IDC

Thought Leadership: Navigating the New Era of Enterprise Automation

EXECUTIVE OVERVIEW

Failure to successfully maneuver digital transformation is the main reason enterprises fail or cease to exist. Digital transformation is central to delivering customer and employee experiences and establishing business resiliency. The COVID-19 pandemic only accelerated this need, putting slow-to-change organizations at increased risk, while those that quickly pivoted or were already further along their digital transformation journey actually thrived. Enterprise automation is an essential element of digital transformation. So far, it has been mostly implemented as a piecemeal, noninvasive method to automate routine, repetitive, and predictable tasks. Yet a lack of a strong controls framework for executing automation is impeding strategic business innovation and success, and sometimes posing serious security risks.

ABOUT THIS STUDY

IDC recently partnered with Workato to study how enterprises are deploying automation across their organization and managing enterprise automation initiatives as part of their digital transformation.

This White Paper is based on a global IDC survey of 308 executives with responsibility for or influence over automation projects. Respondents were from five countries: Canada, Germany, Spain, the United Kingdom, and the United States. Organizations represented a range of industries, with a primary emphasis on retail/wholesale, financial services, manufacturing, and business professional services organizations. Job titles ranged from C-level executives (e.g., CFO, CMO, chief legal counsel, CIO, chief research director, and chief strategist) to VP/director executives (e.g., VP/head of operations, VP/director of IT, and VP of automation/process center of excellence [COE]). Respondents represented many functional areas, with a primary emphasis on IT, operations, automation COE, and finance, and represented large enterprises, with almost 99% of their organizations generating $2+ billion in annual revenue. The survey was conducted in April 2022.

INDUSTRY OUTLOOK FOR ENTERPRISE AUTOMATION

Digital transformation is top of mind for CEOs, who recognize it as fundamental to growing their businesses. In fact, 95% of CEOs are pursuing a digital-first strategy, and more than half are already operating with a digital-first strategy (see Figure 1). Consequently, IDC forecasts that the proportion of revenue coming from digital business models will grow to 41% by 2027.

FIGURE 1

A Digital-First Strategy to Deliver a New Business Model

Q.   Which of the following statements best describe where your organization is when it comes to adopting a digital-first strategy?
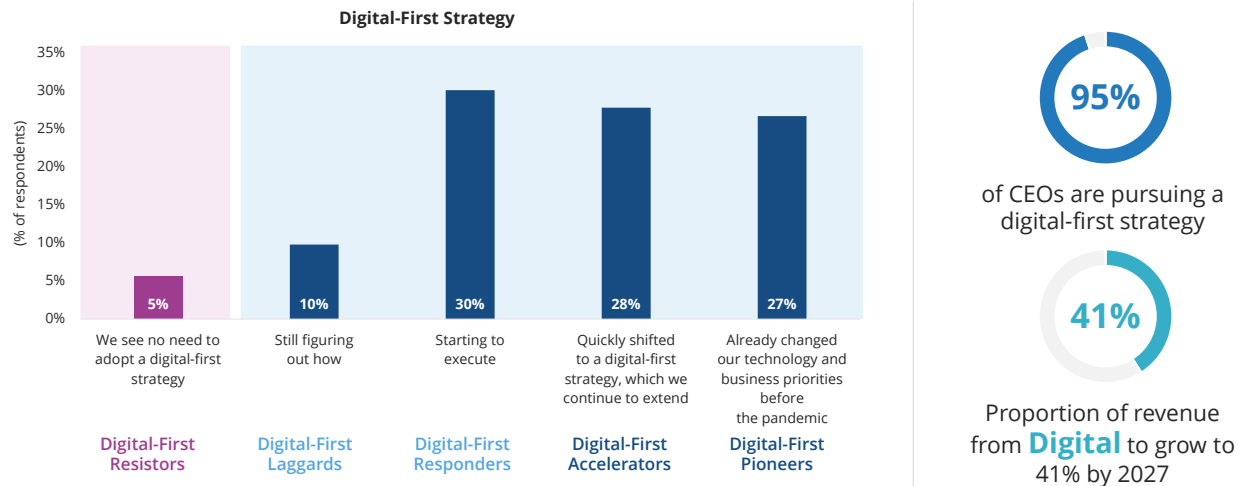
n = 389

Source: IDC's *Worldwide CEO Survey,* January 2022

In fact, organizations that have successfully digitally transformed were able to survive or even thrive during the pandemic. The clearest examples include the ability to work remotely and selling or connecting with customers online.

The Importance of Enterprise Automation in Digital Transformation

Enterprise automation is defined as a unified approach to bring the right data to the right processes to deliver superior customer or user experiences using automation. It spans the entire organization, including finance, goods receipt (GR), marketing, supply chain, and IT, and often integrates the technologies used across these departments every day. This contrasts with automation that is traditionally siloed within a specific functional group. Enterprise automation is also not just about deploying automation software. It involves organizational-level change with an approach to adopt automation at scale based on principles of enterprise architecture and business transformation.

Enterprise automation is increasingly becoming a necessity and a key component of digital transformation. Certain industries such as healthcare and financial services will see more value from automation than others due to the number of paper-based processes in their value chain. However, as explained in the sections that follow, enterprise automation can be a key catalyst for innovation in any industry and should not be dismissed lightly.
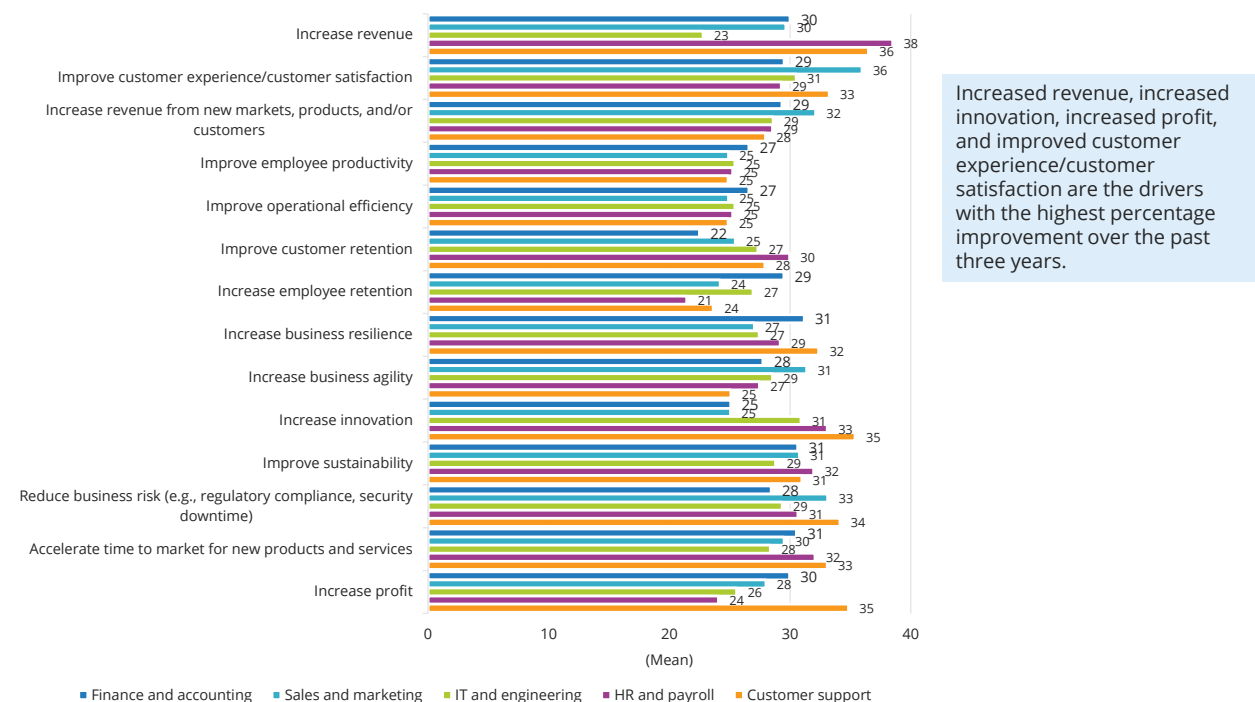
BUSINESS OUTCOMES EXPECTED WITH ENTERPRISE AUTOMATION

Early adopters of enterprise automation have seen tangible outcomes from its deployment. For example, IT organizations saw innovation increase as they accelerated software development and deployment processes. Finance teams can improve customer retention by using automated payment processes that eliminate the regular decision point of continuing spend. Finally, marketing groups can accelerate time to market with new products and services because automated customer surveys provide faster time to insight. These have translated into measurable improvements in areas such as customer experience, operational efficiency, and revenue (see Figure 2).

FIGURE 2

Areas of Improvement Due to Investment in AI-Powered Initiatives

Q.   *What percentage of improvement due to investing in AI-powered automation initiatives has your organization seen annually over the past three years?*


Increased revenue, increased innovation, increased profit, and improved customer experience/customer satisfaction are the drivers with the highest percentage improvement over the past three years.

Source: IDC's *Workato Enterprise Automation Survey,* April 2022

Enterprise automation also empowers employees by improving everyday activities. In our survey, 42% of respondents stated that enterprise automation empowers employees very much, while another 46% said that it made some improvement. Automation also impacts certain job types differently. Today, the top 2 jobs impacted are cubicle jobs and coordinators. But specialized knowledge jobs are expected to be the most impacted job types over the next three years (see Figure 3).

Types of Jobs Impacted Due to Enterprise Automation, Comparing Today Versus Next Three Years

Q. *What job types are being impacted today and over the next three years due to enterprisewide automation?*
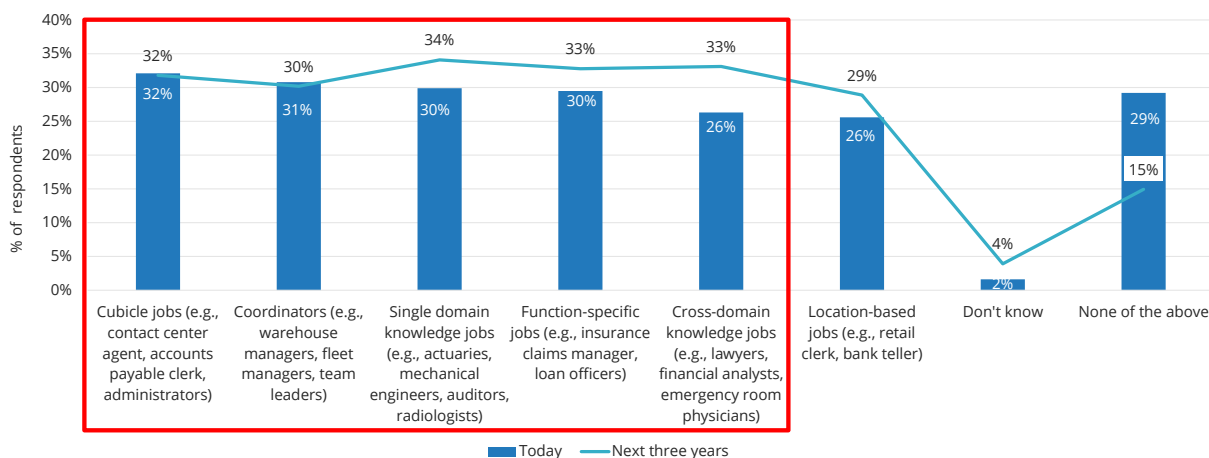
n = 308

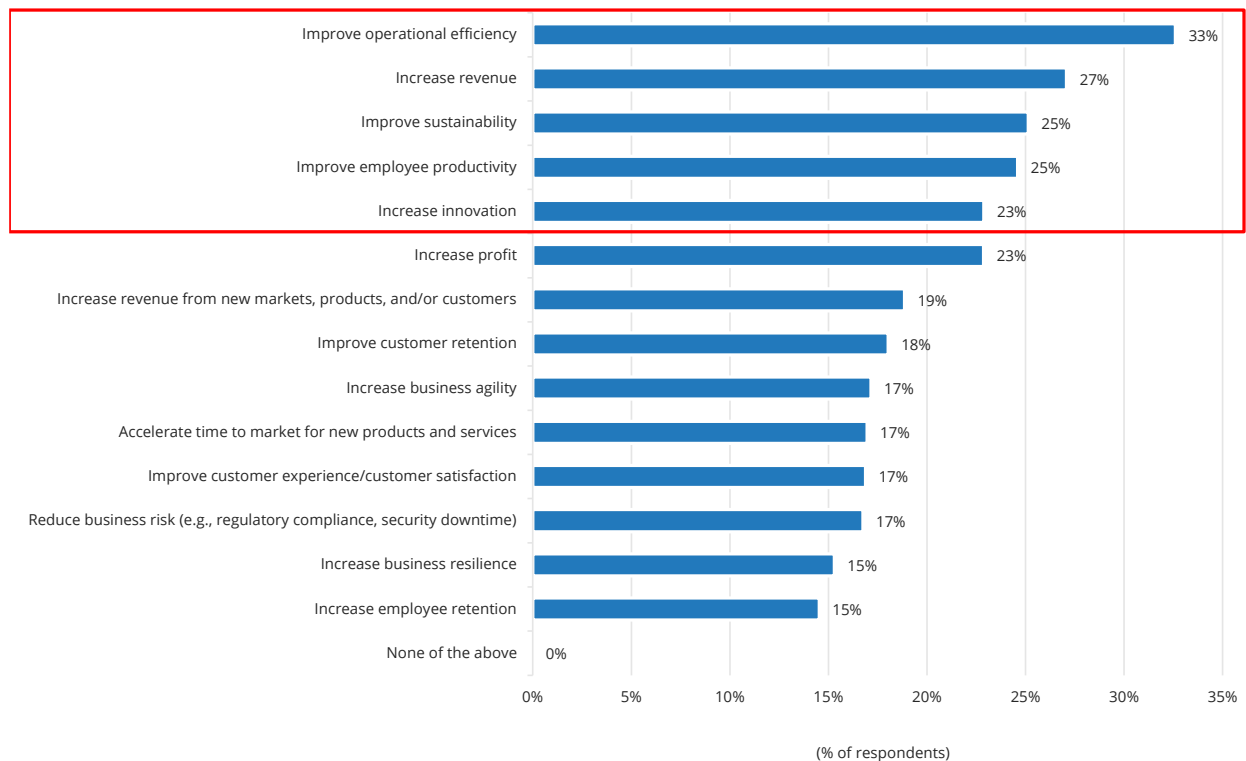Source: IDC's *Workato Enterprise Automation Survey,* April 2022

DRIVERS AND USE CASES FOR AUTOMATION ARE CHANGING

Over the past two years, the pandemic has notably shifted the drivers for enterprise automation. Not surprisingly, the top priorities have been improving operational efficiency (33%) and increasing revenue (27%) (see Figure 4). Other priorities like sustainability, productivity, and innovation are not far behind.

FIGURE 4

Investment Objectives for Enterprise Automation

Q.   What are your organization's primary business objectives for investing in enterprisewide automation?
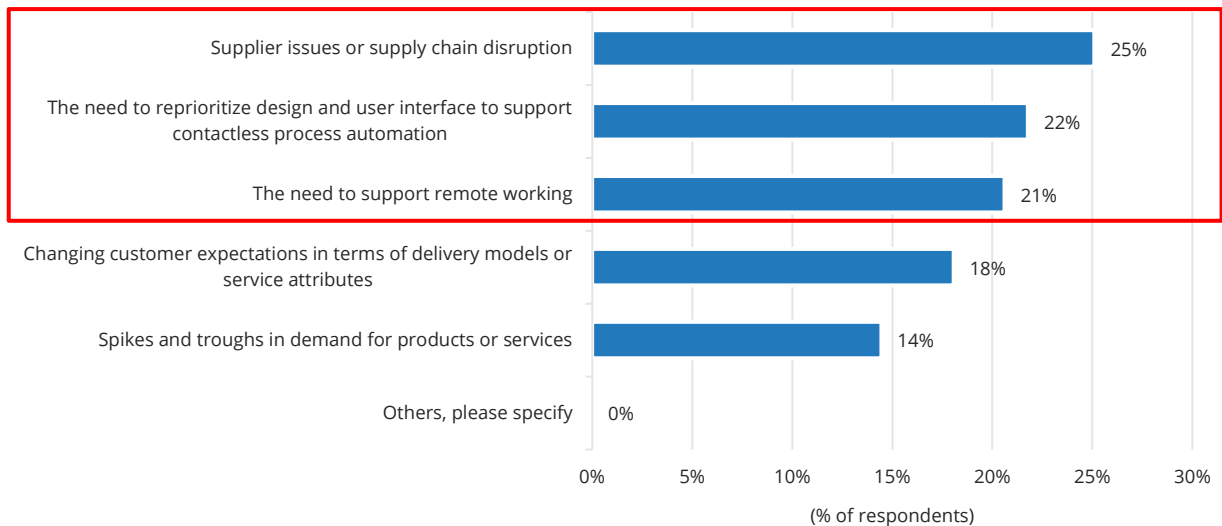

n = 308

Source: IDC's *Workato Enterprise Automation Survey,* April 2022

Now, with the disruptions from the pandemic, businesses must wrestle with new realities, such as supply chain issues (25%), contactless processes for both customers and employees (22%), and remote working (21%) (see Figure 5).

FIGURE 5

Issues of Greatest Impact on Businesses Due to the Pandemic

Q.   *Which of these had the greatest impact on your business due to the pandemic?*
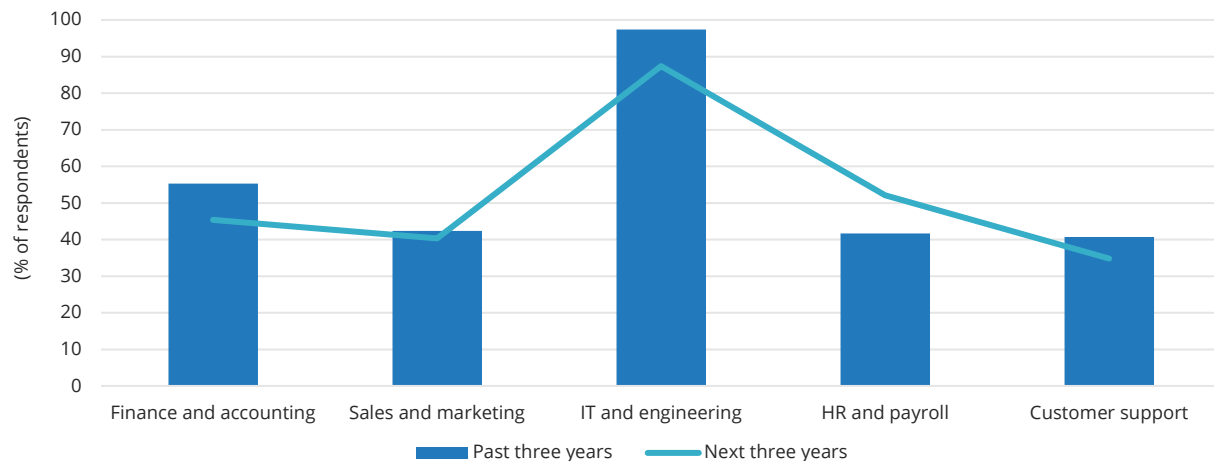

n = 308

Source: IDC's *Workato Enterprise Automation Survey,* April 2022

Consequently, the investment areas are shifting (see Figure 6). Traditionally, most investments in enterprise automation have been in IT and engineering, finance and accounting, and customer support. While IT will continue to dominate as the top investment area, investments are also increasing in back-office teams, such as HR and payroll.

FIGURE 6

Organizations' Investment in Enterprise Automation by Process

Q. *For which of these business and IT processes will your organization be investing in enterprisewide automation?*

n = 308

Source: IDC's *Workato Enterprise Automation Survey,* April 2022

Use Case: IT Orchestration and Management

In the past, IT automation has often been focused on basic observability of system status and automation of routine, repetitive, and predictable tasks. More recently, it has matured and is now expanding to orchestration and management of entire processes. For example, organizations that employ continuous integration, delivery, and deployment methods can automate everything after code check-in to automatically test code, build releases, and push applications into production.

IT system observability use cases have also evolved to become predictive and even proactive in nature. Going beyond basic observation and aggregation of data points such as application performance and security events, IT automation is now utilizing technologies like artificial intelligence (AI) and machine learning (ML) to predict what may become an issue. AI/ML may even leverage multiple data sources such as application performance and infrastructure events to triangulate and root cause issues that would take hours or days for people to figure out on their own. Some automation can go a step further and recommend actions to take, allowing IT teams to quickly initiate changes and remediate issues.

Finally, IT services to internal customers can also be fully automated. A good example is self-service catalogs where the application or infrastructure is automatically provisioned in minutes, as opposed to hours or days with manual methods. This not only makes internal customers happier with the faster response but also helps IT teams reduce the use of "shadow IT," which introduces security and compliance risks for IT organizations.

Use Case: Business Process Automation

Business process automation (BPA) use cases continue to expand in customer support and in the back office. Conversational AI is a key component in these use cases because it allows enterprises to use natural language processing and machine learning to assist human workers. Conversational AI solutions from both incumbents and start-ups are exploding, enabling use cases such as automated customer service and automated HR assistant. Driven by the pandemic, enterprises have also implemented BPA in new ways to enhance back-office operations, such as offering touchless payables for customers and deploying safety monitoring for automated notifications to remote employees.

In addition, BPA can be applied to customer-facing activities. For example, marketing campaigns can be customized with automated marketing tools that gather information on demographic factors and user preferences to target campaigns efficiently. Then automated email platforms and CRM systems can send targeted offers or deals based on past interactions with the customers, including reminders to customers about items for checkout, follow-up surveys after a purchase, and other company or product updates.

These automated, hyper-personalized interactions with natural language communications help improve customer and employee experiences.

Use Case: Intelligent Document Processing

Traditionally, document processing has been error prone and required human intervention. Newer solutions now leverage a combination of AI, ML, computer vision, and robotic process automation (RPA) to provide AI-powered, intelligent document processing (IDP).

But IDP is more than just digitizing documents and extracting some data. It has evolved in some industries to automation of an entire process, from document submission to process decision or action, sometimes even with no human intervention at all. This is possible when enterprise automation is integrated across data sets, processes, and systems in the enterprise. Consequently, enterprise automation in IDP has led to significant benefits for both the enterprise and its customers, significantly more than automation silos alone could provide. IDP plays a significant role in transforming customer and employee experiences.

One of the most common intelligent document processing use cases include invoice and purchase order processing under accounts receivable/accounts payable, which is so critical during this challenging time of supply chain chaos. Orders and invoices can be processed immediately, and collection and payments can be automated. This improves cash flow and relationships with vendors. Another example is in claims processing in the insurance industry. Traditionally, insurance agents needed to visit the customer to visually review the damages and assess the cost. Now, the claimant can send images of damages, and ML models can estimate the severity and cost of repairs. Claims can now be reviewed and paid in days, as opposed to weeks or months when done manually. Other examples include know your customer (KYC) verification, proof of delivery, loan applications, customer onboarding, and patient records.

CHALLENGES TO SCALING ENTERPRISE AUTOMATION

Today, many different automation technologies are available to enterprises. RPA is the leading automation technology, with 88% of respondents using it to support enterprise automation initiatives (see Figure 7). One reason for this preference could be that newer RPA solutions are easier to use by nontechnical employees with their low-code/no-code design. However, many of the technologies do require technical experts to deploy and provide other benefits such as natural language processing, as mentioned previously. These technologies range from even extract, load, and transform (ELT/ETL) operations to computer vision to APIs.

FIGURE 7

Automation Technologies Used to Support Enterprise Automation

Q.   Which of these automation technologies does your organization use to support enterprise automation?
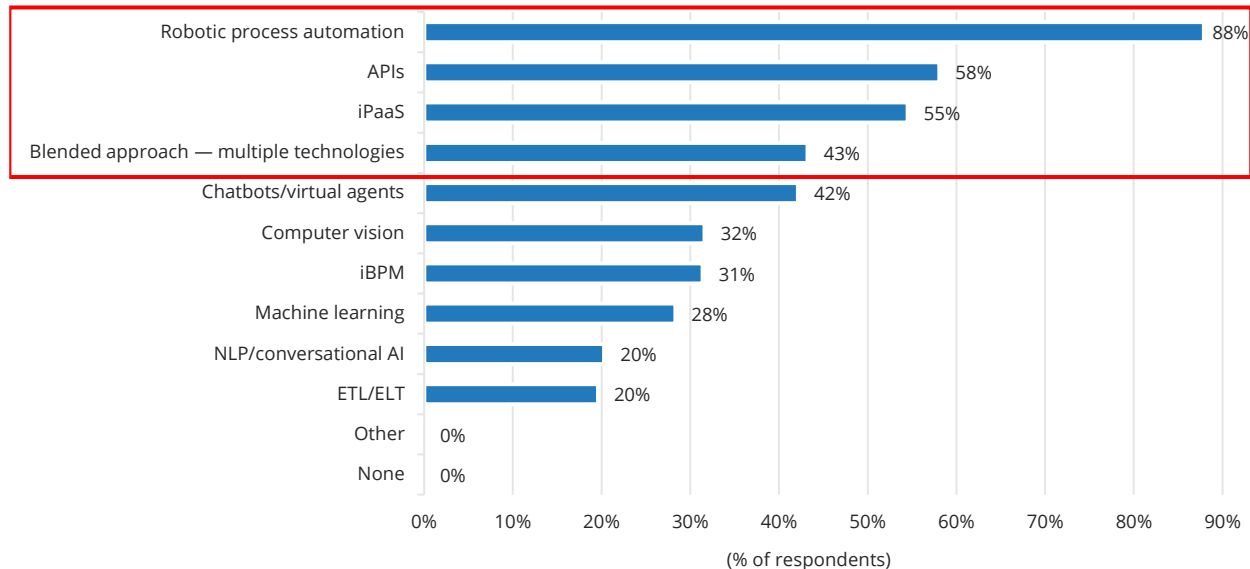
n = 308

Source: IDC's Workato Enterprise Automation Survey, April 2022

While RPA is a leading technology, other capabilities such as API management and iPaaS are equally critical to deploy an enterprise automation platform. With the breadth of automation technologies come the inevitable challenges of managing them. As the number of tools in use at an organization grows, the management challenges grow exponentially. Furthermore, some of these tools are legacy and won't scale or provide the benefits needed in the new reality of enterprise automation.

For example, organizations may see these management challenges acutely with RPA. Since it is easy to build and deploy by nontechnical users, departments may deploy RPA bots without IT engagement. Thus business units and IT are often not aligned with the use of RPA. Doing so can create a serious security lapse since bots can access CRM, ERP, and other critical business systems and move data freely across different processes.

Similarly, RPA deployments may need more maintenance than other automation tools because they touch more processes and critical business systems. As regulations and business needs change across multiple departments, organizations may need to adapt their RPA tools more often. RPA deployments may break more frequently as any slight change in the process itself or in the business systems can confuse the bots and result in errors.

Furthermore, achieving scale seems to be one of the most prominent RPA challenges. As data flow increases, bots are typically unable to catch up. To address data scalability, bots require more computing resources, reduced data frequency, or alternate strategies.

There are other technical complexities as well. Respondents identified a myriad of challenges from compliance risk to budget to internal cultural hurdles. However, the top challenge was security (45%), followed by IT complexity, business and process complexity, cost, and time to value (see Figure 8).

Current Challenges for Automation Initiatives

Q.   Overall, what are your current challenges for the automation initiatives?
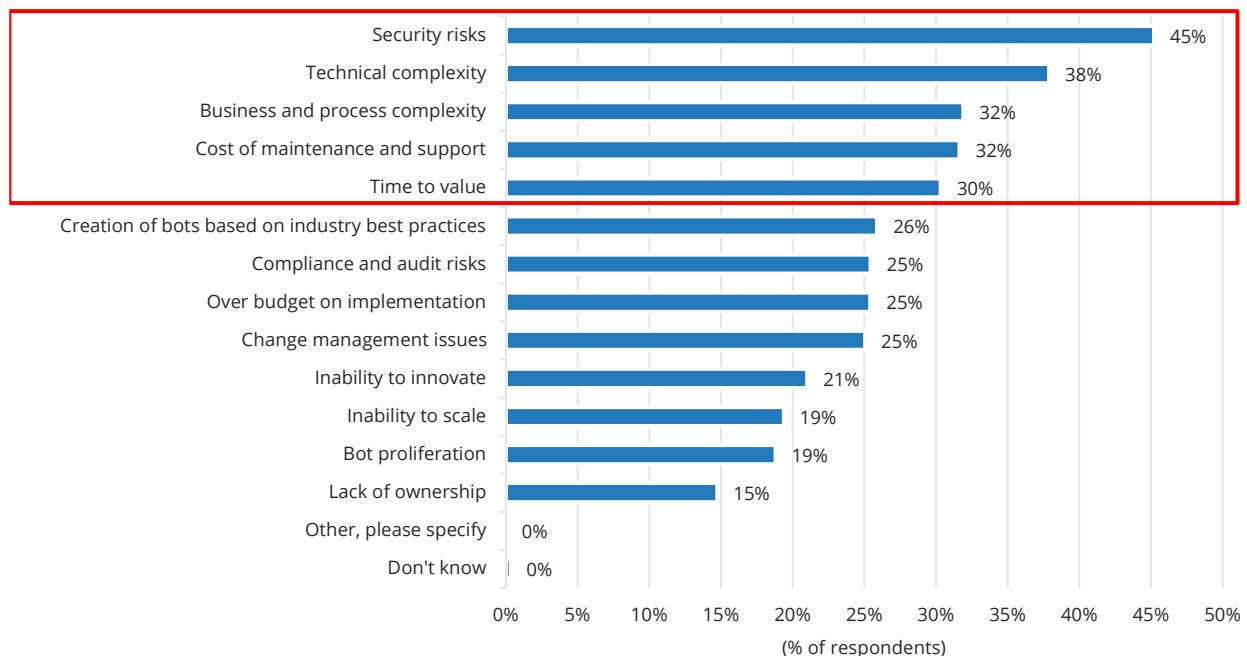
n = 308

Source: IDC's *Workato Enterprise Automation Survey,* April 2022

Furthermore, there are a variety of deployment models. While most of the automation is deployed in public cloud (57%), respondents also use other options, including on-premises, hybrid cloud, and private cloud environments. Some organizations may use multiple models. This deployment variety may be due to the way automation solutions are delivered (e.g., SaaS offerings by a cloud service provider).

At the same time, organizations are concerned about the impact to their employees as more automation is introduced:

- 38% of the respondents are concerned about their ability to recruit, reskill, and retain skilled workers.
- 36% are concerned about the ability to manage changes in culture, organizational structure, and working practices.
- 35% are concerned about the ability to recruit and retain automation talent, since the level and complexity of automation rise over time.

With these challenges, enterprises find it difficult to democratize automation so that it can be deployed more broadly, more quickly, and more confidently. The management challenges grow exponentially as more and more systems and data across the organization are interconnected, ultimately crippling enterprise automation initiatives.

EARLY ADOPTERS' BEST PRACTICES

Not surprisingly, early adopters of enterprise automation are taking steps to bring automation under control. First, 52% of the respondents stated that they have automation COEs where lines of business and IT share ownership in scaling automation across the organization. 45% have standardized on common, integrated data platforms to help extract data from various data repositories and data lakes. 44% of respondents also have clear prioritization of use cases (see Figure 9).

FIGURE 9

How Organizations Maximize ROI for an Enterprise Automation Initiative

Q.   How does your organization ensure maximization of the business value/ROI for an enterprisewide automation initiative?

n = 308

Source: IDC's *Workato Enterprise Automation Survey,* April 2022

It's important to note that a COE for automation is not the end-to-end automation center. A COE provides centralized governance and oversight but decentralized delivery and management of automation. COEs focus on policies and automated security processes to rapidly enable delivery by the actual business teams. They are not a centralized deployment and management organization, as traditionally done in IT.

Given the complexity and the challenges noted previously in finding the skilled workers to implement automation, we also found that 99% of all enterprises rely on professional services to support these automation initiatives. They most often employ the services of consulting firms, but a few have also used IT vendors, such as Microsoft and IBM.

These early adopters also recognize the need for a consistent, well-defined methodology to ensure repeatable success with these automation initiatives. We believe a governance framework is particularly important to democratize automation, not just within the enterprise but also with partner organizations. It is encouraging to see then that 63% of respondents stated that they have an automation governance framework in place. These governance frameworks can cover many aspects of an automation initiative, such as use cases, technology, standards, deployment, project management, and employee training (see Figure 10). However, only 40% of these frameworks include security, risk, regulation, and compliance elements. This is concerning because these issues will also compound exponentially as more enterprise automation is rolled out, exposing the organization to significant financial, brand, and security risks down the road.

FIGURE 10

Components of an Organization's Automation Governance Framework

Q. *Which of these components does your organization's automation governance framework consist of?*
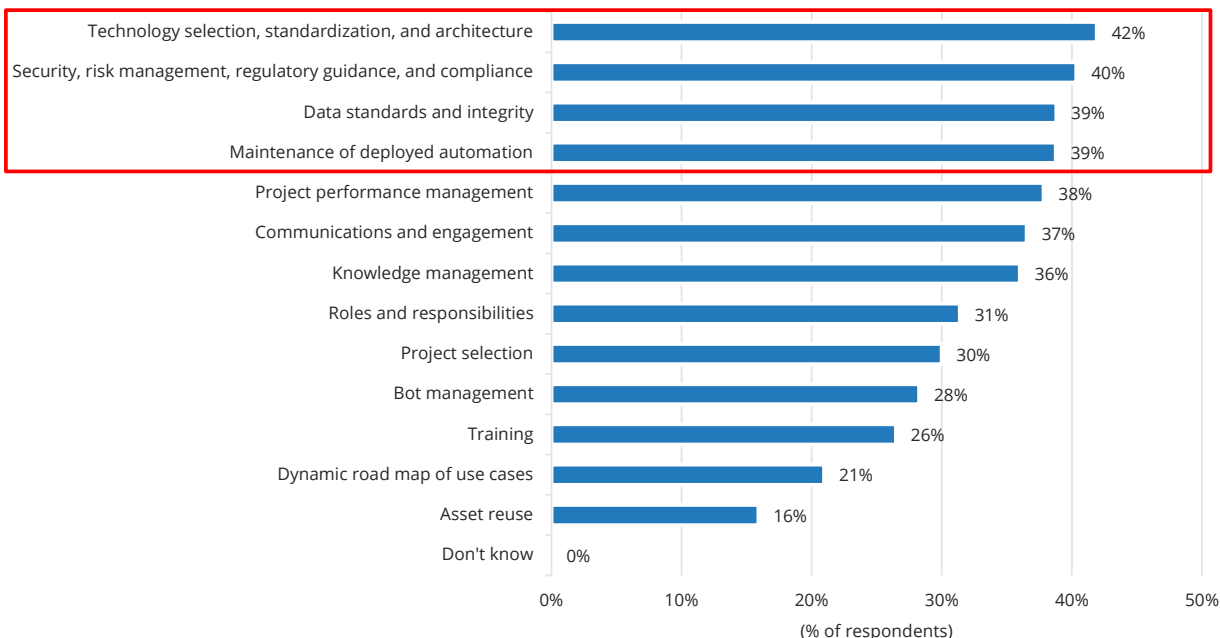
n = 195

Source: IDC's *Workato Enterprise Automation Survey,* April 2022

Finally, early adopters are also taking steps to ensure transparency and a positive impact to their workforce. 79% of organizations recognize that employee engagement is integral to their automation strategy. 62% stated that their C-suite creates transparency around the workforce impact of automation. 85% of organizations are providing tools and upskilling to employees to ensure they thrive in the new normal.

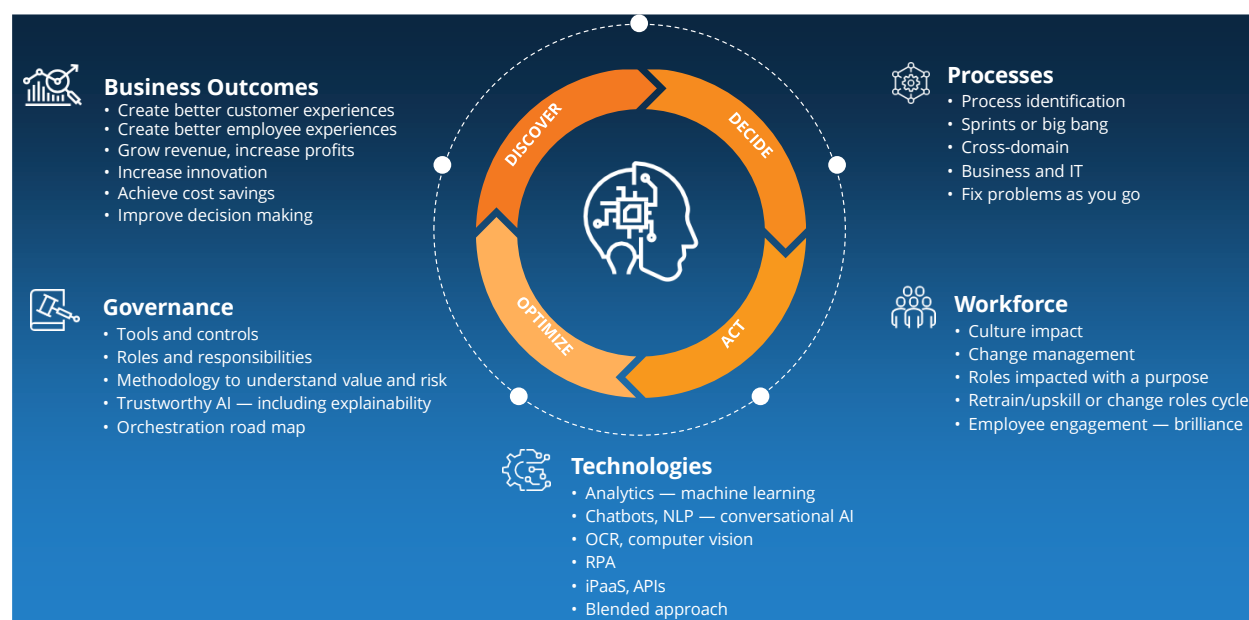## IDC GUIDANCE: ESTABLISH AN ENTERPRISE AUTOMATION FRAMEWORK

Despite the strong showing of best practices across the early adopters, we found that many organizations are not seeing the expected benefits of enterprise automation. Only 12% of the respondents rate themselves at the highest level of maturity for enterprise automation where they are aggressively disruptive in the use of automation technologies and are focused on enhanced customer and employee experiences, creation of resilient and adaptive business models, and driving efficiency and productivity. Another 30% of respondents do have their organizations aligned to their strategy and are seeing some benefits of enterprise automation. However, the remaining 58% of respondents may have an automation strategy but are not realizing the benefits of enterprise automation.

So how can more organizations get to that highest level of automation maturity? This new era of automation requires integration and governance capabilities across all the automation tools. The types of data (such as structured versus unstructured), the types of applications, and the types of deployment models continue to grow. Enterprises need to integrate the diverse data types and applications across deployment scenarios to extract new insights that drive automation.

Therefore, IDC recommends that organizations establish an enterprise automation framework (see Figure 11). This model consists of four phases and five pillars. When implemented well, the model becomes a virtuous cycle to deploy automation at scale and realize the expected benefits.

FIGURE 11

IDC Guidance: Enterprise Automation Framework

Business Outcomes
- Create better customer experiences
- Create better employee experiences
- Grow revenue, increase profits
- Increase innovation
- Achieve cost savings
- Improve decision making

Governance
- Tools and controls
- Roles and responsibilities
- Methodology to understand value and risk
- Trustworthy AI — including explainability
- Orchestration road map

Processes
- Process identification
- Sprints or big bang
- Cross-domain
- Business and IT
- Fix problems as you go

Workforce
- Culture impact
- Change management
- Roles impacted with a purpose
- Retrain/upskill or change roles cycle
- Employee engagement — brilliance

Technologies
- Analytics — machine learning
- Chatbots, NLP — conversational AI
- OCR, computer vision
- RPA
- iPaaS, APIs
- Blended approach

DISCOVER · DECIDE · ACT · OPTIMIZE

Source: IDC, 2022

Four Phases of the Enterprise Automation Framework

The four phases of the enterprise automation framework are designed to be a continuous cycle of governance. They can occur periodically, as organizations plan a wave of automation initiatives, or they can be applied to each automation initiative as opportunities are identified. Regardless of the timing or scope of each cycle, it's important to not get bogged down in a phase with excessive oversight or reviews and to keep moving forward with an iterative, learning mindset.

The first phase is *discover.* In this phase, organizations determine what could be automated. Not all processes need to be automated or have much to gain from automation. Organizations should consider whether automating the processes will help achieve key business outcome drivers for automation, such as improved efficiency or increased customer experience. If it is not clear where to begin, setting some baseline key performance indicators (KPIs) by leveraging AI can help analyze existing data.

The second phase is *decide.* In this phase, organizations prioritize and decide which automation initiatives to implement and how to implement them. Organizations should select the initiatives that will provide the biggest gains and the best ROI. It is also worth considering how long it will take for the initiatives to complete. In the early stages of adopting automation, it is helpful to deliver quick wins and build confidence and credibility of the benefits of enterprise automation. Quick wins also help allay fears that automation will eliminate jobs. In fact, we see no evidence of jobs being eliminated due to automation — on the contrary, automation often augments or assists employees, making them happier and more productive.

The third phase is *act.* In this phase, organizations look holistically across their business, setting standards and principles to automate in an agile fashion. As mentioned in the Early Adopters' Best Practices section, these standards and principles can cover issues such as technology selection, project management, and data access. The goal is to set centralized standards and practices across the organization but allow individual teams or partners to manage the deployment.

The fourth phase is *optimize.* In this phase, organizations should continuously learn from automation initiatives, even while they are still being implemented and deployed, to improve the other phases. For example, organizations may learn that a certain KPI is not effective at measuring a use case's expected benefits or ROI, requiring replacement with another one. New security risks may be uncovered or may no longer be relevant for your organization, leading organizations to update their security standards or practices.

Five Pillars of the Enterprise Automation Framework

Organizations should approach each of the four phases with a framework that best supports their enterprise automation initiatives. IDC recommends a framework based on five pillars that apply to both the organization's governance body and the teams deploying the automation (refer back to Figure 11).

The first pillar is *business outcomes.* It's important to decide what the top business outcome priorities are to guide governance and the deployment teams. For example, the outcome could be to increase innovation, or it could be to improve decision-making speed and quality. These desired outcomes should also be measurable and be made clear to the deployment teams. These outcomes and metrics will help the team make the appropriate tactical decisions during deployment.

The second pillar is *processes.* As mentioned previously, enterprise automation looks at benefits from application of automation across multiple domains in an organization. Thus organizations need to look at entire processes, not just individual steps, when evaluating automation initiatives. This evaluation should include how automation of an entire process can deliver the desired business outcomes.

However, organizations don't need to deploy automation across the entire process all in one shot. While there may be times when a massive, "big bang" project to automate significant portions of the business makes sense, we recommend doing agile or sprintlike projects to demonstrate rapid value delivery.

The third pillar is *workforce*. As noted previously, employee engagement is integral to automation strategy success. Since people are impacted by any automation, organizations must remember to plan for changes in culture, roles and, possibly, skills. This pillar is not about just delivering training to the impacted employees at the very end. Organizations should keep employees engaged throughout the process to set expectations, see the business and personal benefits, and even become advocates among their peers.

The fourth pillar is *technologies*. It's important to keep in mind that the various automation technologies are well suited for different situations. There is no one technology that solves every automation need. Instead, organizations should consider a blended approach that combines several technologies. Blending of technologies may occur within a single step in the process or across the process, especially when crossing domain areas. Good governance of these individual or blended approaches will enable democratization of the technologies across the organization for faster delivery.

The fifth pillar is *governance*. This pillar is about having the tools, roles, and assessment methodologies in place to govern well. For example, organizations may need to clarify what kind of governance is done by an automation COE versus what is governed by the deployment teams. Organizations may also want to establish a baseline of consistent value and risk measurement methodologies across initiatives to help evaluate and prioritize them.

CONCLUSION

Organizations are now living in a new reality caused by the pandemic in which they are compelled to compress and accelerate their digital transformation to survive and thrive. Enterprise automation is a critical component of that transformation.

Enterprise automation is expanding rapidly in terms of use cases, technologies, and benefits. Consequently, the challenges to managing all this automation are growing exponentially, such as security risks, scalability, and manageability.

Organizations are reaching a tipping point where enterprise automation requires a robust governance framework to address these challenges and democratize automation rapidly. This can be done through an automation COE to centralize governance and principles but decentralize delivery of automation. Enterprise automation also requires a strong integration strategy to bring disparate data from applications and processes together. Ideally, customers will leverage a cloud platform that brings together integration and automation capabilities to deliver seamless enterprise automation.

Successful enterprise automation is not about automating every process. Organizations should identify the key automations that can drive the biggest impact across the entire value chain from business to IT processes. This can be achieved by focusing on key performance indicators and business outcomes and by delivering automation value in iterative, incremental steps to demonstrate ROI and gain mindshare internally.

While simple and intuitive automation platforms support agility in enterprise transformation, the right governance framework and a comprehensive strategy are crucial for scale.

Ultimately, enterprise automation can lead to significant changes. So organizations must manage their automation initiatives well using change management. Change also includes cultural impact. Organizations should keep employees aligned, engaged, and empowered.

About IDC

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