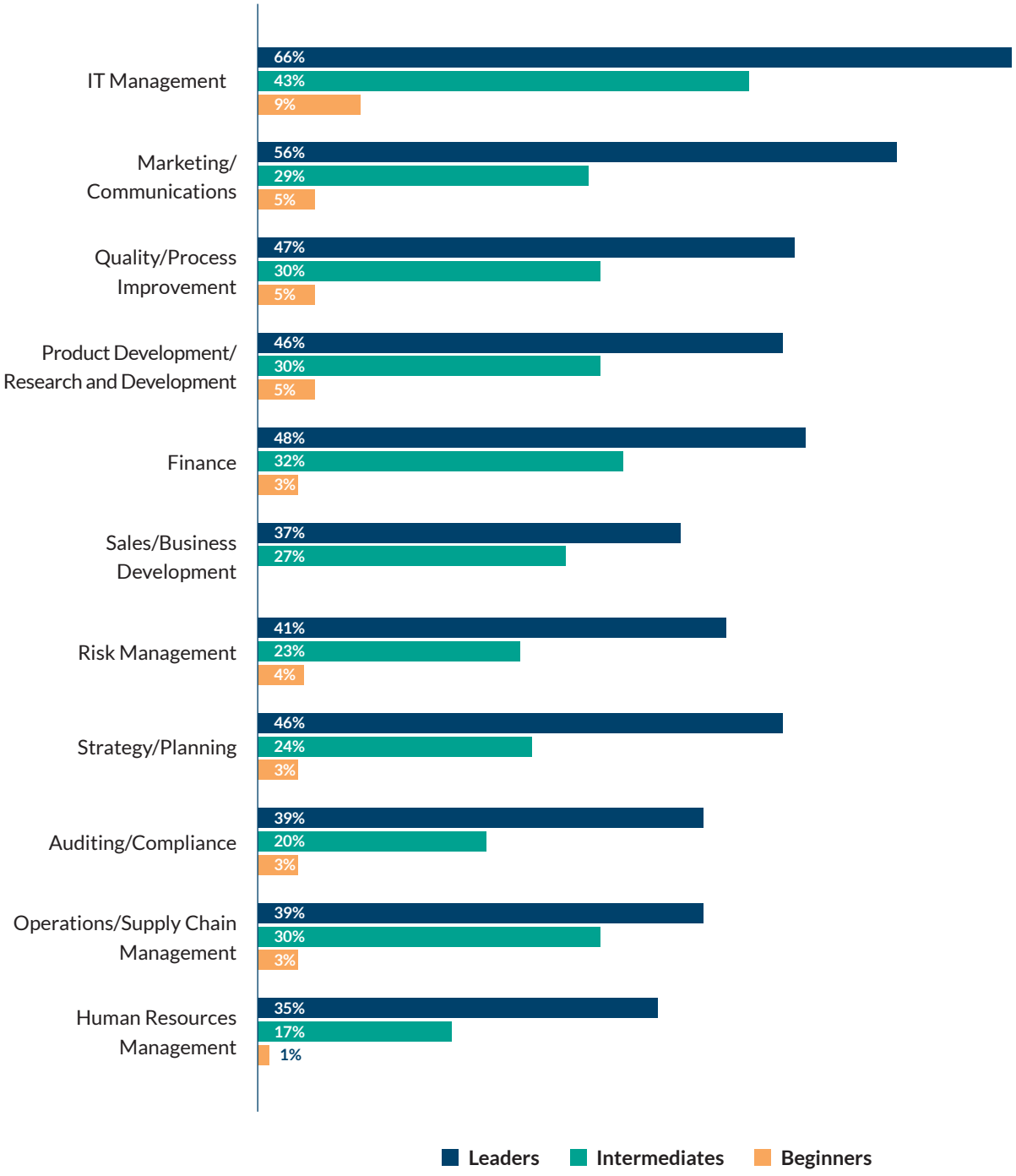
RPA to become more pervasive across all functions in the organization

Given the potential benefits, businesses across industries are planning to deploy RPA in virtually every function in their organizations. To date, RPA usage, particularly among leaders, has progressed the most in IT management, marketing and communications, quality/process improvement, product development, and finance/accounting. Over the next two years, deployment will spread most rapidly to auditing and compliance, operations/supply chain management, and human resources management.

BUSINESS FUNCTIONS EMPLOYING RPA NOW, BY MATURITY LEVEL



BUSINESS FUNCTIONS EMPLOYING RPA IN TWO YEARS, BY MATURITY LEVEL



Joel Cherkis, vice president for product management at UiPath, says that automating highly repetitive tasks and clearing backlogs are common starting points for executives when they look at what they would like to accomplish with RPA. The UK Department for Work and Pensions, for instance, had a backlog of some 30,000 applications that would have taken months to process. Pensioners would have had to wait in the queue to have their requests processed. To prevent that, the agency turned to RPA and cleared the backlog in a matter of days.

Michael Marchuk, chief technology evangelist for Blue Prism, says marketing units are developing some of the most powerful RPA apps. "They are getting traction with customers and clients in ways they haven't before," he says. "Marketing can automate communications to engage with customers and even build new communication channels."

Some companies leverage RPA to improve processes directly related to the customer experience. A major retailer, for one, uses RPA in managing its supply chain to avoid stock outages that can frustrate customers. Bots automatically reorder stock when the inventory management system indicates supply has fallen to a designated level. In the case of this major retailer, not only is merchandise more reliably in stock, but store managers also have more time to focus on the customers in their stores.

Also of note, RPA usage is steadily moving from back-office functions to front-end customer interactions, particularly call centers. For example, by automating caller identification, including aggregation of caller data from different systems, agents can be freed up to spend more time solving problems and helping clients.

RPA can also help companies avoid the expense of replacing outdated legacy systems. Peter Henstock, a senior data scientist at Pfizer, says that bots can "work around" legacy systems by extracting data from various systems that aren't connected. The bots can then perform the tasks that these systems can't do on their own.

Similarly, some companies use RPA as a stopgap while deciding what type of data repositories will work best for them. Bots can pull information from different legacy systems and aggregate it, giving managers and executives access to information critical for timely decision-making.

RPA supports AI technologies

Our interviews with executives and other AI experts point to a growing convergence between RPA and AI, particularly when processes require more sophisticated solutions to cope with process variability. In these cases, companies may want to turn to AI to understand the variations so that they can make the RPA bots more accurate.

The result is the emergence of "smart RPA" linked directly to AI, according to Protiviti's Wyatt. For example, organizations have added natural language processing to call center bots to automatically create call notes.

John Harvie, a director at Protiviti, believes that RPA and AI work well together. "You can use AI to predict and then RPA to take action," he says. He cites a company working on improving issuance of refunds. "The process is relatively straightforward and a prime candidate for RPA," he says. "However, the company uses AI to read and understand the complaint ticket to determine the refund and verify it."

Gurjeet Singh, founder and CEO of Ayasdi, a machine intelligence software company, sees this union going much farther. Companies can use AI to learn complex processes and ultimately create a bot. Bulent Kiziltan, a former Harvard University scientist and chief AI officer at a stealth mode startup, emphasizes that learning complex processes is particularly valuable for large enterprises where processes producing the information may have a complex stream of inputs.

RPA leaders understand the close ties between RPA and AI, and as a result are most likely to house the professionals handling these technologies together in the organization. More than one in three RPA leaders combine them in this way, compared with just 7% of beginners.

Merging RPA and AI skill sets allows companies to more readily layer advanced technologies, such as natural language processing and visual recognition, onto RPA. It also facilitates movement to higher levels of technology maturity. RPA leaders realize that process re-engineering and automation are ongoing journeys and that adding on advanced forms of AI will lead to greater improvements.

SECTION 2: BUILDING A COMPREHENSIVE RPA TECHNOLOGY PLAN

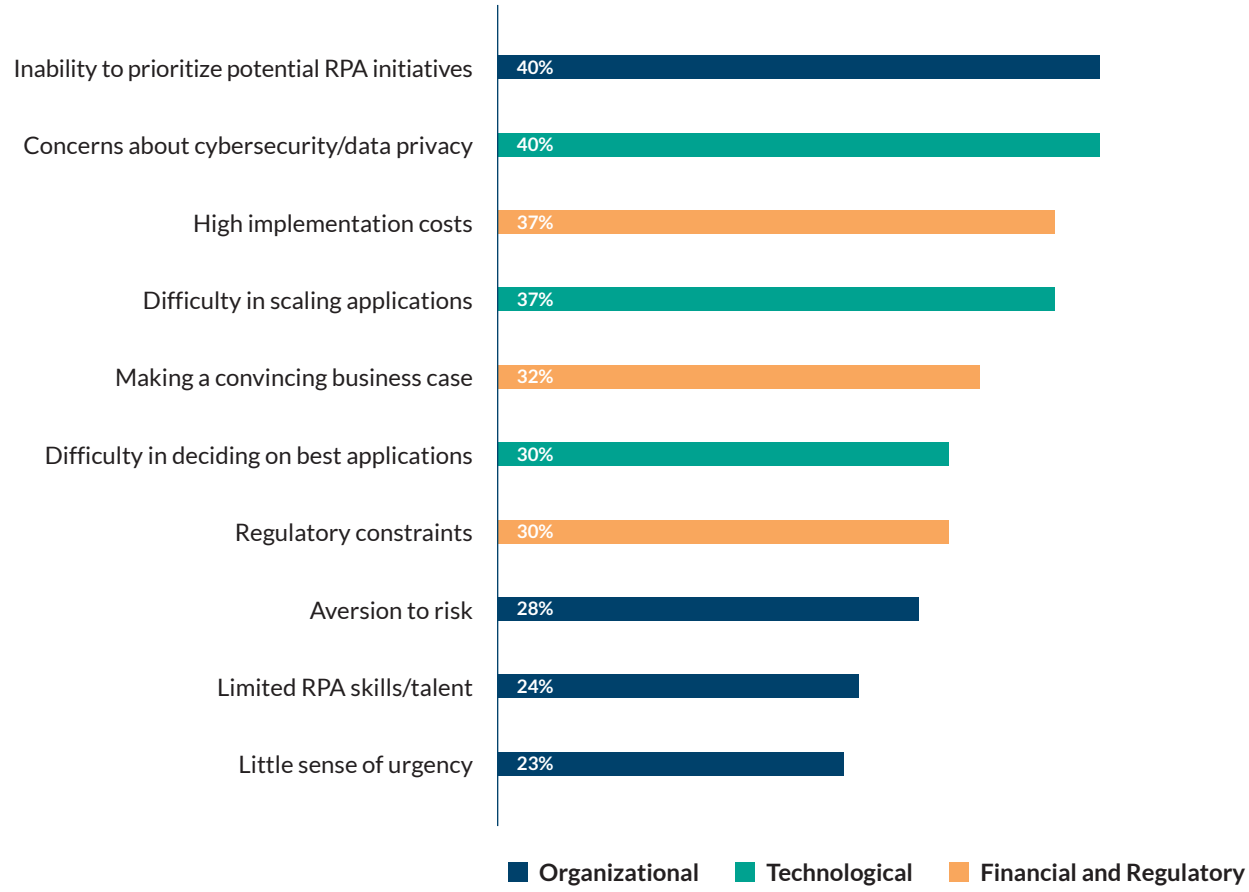
What you should know

- Businesses need to create scalable RPA solutions that can be rolled out across the enterprise and support the future use of AI and other emerging technologies.
- Companies must ensure processes are standardized, digitized and secure before they are automated through robotics.
- RPA leaders engage key functions and business units in all phases of RPA — from identifying opportunities to assessing performance.

Since software for developing RPA tools has advanced to the point that user interfaces are intuitive and easy to employ, individual departments utilizing RPA often develop and deploy bots on their local IT systems and even on desktops (i.e., robotic desktop automation). As a result, RPA often enters organizations under the radar, through bots not tied into other systems and with little documentation about how they work. To avoid such a hodgepodge of RPA efforts, companies need an effective RPA technology implementation plan that taps the right RPA applications, ensures ongoing maintenance and lays the groundwork for supporting the future use of AI. They also require a governance structure along with a clearly communicated operating model and guidelines.

A scattershot approach that lacks control and alignment to the organization's strategy is only one of many challenges that companies face in adopting RPA enterprisewide. For example, our results indicate that 40% of organizations are concerned about the cybersecurity of RPA applications. Almost as many struggle to scale RPA applications across their organizations. Nearly one in three companies have trouble selecting the correct applications for the tasks at hand. Insufficient data availability and inadequate IT infrastructure add to the headaches.

TOP OBSTACLES TO ADOPTING RPA



To help companies improve their RPA implementation plans, our research highlights the lessons learned by those that are most advanced in their use of RPA:

- **Start with processes that are simple to automate through RPA.** All eyes will be on the early efforts, so organizations should start with processes that are straightforward and where RPA is highly likely to add significant value.
- **Make processes as efficient as possible before automating them.** Many organizations will automate a process as it stands. Yet as Target's Mall points out, getting the best out of RPA is about process optimization and transformation. A manual process full of inefficiencies will simply become an inefficient automated process, canceling out much of the potential gain. Companies should also look back at processes they have already automated and make sure they are fully optimized.
- **Ensure you are using the right tools for the processes within your enterprise.** Processes can be very complex, which business leaders might not realize at the outset of implementing RPA. Automating an entire process may require more than RPA. For example, optical character recognition (OCR) or natural language processing software may be needed to handle all the variability in a process. Marchuk of Blue Prism points out that issues at the enterprise level are different than those for an individual department. The needs for scalability and security will be more stringent at the enterprise level and should be taken into account if individual units are working by themselves. Another example: Some companies will attempt to leverage RPA when an ETL (extract, transform, load) tool could be more effective in performing data transformation and loading.
- **Consider the scalability of the application and whether it can support advanced AI technologies.** Companies often don't know how many bots have been deployed, much less how they work or where they are in use. When RPA adoption starts at a local business or functional level, as is often the case, the applications cannot be used by anyone else. As a result, organizations often struggle to scale these RPA applications and manage them on a single platform. In addition, bots will eventually be retired and/or supported with newer technologies, including AI. Organizations need to be prepared to keep advancing their technology use.
- **Assess and address up front any cybersecurity and data privacy risks associated with the planned RPA application.** Like any technological solution, RPA can expose companies to greater cyber risks. Enterprises that don't centralize the development and monitoring of RPA put themselves, along with their customers and suppliers, at greater risk. To keep bots secure, the initial development of each application, as well as any changes, must be documented. Each application should have an audit trail showing how it was built and by whom, what it does, and who made any changes.
- **Make sure you are purchasing the right RPA software.** Companies should be careful about the number of bots they buy or license. Businesses often acquire more

bots than they can use given the pipeline of process candidates and the resources needed to develop and maintain them. Companies often make hasty decisions assuming that all RPA software perform the same. In practice, different platforms take very different approaches to automating processes and behave differently with the technologies with which they are interacting. Questions to consider include: *Is Citrix or remote desktop required to interact with the underlying system? What ERP system is being used? Can APIs be leveraged or is surface automation required? Will all automation be unattended, or will certain processes require manual interaction?*

- **Plan and budget for ongoing maintenance.** A thorough audit trail for each bot can play a major role in maintenance. RPA applications often mimic a multitude of human keystrokes and computer operations. Even a very small change, such as renaming a database field, can cause the application to break down. Understanding how the bot works can speed the process of figuring out what went wrong. Many companies also underestimate the need for resources, both functional and technical, required to support an RPA environment, in particular as it relates to managing exceptions and changes.
- **Analyze and track the cost-effectiveness of each RPA application.** It is critical to monitor the full value that RPA is delivering, beyond efficiencies and cost savings. Businesses should track improvements in productivity, quality and speed. They should also assess improvements in employee engagement and customer satisfaction.

RPA calls for a team approach

RPA leaders have learned that automating processes and scaling RPA require input from multiple departments and functions. "Companies will often start by handing over the entire project to a developer," says Tony Abel, a managing director at Protiviti. "Thus, there is no one looking at new opportunities systematically or monitoring the effectiveness of bots already in place."

RPA leaders understand the importance of bringing together different functions. They involve a broad cross-section of professionals in each step of the RPA implementation process:

- Identifying opportunities
- Approving each application
- Developing and implementing the solution
- Change management
- Monitoring performance

While beginners chiefly rely on IT professionals — and, to some extent, on business performance improvement teams and business unit heads — to identify projects, this is not true for leaders. In fact, almost half of RPA leaders have charged cross-functional teams or committees with identifying RPA opportunities. Moreover, they are more likely to seek input from analytics, RPA and AI professionals. One in three RPA leaders also assign responsibility for project approval to cross-functional teams, while beginners mainly turn to business unit heads for that task.

WHO IDENTIFIES AND APPROVES RPA OPPORTUNITIES?

		Beginners	Intermediates	Leaders
Identifying	A team/committee charged with identifying and/or approving RPA/artificial intelligence projects	7%	19%	46%
	RPA/artificial intelligence specialists in business units or functional departments	3%	12%	15%
	Data and analytics teams	2%	12%	12%
	IT professionals in a centralized IT department	41%	29%	11%
	Business performance improvement teams	18%	15%	4%
	Heads of business units or functional departments	16%	2%	3%
	General staff in business units or functional departments	2%	2%	3%
	IT professionals in business units or functional departments	13%	4%	3%
	RPA/artificial intelligence specialists in a centralized unit	0%	5%	3%
Approving	Heads of business units or functional departments	61%	54%	34%
	IT professionals in a centralized IT department	22%	16%	5%
	IT professionals in business units or functional departments	4%	0%	1%
	A team/committee charged with identifying and/or approving RPA/artificial intelligence projects	3%	15%	32%
	RPA/artificial intelligence specialists in business units or functional departments	3%	3%	11%
	Business performance improvement teams	3%	4%	2%
	General staff in business units or functional departments	3%	6%	9%
	RPA/artificial intelligence specialists in a centralized unit	0%	2%	3%
	Data and analytics teams	0%	1%	3%

Percentage of respondents indicating each group as involved in identifying and approving RPA projects.

SECTION 3: DEFINING AND DRIVING THE RIGHT BENEFITS

What you should know

- RPA leaders consider a wide range of benefits in their RPA business cases, from improving productivity and employee engagement to accelerating time to market and generating revenue.
- RPA programs often start with a proof of concept, which should target a process that does not require complex programming, yet when automated will have significant impact.
- When done correctly, RPA can generate both operational and strategic benefits, and provide top-line and bottom-line dividends.

Developing a properly staged technology plan for RPA is essential, but not enough. Successful RPA implementation also requires a sound business case, supported by an adequate budget and ongoing monitoring of performance and results. This assures that opportunities are properly prioritized and delivering the expected value.

Target evaluates and prioritizes every RPA opportunity using the "Three Vs" — value, volume and variability. Like other RPA leaders, Target takes a broad view of value that goes beyond costs. Volume is also critical, since a relatively uncomplicated process with thousands of outputs can offer a big bang for the buck. However, Mall points out that volume must also be weighed against variability or complexity. If a process has multiple exceptions that must be processed differently, the complexity will add to the costs, especially in large global entities where hundreds of employees may be involved.

Testing the waters

RPA efforts almost always begin with a prototype or proof of concept. Organizations should start by experimenting with the RPA technology to make sure they understand how it works. The experiment will prime the organization to pick a good process to automate and test.

The process chosen for a proof of concept should be simple enough to use but important enough to have an impact that will garner attention. "I worked with a company that picked formatting digital documents as a proof of concept," says Angelo Poulikakos, a managing director at Protiviti. "Although it was a valuable thing to do, it didn't knock anyone's socks off." He suggests invoice processing, an essential for most companies, as a more fertile testing ground, since it is a generally straightforward operation — even considering exceptions management. In addition, the volume is often very large.

However, just dwelling on the low-hanging fruit will not be enough in today's age of digital transformation. "If a business spends too much of its resources on trivial problems, it is likely it will fall behind the wave of innovation that's to come," says Kiziltan. "To keep building skills, companies should also take on increasingly complicated RPA challenges."

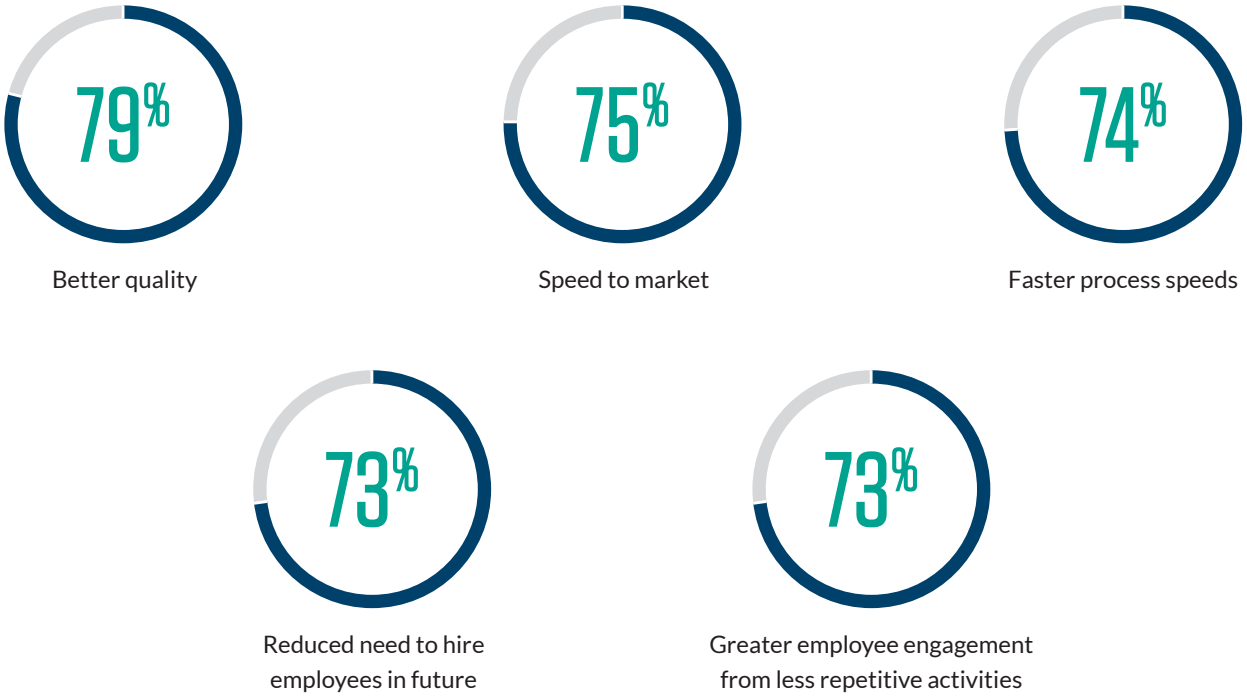
One of the most significant benefits of RPA is freeing up capacity of staff in the organization so that they can focus on value-added activities. However, these benefits can be difficult to quantify given the challenge in anticipating what people will achieve if they have more time. As a result, such benefits are often not captured or associated with RPA investments. Organizations should take this into account as they assess the value RPA is delivering for the organization.

— Jonathan Wyatt, Managing Director, Global Head of Protiviti Digital

Convincing business cases are paramount

Nearly all RPA leaders develop a business case for each RPA application, while only 70% of beginners do so. Since the benefits that RPA leaders identify encompass more than cost savings, the business case should do the same. Executives we surveyed, in fact, view numerous elements of a business case to be more important than cost reduction, namely better quality, speed to market, faster process cycles, reduced future hiring needs and greater employee engagement.

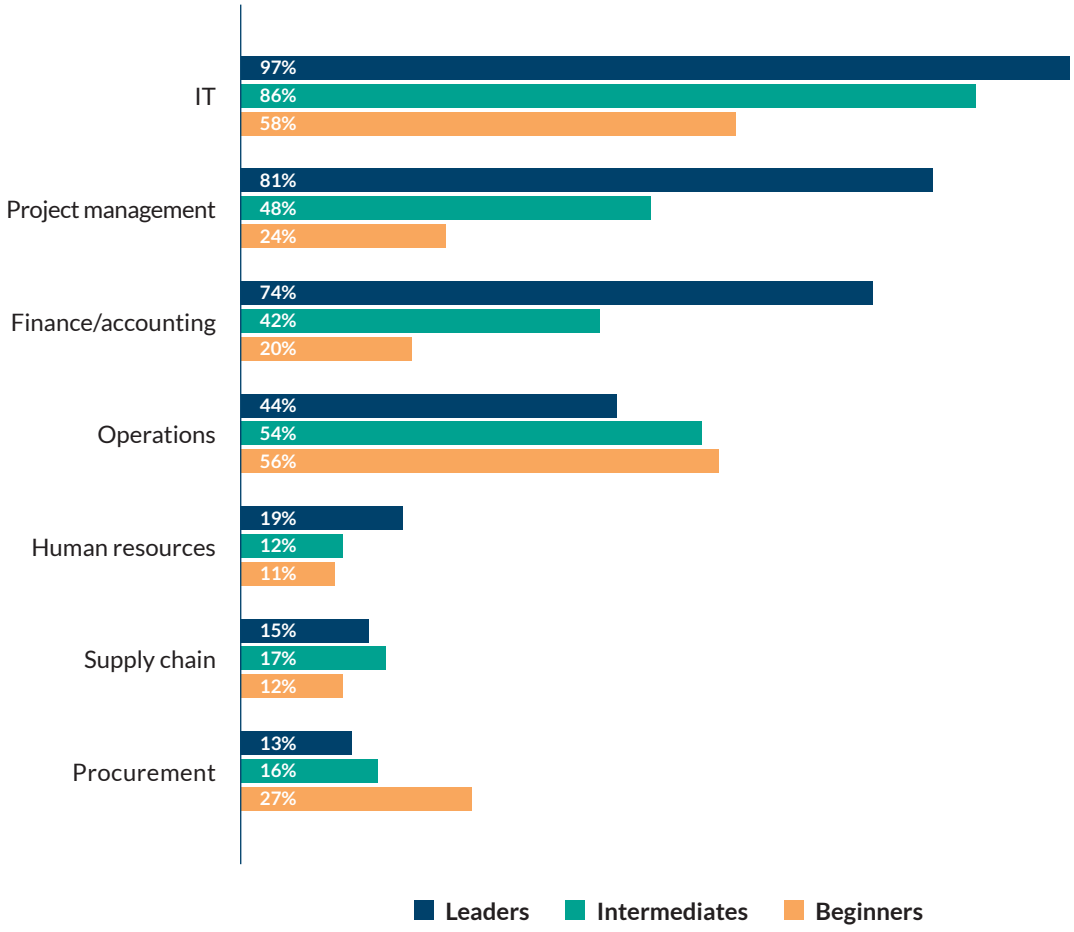
TOP FIVE RPA BUSINESS CASE CRITERIA



Percentage of respondents that ranked each criterion as considerably or very important.

RPA leaders bring many perspectives to the table to craft and vet RPA business cases. Nearly all involve IT in the process, while just slightly over half of beginners do so. By the same token, more than 80% of RPA leaders include project management specialists in the process, while less than a quarter of beginners do the same. Finance professionals play a strong role in the business case process within RPA leader companies. Among beginners, finance is often left out.

BUSINESS FUNCTIONS INVOLVED IN CREATING RPA BUSINESS CASE



Budgeting and monitoring results

Business cases are the foundation for effective RPA planning. However, to generate the best results, organizations must also have the right budget in place. Our results suggest that more than a quarter of organizations (and a similar share of leaders) cite the need for a proper budget for each application as a lesson learned when implementing RPA. An even higher concern (for about 40% of companies) is having a plan and budget for ongoing maintenance.

Equally important is measuring how well the bots are performing. Continuous ROI monitoring of applications is essential to prioritizing and investing in RPA, and something almost all RPA leaders do. However, among beginners, less than 60% do so, often leaving their companies in the dark about the value of their RPA investments.

When companies shine a light on these investments, they can clearly see that RPA pays off. RPA leaders report experiencing higher revenue growth and productivity and reduced costs. As discussed earlier in this report, they expect these payoffs to mount considerably in the next two years.

SECTION 4: THE PEOPLE IMPERATIVE

What you should know

- Process improvement and automation is a fundamental operation and ongoing journey. Thus, companies are focusing on developing their RPA staff through in-house programs.
- In regard to organizational structure, to help RPA scale across the enterprise, most leaders centralize their RPA professionals in departments or centers of excellence.
- IT executives are typically in charge of RPA. In some companies, however, chief strategy officers have this responsibility, underscoring the strategic importance of RPA in digital transformation.
- Employees fear the impact of RPA on their jobs. To allay those concerns, RPA leaders are open and transparent about their plans and actively retrain or repost employees whose jobs will be disrupted.

Staffing appropriately is vital for driving value from RPA. Organizations cite the need for a dedicated development team that understands both RPA and the underlying processes for automation as an important "lesson learned." RPA leaders are putting the most muscle behind developing RPA talent: Nearly all have IT staff dedicated to RPA — almost twice that of beginners. Leaders also devote a greater percentage of their IT cadre to RPA than do beginners. This gap will put even more of a drag on the progress of those that are already behind.

Developing the know-how

Where will RPA talent come from in the future? Overall, about half of organizations around the world develop RPA talent internally. However, leaders are moving in that direction more aggressively, with almost three-quarters relying on internal training.

Leaders are also much more likely to use IT professionals to train non-IT employees as applications become more intuitive and easier to develop and run. Beginners, on the other hand, are just embarking on RPA efforts and thus tend to outsource the work, which only 3% of leaders do. Target's Mall stresses that companies can't underestimate the value of internal training, and also can't limit this training to technical and project management staff: "You need to train the business side of the house to make sure it can help drive RPA across the organization."

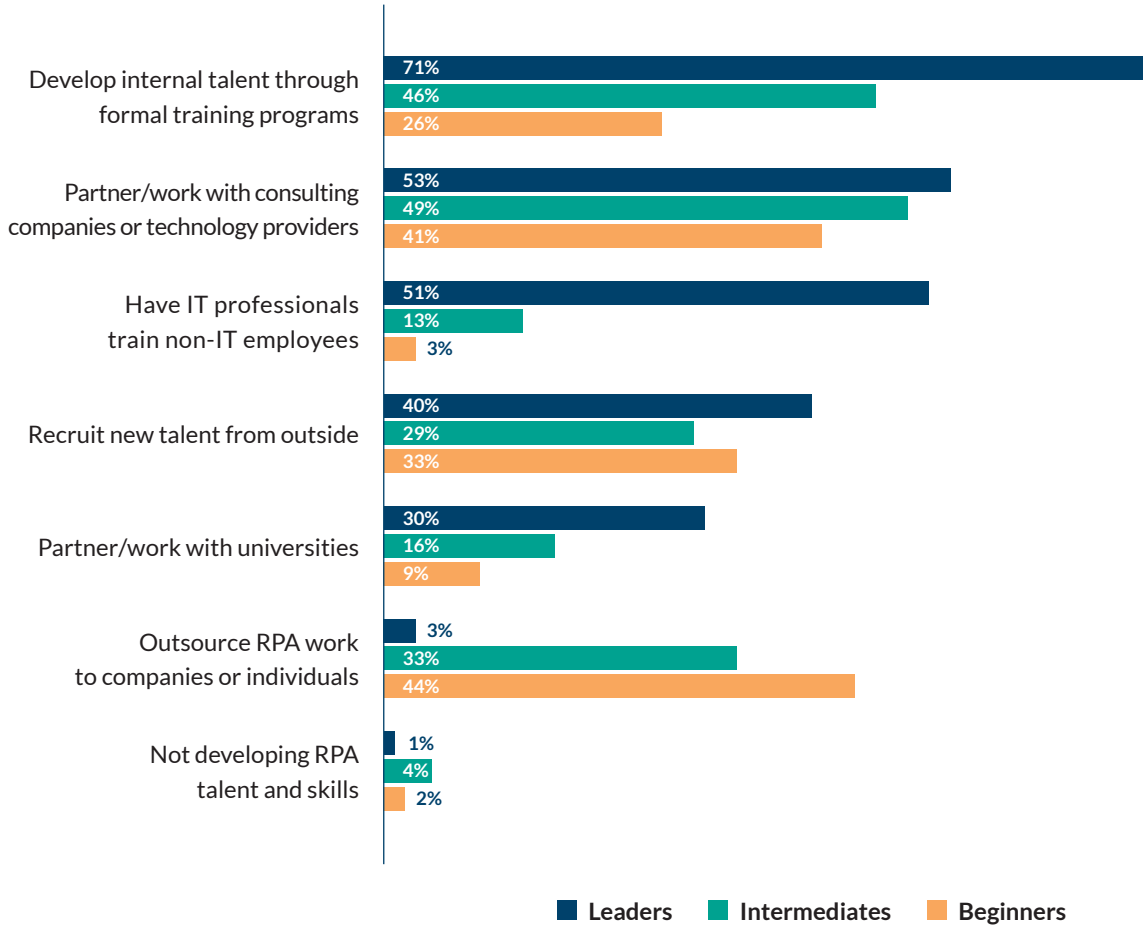
Marchuk, for example, suggests starting by training people in individual functions to use and maintain the bot. "It's important for people in any function to understand their 'digital workers' and how to manage them." RPA leaders concur. More than half have IT professionals training non-IT personnel.

This does not suggest that companies should never turn to outside talent for their RPA needs. Our research indicates that approximately half of all organizations work with consulting firms and technology providers. Although Mall has established and trained a cross-functional RPA team, Target also partners with startups to generate fresh ideas and develop new skills.

Many executives and other RPA experts don't believe a large number of jobs will be eliminated due to adoption of RPA. But that doesn't leave companies off the hook for continually providing new skills to their workforces. Retraining is critical and companies have to pay attention to it. Organizations have to provide continuing education for their employees because the world is changing. Businesses must invest in training to keep employees relevant and up to date.

— Gurjeet Singh, founder and CEO, Ayasdi

HOW BUSINESSES DEVELOP RPA TALENT



Percentage of respondents using each method to obtain RPA specialists.

Automating at scale

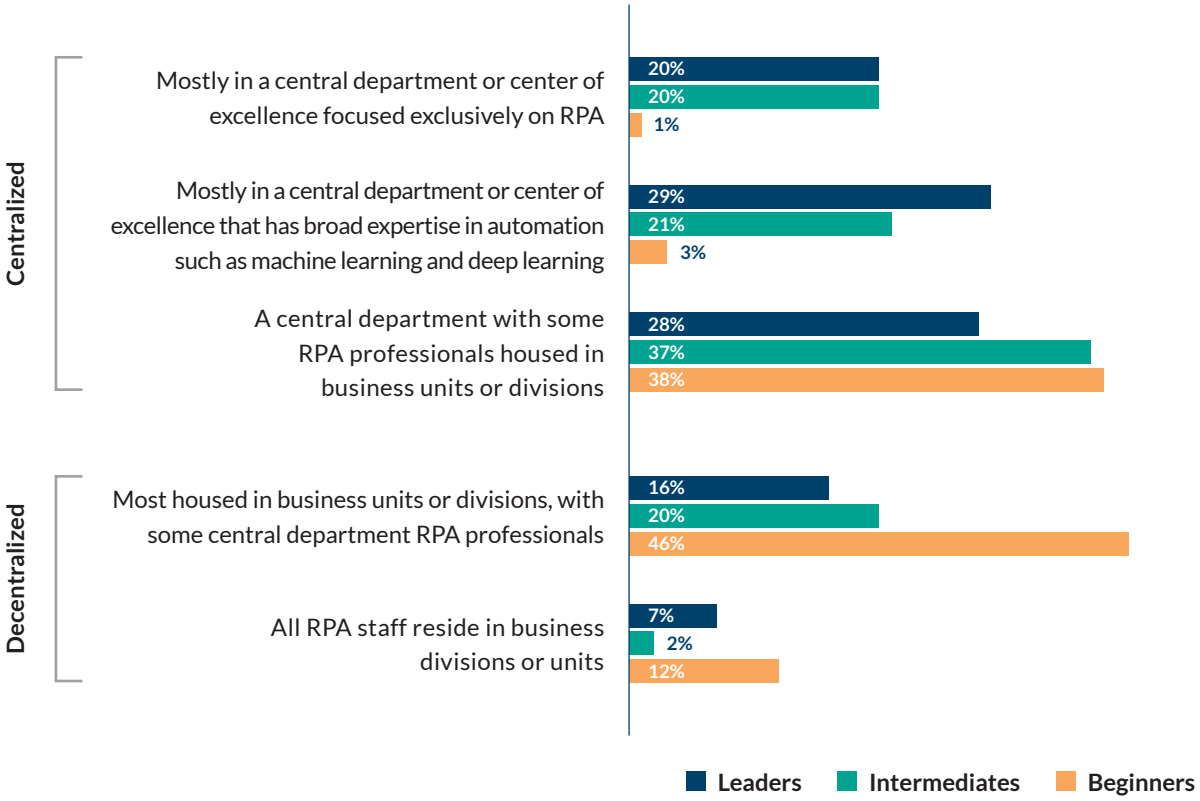
How companies organize for RPA, from a resource perspective, often correlates with how advanced they are in using RPA. To scale RPA in an organized and consistent manner, three out of four RPA leaders place RPA professionals in centralized departments or centers of excellence, with some RPA staff in business units. In contrast, a majority of beginners take a more decentralized approach, housing RPA staff mostly or entirely in business units or divisions.

Cherkis of UiPath believes that centers of excellence are at the heart of RPA progress. "We think of centers of excellence as internal champions," he says. "Having an organization that focuses and organizes RPA opportunities can be a strong driving force. Center of excellence staff can go into the businesses to identify opportunities, while businesses can come to them with ideas or challenges."

In Cherkis' experience, a center of excellence typically gains ground when a business head comes to understand the challenges and needs around RPA deployment. "RPA is not a pure technology play," he says. "It is a business discussion, and these types of structures are resonating extremely well in organizations." Equally important, he says, is creating a workshop-type environment in the center of excellence where employees from across the organization can come see how it works.

Protiviti's Abel believes RPA centers of excellence can be decentralized, depending on the company's structure and needs. For example, different product lines could have their own RPA centers of excellence, or they can be set up by region under the guidance of product or regional heads. Singh of Ayasdi says that the structure for RPA professionals should reflect that of the company overall. "If a company leads strongly from the center, it should have a strongly centralized RPA group," he says. "If it is more decentralized, then the various business units should own the RPA implementation."

WHERE RPA PROFESSIONALS ARE HOUSED



Percentage of respondents indicating each structure as the primary one for its RPA professionals.

Who is in charge and who should be?

A majority of organizations have a single executive in charge of RPA — primarily chief information officers, chief technology officers or chief digital officers. However, more than 10% of companies, regardless of their RPA usage level, have handed RPA responsibility to the chief strategy officer in order to infuse the effort with the line-of-business knowledge needed for strategic transformation.

Abel believes that technology governance needs to be a marriage of business and technology leadership. "The reality is that business leaders are not yet fully tech-savvy and tech leaders don't necessarily understand all the ins and outs of the business," he says. "But that gap is dwindling by the day, which will help resolve the issue."

To achieve that marriage, Cherkis believes that the technology aspect of RPA should fall under the executive who oversees digital and technology transformation. "Often, that is the CFO or COO," he says. "That assures that the business and technology disciplines come together."

Allaying employee angst

Our research suggests that half of all organizations believe RPA has eliminated or will eliminate many jobs in the future, and even more recognize the worries of their staff about job displacement. To assuage employee fears, companies are taking key steps: They are being transparent about their plans for RPA use, working closely with employees to understand and alleviate their concerns, and accentuating the positive relating to time saved on mundane repetitive work. RPA leaders focus even more sharply on these steps.

Many companies are already in front of the issue and aggressively managing the options. More than half of organizations are redeploying staff and providing training for new responsibilities as part of their RPA plans. Among RPA leaders, the number jumps to 68%. These efforts will be integral to RPA's momentum and success.

WHAT COMPANIES SAY ABOUT RPA IMPACT ON EMPLOYEES (BY RPA MATURITY)

	Beginners	Intermediates	Leaders
Many employees are worried that their jobs will be displaced by automation	63%	67%	68%
Since RPA will handle basic activities, staff skills will become more analytical, interpersonal and strategic	52%	64%	71%
Our organization works closely with employees to understand and address their concerns about RPA	55%	63%	67%
Our management teams are open and transparent about all plans to use RPA	55%	59%	64%
Our RPA implementation strategies include plans for training, developing, hiring and redeploying staff	46%	59%	68%
Most employees working with RPA are happy that mundane tasks have been automated	57%	47%	52%
The use of RPA has or will eliminate a substantial number of jobs in our company	48%	44%	51%
We are facing a significant shortage of staff that can help implement and maintain RPA	70%	38%	34%

WHAT COMPANIES SAY ABOUT RPA IMPACT ON EMPLOYEES (BY INDUSTRY)

	Financial Services	Technology-Media-Telecommunications	Healthcare	Energy-Utilities	Manufacturing-Distribution	Consumer Products-Retail
Many employees are worried that their jobs will be displaced by automation	61%	58%	71%	67%	71%	68%
Since RPA will handle basic activities, staff skills will become more analytical, interpersonal and strategic	76%	72%	67%	55%	60%	50%
Our organization works closely with employees to understand and address their concerns about RPA	65%	67%	62%	64%	62%	55%
Our management teams are open and transparent about all plans to use RPA	54%	60%	51%	63%	66%	63%

WHAT COMPANIES SAY ABOUT RPA IMPACT ON EMPLOYEES (BY INDUSTRY)

	Financial Services	Technology-Media-Telecommunications	Healthcare	Energy-Utilities	Manufacturing-Distribution	Consumer Products-Retail
Our RPA implementation strategies include plans for training, developing, hiring and redeploying staff	64%	65%	58%	50%	60%	54%
Most employees working with RPA are happy that mundane tasks have been automated	53%	63%	59%	49%	36%	50%
The use of RPA has or will eliminate a substantial number of jobs in our company	57%	46%	48%	44%	44%	46%
We are facing a significant shortage of staff that can help implement and maintain RPA	46%	29%	51%	47%	51%	47%

Percentage of respondents who slightly or strongly agree with each statement.

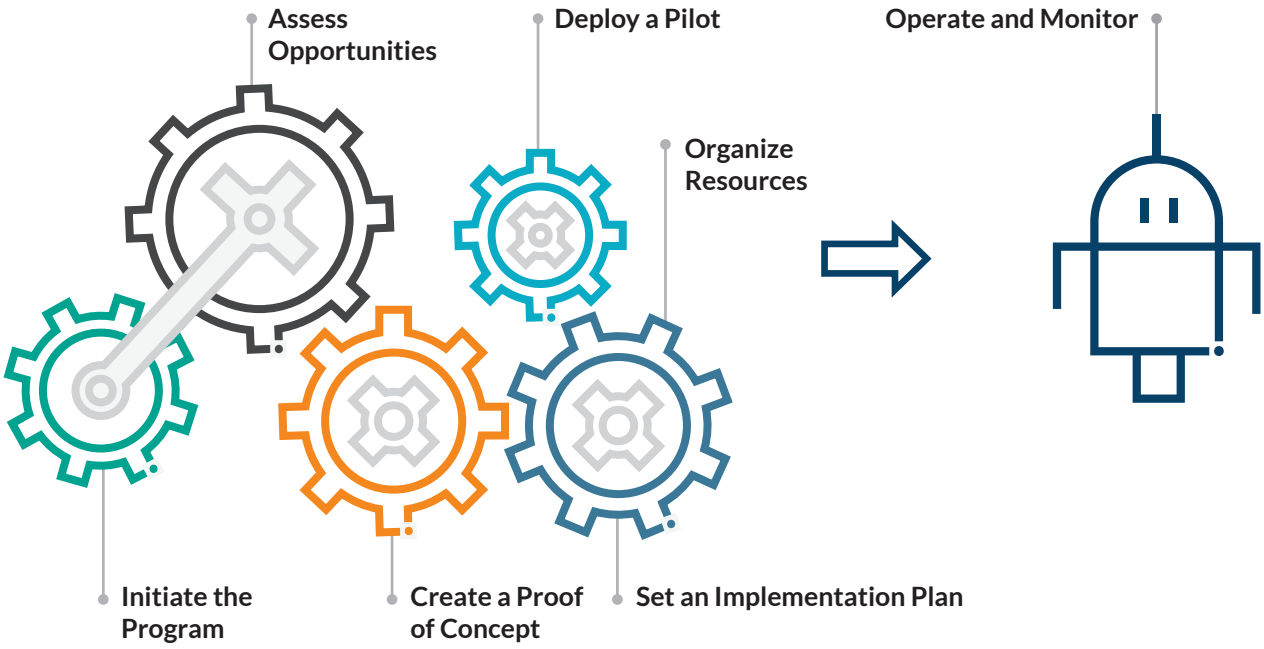
SECTION 5: DEVELOPING A SUCCESSFUL RPA ROADMAP

What you should know

- Reaping the full benefits of RPA requires a properly staged roadmap with critical steps, including initiating the program in a way that builds momentum, creating and deploying pilots, and monitoring the effectiveness of bots.
- Along the way, companies should heed potential stumbling blocks and be prepared to surmount them.
- Executives need to keep employees' feelings and needs in view. Their support will be integral to deploying RPA effectively.

Implementing RPA is a journey rather than a destination. The following graphic offers guidance to help executives develop a successful RPA roadmap, based on the experience of Protiviti experts and RPA leaders.

RPA JOURNEY AT A HIGH LEVEL



1. Initiate the program

Setting up a successful RPA program requires setting and aligning objectives. Conducting an audit of IT systems to determine if they are fit for purpose is a useful early step. At the same time, gaining senior management consensus on RPA opportunities and assessment criteria is crucial. This should include understanding which processes need the most improvement and agreement on the desired "end-state" of the automated processes. Communicating a clear RPA business plan and strategy throughout the process is a cornerstone of successful deployment.

2. Assess opportunities

To identify the best opportunities for RPA, businesses should perform an initial assessment of the processes to be automated. Such an assessment should focus on three criteria:

- Volume of inputs and outputs
- Variability of the processes
- Value unlocked through automation

Volume should be balanced against the process's variability since both can affect the cost-benefits of an RPA application. During the evaluation process, companies should also consider other issues, including cybersecurity, scalability, and whether the RPA tools can be used with AI and other advanced analytics. The assessment culminates in a business case for each application, including how success will be measured.

3. Create a proof of concept

After a process has been selected, companies need to create a proof of concept. Businesses should experiment with the different tools and technologies to understand fully how they work and if they fit the bill. The proof of concept should focus on a key element of the process, not the entire initiative. The goal is to verify that the bot will do its job and deliver the expected benefits. Creating an effective proof of concept will help drive the design of future-state RPA, which is important to do early on to keep the efforts on track.

4. Deploy a pilot

Once the proof of concept has verified that the bot works, companies should run a pilot of the entire process. It is critical to eliminate any inefficiencies in the process before deploying the pilot and to clearly define process exceptions and how referrals will be processed. Organizations should make sure they are investing in the right software for the process being automated. During the pilot, companies should also measure the bot's performance against the performance of the manual process. The manual process should continue to run in parallel until the bot proves itself.

When performed well, the power of RPA is impressive, as are the results it generates. However, in order to fully reap the benefits of RPA, enterprises must implement it strategically and carefully manage the investment of resources in both RPA development and ongoing operation. Strategic application requires developing strong business cases, progressing from simple to complex processes, and implementing RPA as part of a general process improvement and integrating it into the organization's overall technology approach.

— Tony Abel, Managing Director, Global Head of RPA, Protiviti

5. Organize resources

Before pilots are put into production, businesses should organize the cross-functional project team and resources. Responsibilities need to be clear and staff must be fully on board. To keep business and technology goals in sync, companies should foster collaboration between technology and operating units and make sure they have a deep understanding of the processes. To complement their internal teams, organizations will want to reach out to their ecosystems, turning to consultancies and technology companies to provide needed capabilities. A successful people strategy should include a human resources plan for addressing workplace disruption. Such a plan should include listening to staff concerns, being open about potential impacts, and providing career pathing alternatives and training programs.

6. Set an implementation plan

Companies need to create and communicate a comprehensive implementation plan. The plan should detail the strategy, next steps and timelines, as well as set out the budget and full staffing needs. Businesses often underestimate the full costs of implementation. For example, many organizations assume that they will only need RPA developers. However, they will also need business analysts, project managers, operating staff and partners to support and monitor the applications. Another common mistake is budgeting only for deployment and leaving out the costs of maintenance and additional software development.

7. Operate and monitor

Once bots are up and running, companies need to keep close tabs on their performance. Making sure bots are not overloaded or have excessive downtime is important for keeping the system in balance. Companies should also monitor process run times and investigate if the cycle time changes. Calculating the ROI on an ongoing basis is essential. ROI analysis should include the full costs of implementation as well as the operational benefits, such as cost savings and greater productivity, and more strategic benefits such as customer satisfaction and top-line growth.

8. Prepare for what could go wrong

When setting up a roadmap, it is important to be aware of the potential potholes. These can range from not prioritizing the right initiatives to not budgeting enough for maintenance. Often, the root cause is a failure to understand and plan for the full costs and benefits of an ongoing RPA deployment. "Some companies implement an RPA pilot and become so excited that they want to analyze the project to such an extent that it slows the natural momentum toward immediately automating additional processes," Cherkis says. "The big challenge is getting synergy across the organization instead of just at the department level."

TOP LESSONS LEARNED IN IMPLEMENTING RPA

Analyze and track the cost-effectiveness of each RPA application	42%
Leverage the ecosystem of RPA partners, suppliers and consultants	41%
Make sure you have a plan and budget for ongoing maintenance	40%
Ensure you are using the right application for the processes within your enterprise	39%
Develop and communicate a clear RPA business plan and strategy	38%
Develop a work plan that ensures collaboration between the technology and operating teams	36%
Analyze processes and make them as efficient as possible before automating them	34%
Make sure the application is scalable and could support advanced AI technologies	34%
Assess the cybersecurity and data privacy risks of the planned RPA application	29%
Ensure you invest in the right RPA software	27%

Percentage of respondents that indicated each of the above as one of the top five lessons learned.

SURVEY DEMOGRAPHICS

EXECUTIVE FUNCTION

Chief Information Officer	5%
Chief Technology Officer	5%
Board/Board Member	5%
Chief Marketing Officer	4%
Chief Operating Officer	4%
Chief Financial Officer	3%
Chief Digital Officer	3%
Chief Data Officer	3%
Chief Analytics Officer	3%
Chief Risk Officer	3%
Chief Compliance Officer	3%
Chief Audit Executive	3%
Chief Executive Officer	3%
Chief Strategy Officer	3%
Executive reporting into C-level	50%

FUNCTION (IF "EXECUTIVE REPORTING INTO C-LEVEL")

Information technology	25%
Finance and accounting	11%
Marketing and customer relationships	9%
Sales/business development	9%
Human resources	7%
Risk management/compliance	6%
General management/line of business management	6%
Innovation, R&D, product development	5%
Procurement/sourcing/supply chain	4%
Operations/manufacturing	4%
Data and analytics	4%
Legal and administration	3%
Internal audit	3%
Strategy and planning	3%
Regional/country management	1%

INDUSTRY

Energy and Utilities	18%
Manufacturing and Distribution	17%
Financial Services	16%
Technology, Media and Telecommunications	16%
Retail	10%
Healthcare Provider	9%
Consumer Products	7%
Healthcare Payer	5%
Healthcare Payer and Provider	2%

HEADQUARTERS

NORTH AMERICA	50%
U.S.	40%
Canada	10%
EUROPE, MIDDLE EAST, AFRICA	**30%**
U.K.	7%
Germany	7%
Italy	5%
France	5%
Netherlands	3%
UAE	3%
ASIA-PACIFIC	**20%**
Japan	5%
Singapore	3%
India	3%
Hong Kong SAR	3%
China	3%
Australia	3%

SIZE OF ORGANIZATION (OUTSIDE OF FINANCIAL SERVICES INDUSTRY) — BY GROSS ANNUAL REVENUE IN U.S. DOLLARS

$100 billion or more	2%
$75 billion to $99.9 billion	3%
$50 billion to $74.9 billion	6%
$25 billion to $49.9 billion	8%
$10 billion to $24.9 billion	14%
$5 billion to $9.9 billion	18%
$1 billion to $4.9 billion	27%
$500 million to $999 million	22%

SIZE OF ORGANIZATION (WITHIN FINANCIAL SERVICES INDUSTRY) — BY ASSETS UNDER MANAGEMENT IN U.S. DOLLARS

More than $500 billion	29%
$100 billion to $500 billion	31%
$50 billion to $99.9 billion	10%
$25 billion to $49.9 billion	12%
$10 billion to $24.9 billion	18%

ABOUT PROTIVITI

Protiviti is a global consulting firm that delivers deep expertise, objective insights, a tailored approach and unparalleled collaboration to help leaders confidently face the future. Protiviti and our independently owned Member Firms provide consulting solutions in finance, technology, operations, data, analytics, governance, risk and internal audit to our clients through our network of more than 75 offices in over 20 countries.

We have served more than 60 percent of *Fortune* 1000® and 35 percent of *Fortune* Global 500® companies. We also work with smaller, growing companies, including those looking to go public, as well as with government agencies. Protiviti is a wholly owned subsidiary of Robert Half (NYSE: RHI). Founded in 1948, Robert Half is a member of the S&P 500 index.

ABOUT OUR RPA SOLUTIONS

Protiviti empowers organizations to implement impactful RPA programs that transform physical processing into digitized organizational capital through our solution offerings. We recognize that with the power of simplicity also come complexities that need to be navigated in the RPA journey. Our experienced professionals focus on ensuring that the approach taken to RPA is sustainable, developing a strategic approach, applying a risk lens, demonstrating quick value and ultimately establishing an operating model for RPA that enables the business to realize the value without becoming dependent on us.

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