



Robotic Process Automation and Content Services: Operational Efficiency in the Digital-First Business



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IDC Opinion

Organizations today are looking at how they can leverage digital capabilities for new value creation. This includes new operational efficiencies, how the organization engages with customers, how it attracts and retains employees, and new digital products and services. At IDC, we are calling this a “digital first” approach.

Content drives business. It is challenging to think of many business tasks or workflows that aren't dependent on documents or another form of content, so the digitization, automation, and transformation of content-centric workflows must be a component of any digital-first strategy.

This is especially true for content-centric tasks that are highly manual, routine, and repetitive, including those that involve extracting or rekeying information. Not only are these workflows highly inefficient, but they are also error prone and expose the organization to increased risk. Robotic process automation (RPA) technology is well suited to automate repetitive, routine tasks, and the benefits are compelling. Organizations that implemented RPA in addition to content services increased productivity by 24%, reduced costs by 11%, and had 15% more efficiency and/or faster cycle times. RPA must be a component of any content workflow automation portfolio.

Engaging with a technology vendor that can provide both content services technologies and RPA offers additional benefits. Over two-thirds of organizations surveyed note that engaging with a single vendor ensures that the solutions integrate and function well together. Engaging with one vendor also reduces administrative effort, provides a single point of content, and offers a similar user experience to staff, minimizing training efforts.

IN THIS WHITE PAPER

Content services platforms often include technologies to automate workflows and manage content-centric business processes. For example, workflow automation, case management, and intelligent document processing are common elements of many content services portfolios. Robotic process automation gained significant popularity over the past five years to automate manual, repetitive tasks, offloading these tasks from human workers to a software robot or “bot.” RPA is now an important part of the content services portfolio, especially in efforts to digitally transform content-centric business processes.

With RPA, the bot executes an automation script when invoked that mimics the discrete steps performed by a human worker, converting manual work to digital work. Bots perform tasks at a much higher rate than would be possible for a human alone and more consistently than a team of workers tasked with performing the same repetitive operations.

Adding RPA to a content services platform can enable faster and more efficient operations, increase revenue, reduce costs, and improve quality and customer experience. In summer 2022, IDC conducted a global survey of 800 IT and line-of-business decision makers and influencers to further explore how RPA is used in content-centric workflows and how these types of deployments impact worker productivity, efficiency, and costs of content-centric processes.

This white paper presents highlights from this research and offers recommendations for organizations that wish to drive better business outcomes by deploying both content services and RPA technology. The research also explores the benefits of buying RPA and content services platforms from the same vendor.

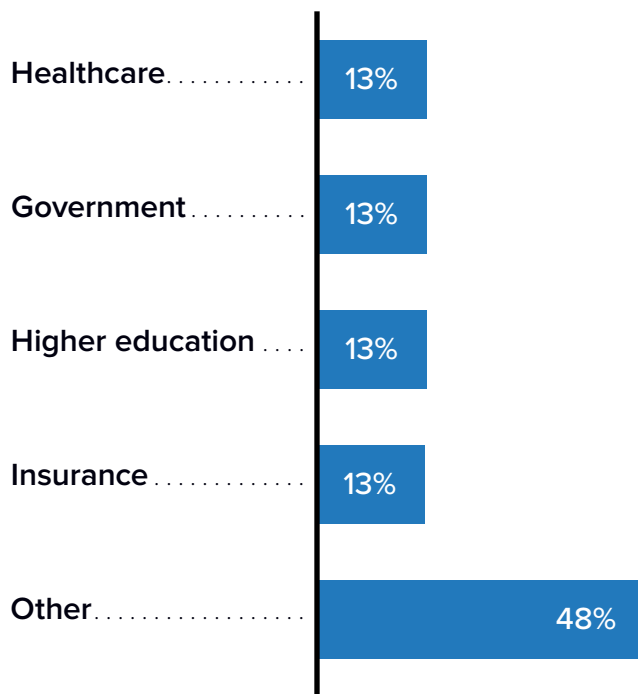
Methodology

IDC surveyed organizations that already use RPA and those that have not yet adopted RPA as a basis for comparison. **Figure 1** shows the primary survey demographics.

FIGURE 1
Survey Demographics

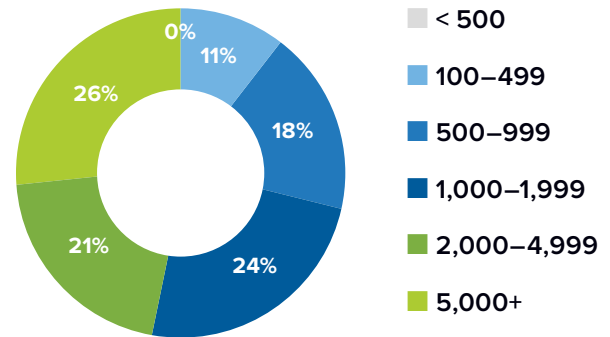
Primary Industry

(Total = 800)



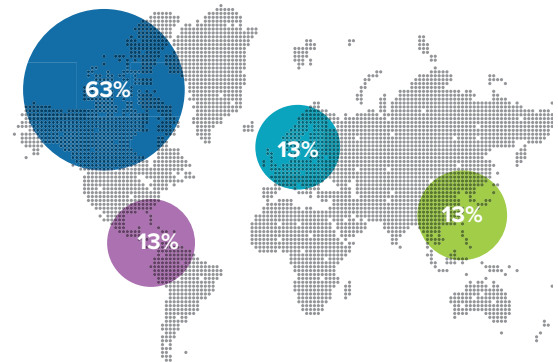
Company Size

(Number of Employees)



Region

(Unweighted Total)



Current Title or Role



50%
IT role (including CIO/CTO/CSO)



50%
Line-of-business role (including president, CEO, CFO, human resources, marketing, sales)

Decision Authority on RPA

21% Primary decision maker

46% Influencer

33% User

Source: IDC's *Hyland Automation in Content Services Survey*, July 2022



Situation Overview

The Current State of Content-Centric Workflows

Despite the maturity of content services platforms and automation solutions, 40% of organizations are just beginning the journey of truly transforming content-centric processes within their companies. Although only a minority of the organizations (11%) are still struggling with manual, paper-based workflows, nearly one-third have simply replicated these paper-based processes with digital versions, with limited integration with enterprise systems and limited cross-functional collaboration (see **Figure 2**, next page). These processes are still highly inefficient. It is important to understand that simply digitizing documents or deploying automation technology is not necessarily truly transformational. It is not enough to simply mimic paper-based workflows. It is entirely possible to automate broken processes and not take full advantage of the efficiencies and digital experiences offered by technological innovation.

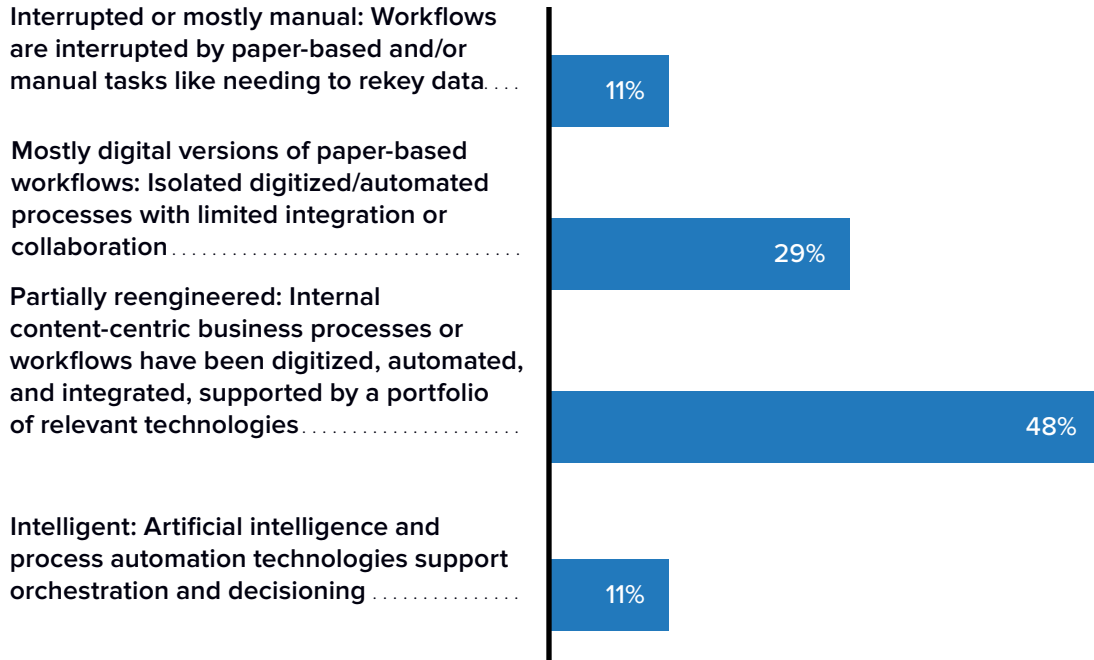
On the other hand, over half of our respondents have reengineered content-centric processes, supported by a portfolio of relevant technologies, including deploying process automation technologies to support orchestration and decisioning within these workflows.

FIGURE 2

Current State of Content-Centric Processes and Workflows

(% of respondents)

Q. Please indicate which statement below best characterizes your organization’s current state regarding content-centric processes and workflows.



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

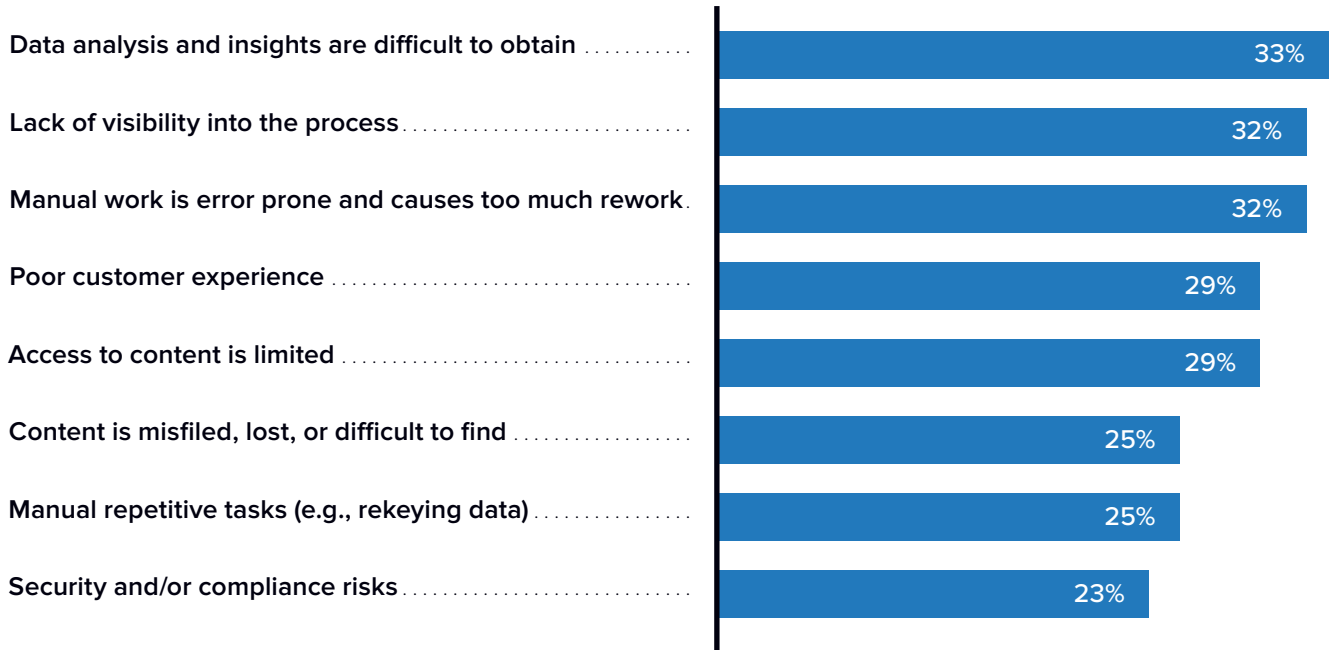
Artificial Intelligence and Automation Technology Adopted for Content-Centric Processes

Our research confirms that organizations face a number of challenges associated with content-centric workflows that can be mitigated through automation. Difficulty obtaining insights, lack of visibility into processes, and error-prone manual work are reported by nearly a third of respondents (see **Figure 3**, next page). Poor customer experience, limited access, and, perhaps most importantly, increased security and compliance risk were also cited.

FIGURE 3
Top Challenges with Content-Centric Processes

(% of respondents)

Q. What are the top three current business challenges associated with your content-centric business processes that can be improved through automation?



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022
 Base = all organizations

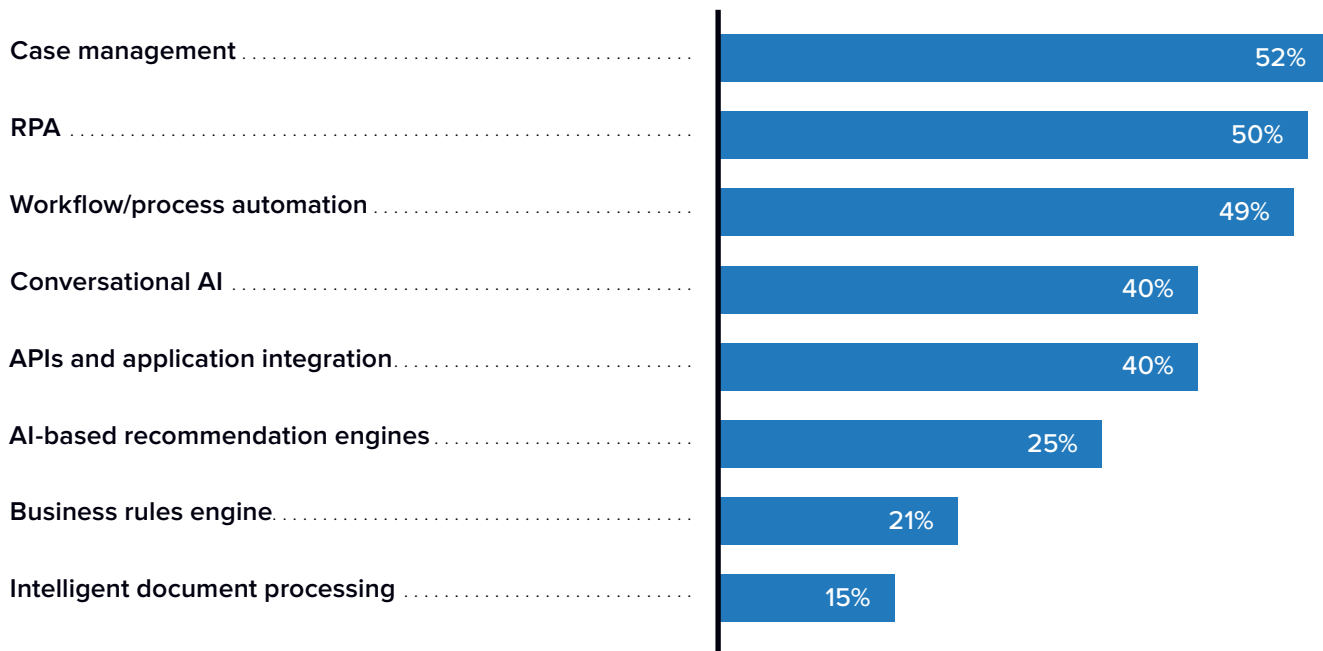
We asked respondents what tools, if any, their organization uses or plans to use to automate content-centric business processes. Almost all respondents cited at least one technology. Of those that have deployed automation technology to transform content-centric workflows, the most widely used tools are case management, RPA, and workflow/process automation. If we look at the population that has yet to implement RPA, the most used tools are case management, workflow/process automation, and application programming interface (API) and application integration (see **Figure 4**, next page).

FIGURE 4

AI and Automation Technology Adopted for Content-Centric Processes

(% of respondents)

Q. What tools does your organization use to automate content-centric business processes?



n = 799; Source: IDC, 2022

Brief descriptions of each are:

- Case management (52% adoption) is the most adopted automation technology. With standalone case management, tasks are largely performed manually, while the automation involves managing the advancement to each stage of a case to a conclusion until the active case is fully completed.
- RPA (50% adoption) is the second most adopted automation technology that focuses on automation via the front end of an application.
- Workflow/process automation (49% adoption) is the third most adopted technology. Workflow is similar to case management in that the automation involved is advancing work through a process involving multiple people or systems performing parts of the work. Review and approval workflow is an example of workflow automation.
- Conversational artificial intelligence (AI) (40% adoption) involves an AI-driven interface that receives text or speech questions and works to answer or execute the question using back-end automation.

- APIs and application integration (40% adoption) connects two or more systems together via back-end automation.
- AI-based recommendation engines (25% adoption) use machine learning (ML) models to make recommendations to end users or recommendations that result in an automated action. Loan approvals, credit risk decisions, fraud, and next best action recommendations are built around these ML-based engines.
- Business rules engines (21% adoption) are used to automate decisions in content-centric processes through the declaration of policies — or rules — about how to proceed based on given conditions.
- Intelligent document processing (15% adoption) has evolved to support the combination of computer vision and natural language processing models as well as optical character recognition (OCR) to categorize, capture, and convert both semistructured and largely unstructured documents.





Not surprisingly, only a small number of companies at the lowest level of content-centric workflow maturity have adopted RPA. Among respondents who indicated that their workflows were primarily manual and paper based, only 4% have adopted RPA technology. On the other hand, 85% of organizations at the highest level of content-centric workflow maturity have adopted RPA.

Figure 5 (next page) presents industry-specific examples of content-centric workflows automated by RPA.

FIGURE 5

Examples of Content-Centric Workflows Automated by RPA

Q. Which of the following workflows were automated by adopting RPA?

 Healthcare	 Government	 Higher Education	 Insurance
Patient billing	Property registrations	Student services	Claims processing
Report capture	Information requests	Admissions and enrollment management	Policy cancellation
Claims processing	Data capture and processing from surveys and census	Faculty and staff services	Regulatory compliance
Appointment scheduling	Online form processing	Resource management and scheduling	Records management
Records management	Assistance applications	Human resource management	New business and underwriting
Discharge instructions and reminders	IT/information services	IT/information services	IT/information services

Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

Business Value of RPA in Content-Centric Processes

Business Objectives

The business objectives driving individual investments in content services and individual investments in RPA are largely the same, although there is some shift in those objectives based on the maturity of content-centric workflows. The top business outcomes organizations want to achieve through investment in content services are improved efficiency, customer experience, revenue, quality, security, and reduced costs. Similarly, more than 30% of RPA users invest in RPA to enable faster and more efficient operations, increase revenue, reduce costs, and improve customer experience and quality.

As noted, the primary business objectives for investing in RPA varies with the current state of an organization’s content-centric processes and workflows (see **Figure 6**). Organizations at all stages are concerned with operating faster and more efficiently, but those at the earlier stage of maturity are also focused on improving customer experience and improving quality. Those organizations that have at least partially reengineered content-centric processes are concentrating on reducing costs and increasing revenue, indicating that these firms are focused on the return on their investment. The most mature organizations are centered on improving employee productivity as well as customer experience, fully leveraging their technology investments.

FIGURE 6
Top Business Objectives Driving RPA Adoption

(% of respondents)

Q. What are your organization’s top three business objectives for investing in robotic process automation?

Digital Versions of Paper-Based Workflows

(n = 160)



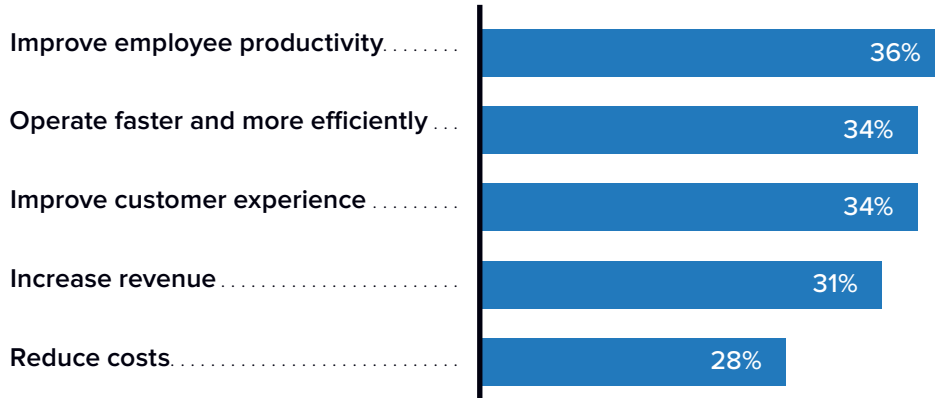
Partially Reengineered

(n = 156)



Intelligent

(n = 79)



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

Business Value Improvements

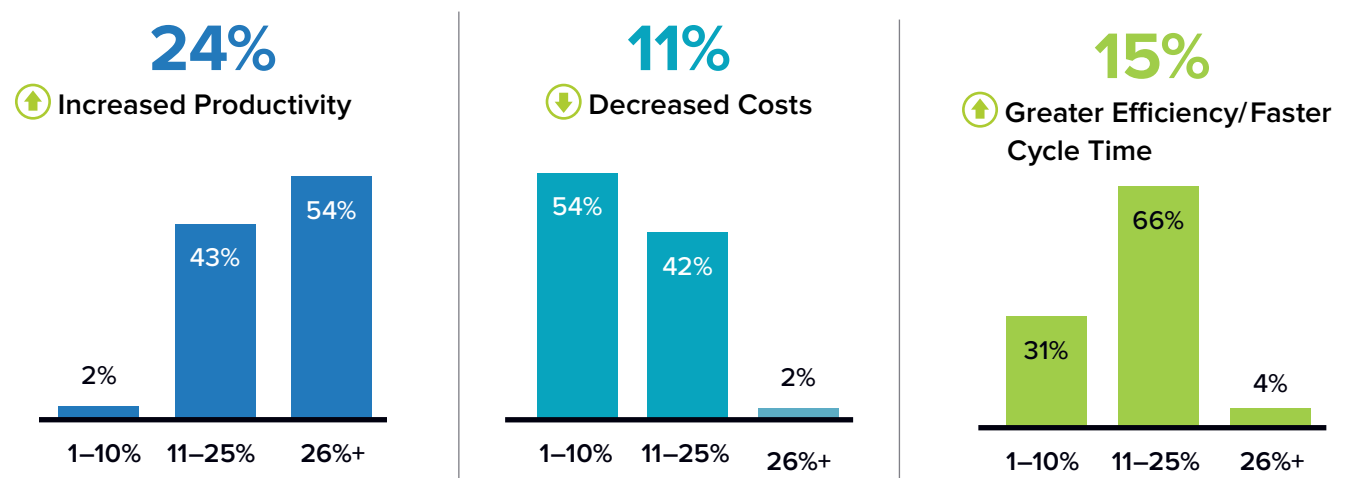
Overall, organizations that implemented RPA in addition to content services, on average, increased productivity by 24%, reduced costs by 11%, and had 15% more efficiency/faster cycle times (see **Figure 7**).

FIGURE 7

Business Value Improvements of RPA in Content-Centric Processes

(% of respondents)

Q. What are the estimated cumulative improvements from your use of RPA?



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

Base = all organizations

Several factors may contribute to the cost of content-centric workflows that are not automated:

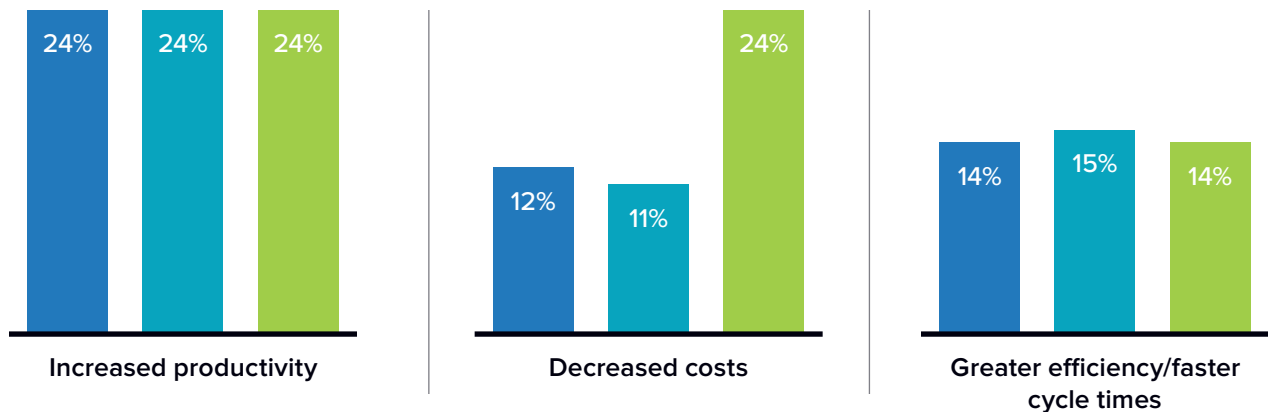
- **Labor:** Manual processes take employees more time, increasing both actual labor cost and opportunity cost. This includes rekeying data to bridge disparate systems.
- **Compliance:** There may be costs associated with missed deadlines for incomplete compliance with industry and/or government regulations.
- **Print/distribution/storage:** Printed documents are costly to produce, distribute, and store.

The business value achieved by deploying RPA is consistent across stages of content-centric workflow maturity (see **Figure 8**).

FIGURE 8
RPA Business Value by Content-Centric Workflow Maturity
 (% of respondents)

Q. What are the estimated cumulative improvements from your use of RPA?

■ Digital versions of paper-based workflows (n = 160) ■ Partially reengineered (n = 156) ■ Intelligent (n = 79)



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

Adoption of RPA and Content Services

Vendor Evaluation

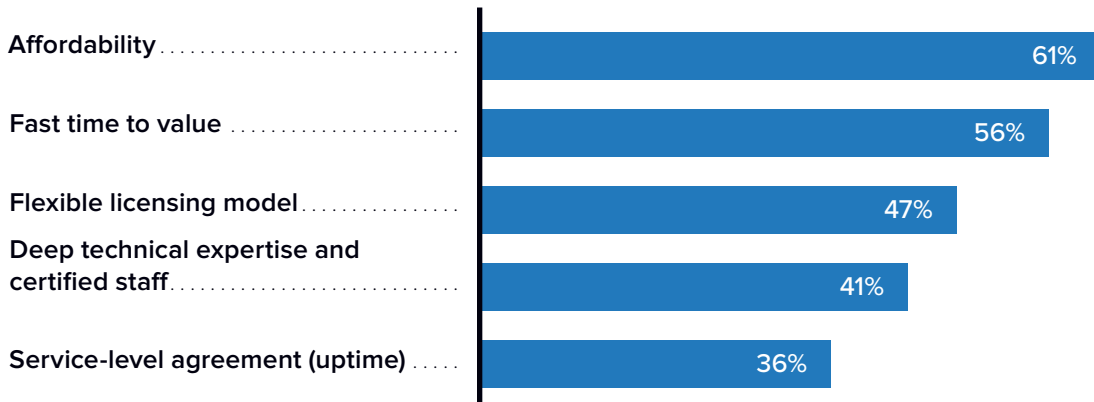
As noted previously, we asked survey respondents about the tools they are deploying or planning to deploy to automate content-centric workflows. We also asked about the business factors they considered critical for choosing an automation platform vendor overall, and then what factors were considered specifically for content services and RPA. Firms consider slightly different business factors when evaluating vendors (see **Figure 9**). While affordability and fast time to values are most important for automation vendors overall, service-level agreement, deep industry expertise, and reputation rise to the top of the list for content services and RPA vendors specifically. It is interesting to note that the business factors driving vendor evaluation for content services and RPA are well aligned, further indicating the value in considering these solutions in tandem.

FIGURE 9
Top 5 Critical Business Factors in Vendor Selection

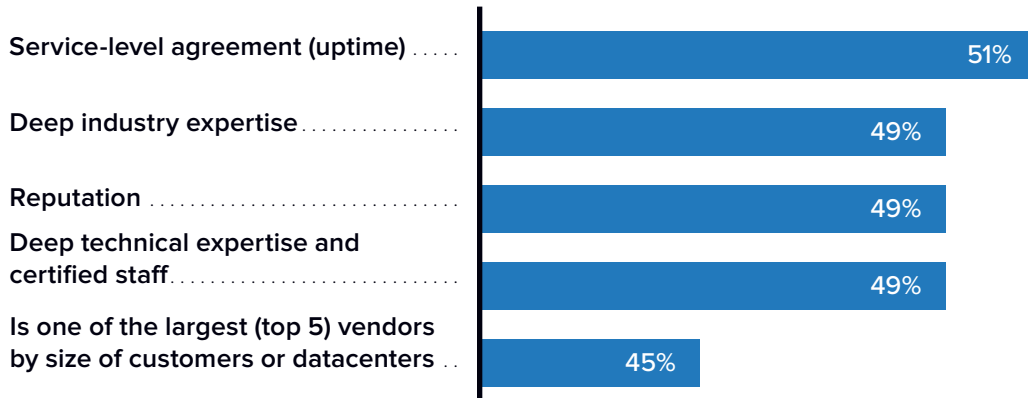
(% of respondents)

Q. Which of the following business factors do you consider critical for choosing an automation platform vendor, content services vendor, and RPA platform vendor?

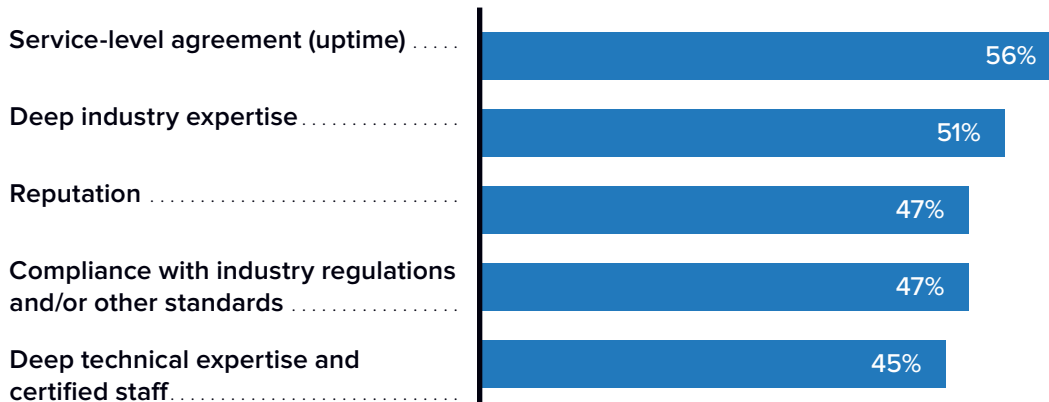
Automation Platform Vendor



Content Services Vendor



RPA Vendor



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

When we asked survey respondents about critical capabilities in content services and RPA, we saw diverging results. The most critical capabilities for content services are interoperability with business applications and standard APIs (both of which, of course, are integrally related) (see **Figure 10**, next page). Respondents are also seeking solutions that include both the infrastructure and the application itself (as opposed to a “headless” solution). Content services platforms must be able to support a broad range of use cases, including collaboration and records management, and serving as a repository for other enterprise applications, as well as supporting the content-centric workflows noted in **Figure 5**, page 11.

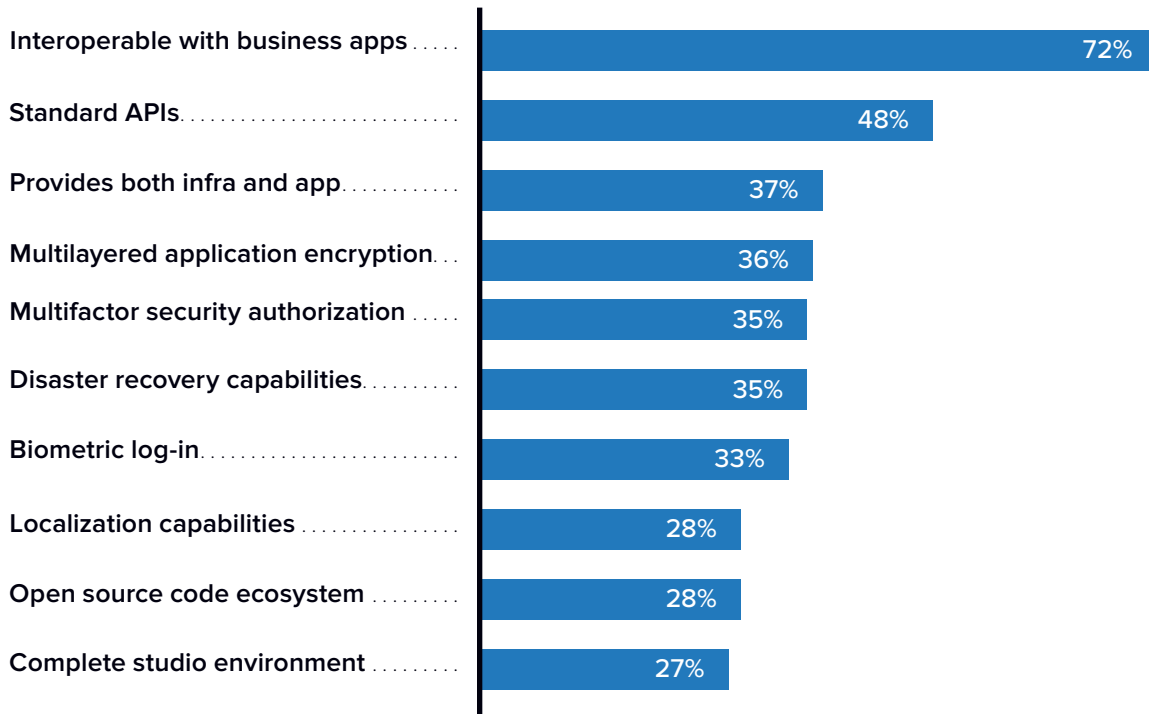
When evaluating an RPA platform, the most critical capabilities are ease of operations and visibility as well as automation planning capabilities.

Automation planning is the first step in an automation life cycle and includes several capabilities:

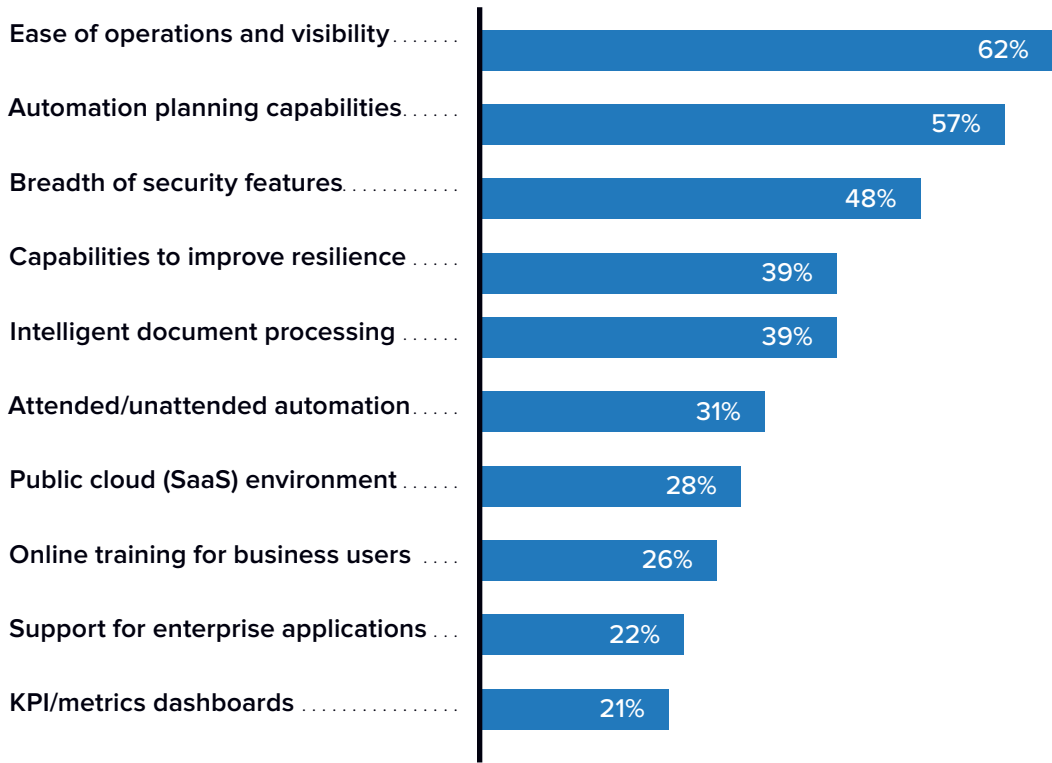
- The ability to document and identify the business value of the automation (This is traditionally developed through interviews with teams about how they perform their jobs. This is shifting to use of task mining, which records how a team of workers perform their work, correlates and organizes each step of the task along with application used to perform the task, produces documentation about how a task is performed, and identifies individual steps in a task that can be automated. Metrics are generated to predict the business value of the automation.)
- Accepting automation ideas from individuals and teams along with business justification for the improvement and expected outcomes
- Maintaining a pipeline of automation opportunities that produces an automation road map
- Planning metrics associated with production metrics to produce closed-loop assessments of improvements

FIGURE 10
Top Capabilities in Selecting a Content Services Platform or RPA
 (% of respondents)

Top Capabilities in Selecting Content Services Platform



Top Capabilities in Selecting RPA Platform



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

Content Services and RPA — Better Together

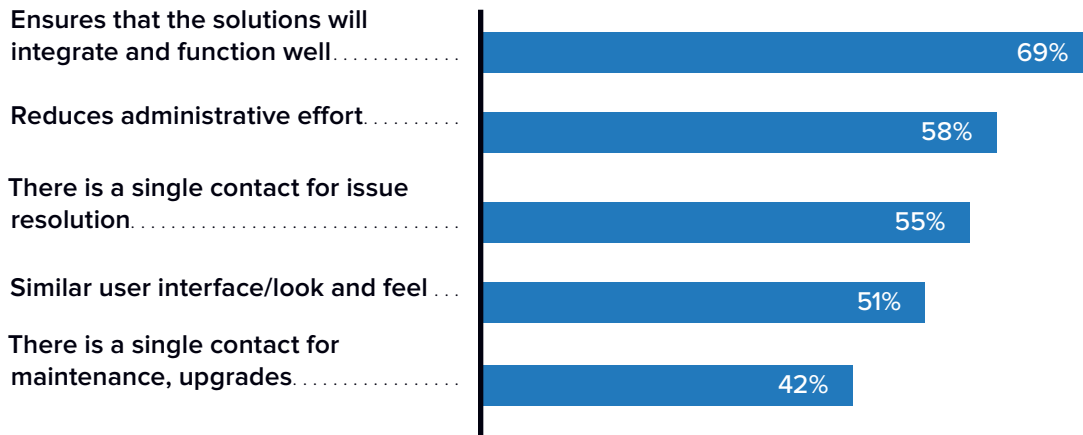
Most organizations (69%) believe that purchasing RPA and content services technologies from the same vendor will ensure that the solutions will integrate and function well together (see **Figure 11**, next page). Furthermore, over half of the respondents also cited reduced administrative effort, the value of a single point of contact, and a similar look and feel for the user interface.

FIGURE 11

Benefits of a Single Provider for Content Services and RPA

(% of respondents)

Q. What are the benefits of obtaining content services technologies and RPA technologies from the same vendor?
(Choose all that apply.)



n = 800; Source: IDC's *Hyland Automation in Content Services Survey*, July 2022

Base = all organizations



Challenges/Opportunities

Overall, organizations surveyed plan to increase their spending on both RPA and content services by approximately 18% over the next year. Spending on content services increases with the size of the company, with the largest organizations (over \$1 billion in annual revenue) projecting an increase of 20% on content services. Interestingly, this trend does not hold true for projected spend on RPA, possibly because many of the largest organizations have recently invested in RPA technology, while content services technologies are more mature and may require modernization.

But investment does not come without some challenges. Refer back to **Figure 3**, page 8 that cites the key challenges associated with content-centric business processes that organizations face, but that can be improved through automation. Organizations are clearly investing to overcome these challenges and reap the benefits of deploying RPA and automating content-centric processes. However, execution does not come without some challenges of its own. Over half of the respondents cite a lack of the required skill sets. Another key challenge is disparate, legacy systems that cannot be integrated. Organizations can work with their vendors and service providers to mitigate these challenges.



Conclusion and Recommendations

Organizations should begin by evaluating the current state of their content-centric workflows.

Identify use cases with high levels of inefficiencies and stakeholder pain points, and then develop a strategy to address those pain points with automation technology, including content services and RPA. Specifically, consider:

- Content-intensive processes, especially those in which paper is used to bridge the gap between incompatible systems
- Processes with obvious bottlenecks, physical location, and/or time constraints, especially those for which deadlines are being missed
- Processes that present a security and/or compliance risk

Involve all stakeholders, including relevant employees, partners, and/or customers, to obtain buy-in and compliance and ensure continuous improvement. Measure the current state and the results to drive the business case and learn from your experience to develop a set of organization-wide best practices.

Perhaps most importantly, seek out vendors with expertise and solutions in both content-centric workflows and automation, including RPA, to help guide you through the process, mitigate challenges and missteps, and develop modern, scalable, and digital-first content solutions to maximize the benefits.

About the IDC Analysts



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Holly Muscolino is Group Vice President for Content Strategies and the Future of Work, responsible for research related to innovation and transformation in content and process solutions, including intelligent process automation and content workflow services. Holly's core coverage also includes the role of technology in driving the Future of Work.

[More about Holly Muscolino](#)



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Maureen Fleming is Program Vice President for IDC's Intelligent Process Automation research. In this role, she focuses on a portfolio of technologies used by enterprises to speed up, drive cost out of, and support a customer-centric approach to business operations. She especially focuses on the convergence of AI, machine learning, and automation, and how that combination changes the economics and benefits of process improvement.

[More about Maureen Fleming](#)



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