

2025 Connectivity Benchmark Report

In collaboration with **Deloitte.**
Digital

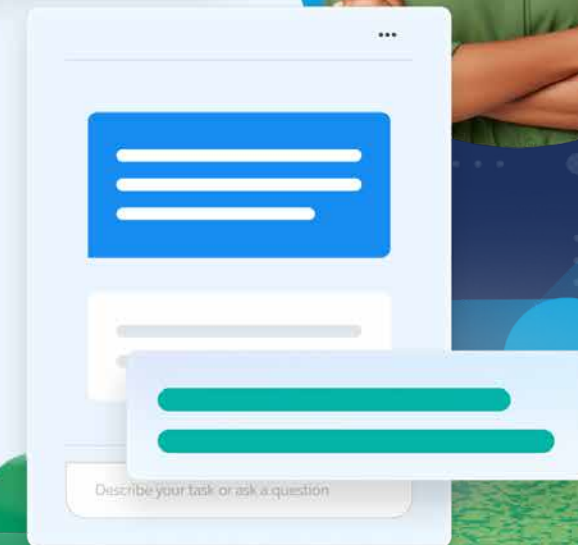
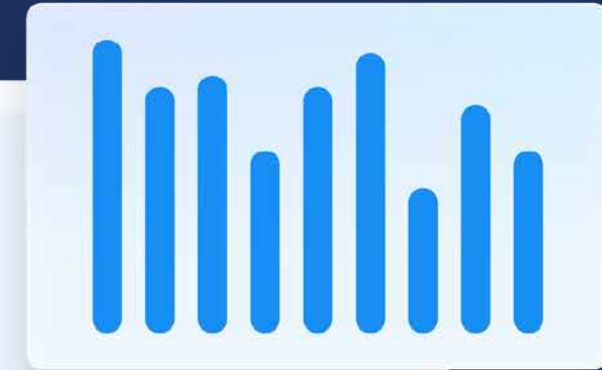


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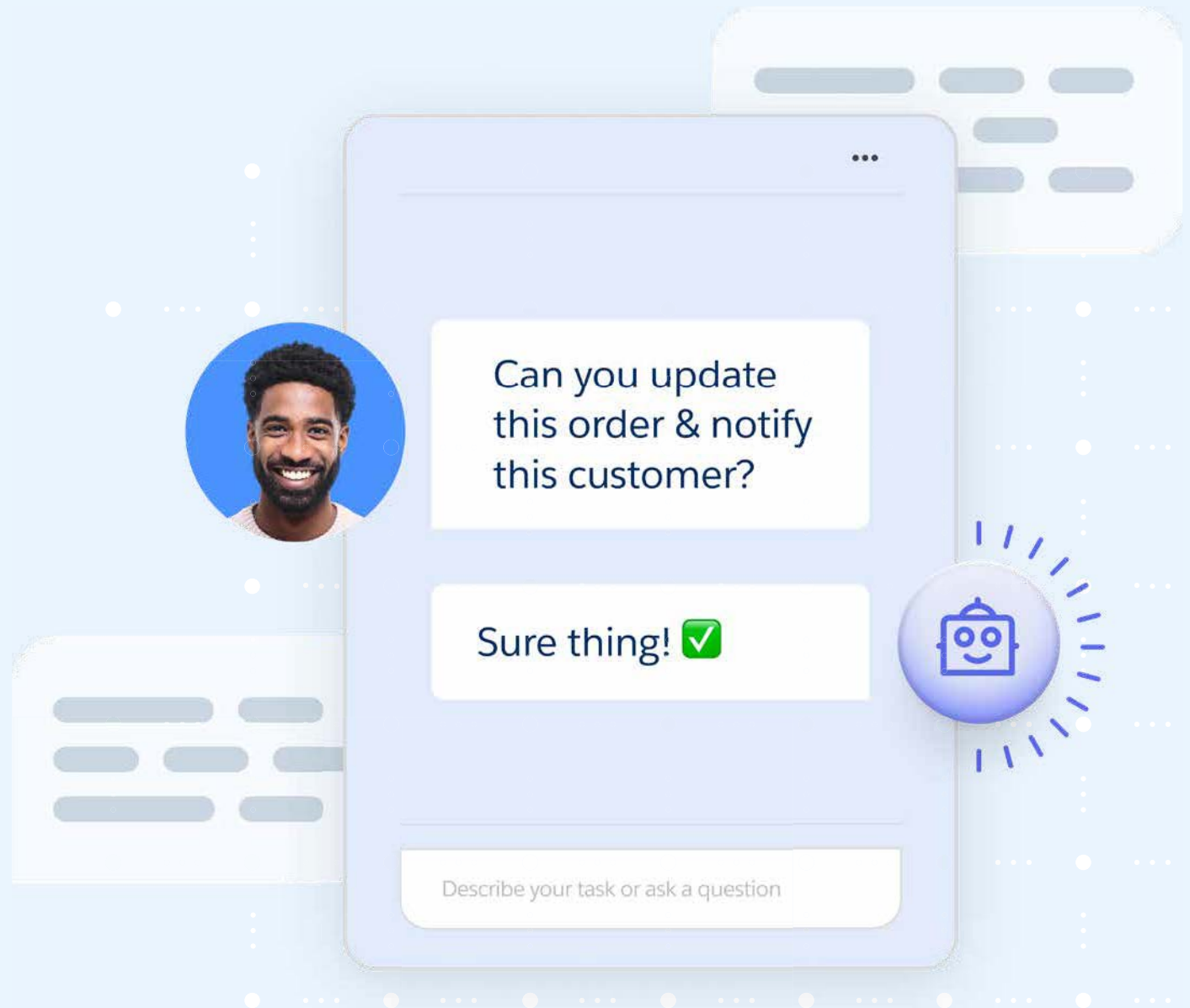
Industry Data

Executive Summary

Generative AI has already reshaped how humans interact with AI via prompts, and the next frontier will have an even greater impact. As organizations' AI strategies mature, we are seeing an increase in adoption of agentic AI. The agentic enterprise will have the ability to operate with unprecedented independence, being able to respond to queries, take on sophisticated tasks autonomously, and optimize workflows and foster innovation – all without the need for continuous human intervention.

This underscores the critical role of robust data management and integration in leveraging AI effectively. Companies that embrace this shift are not only more agile and efficient but also better positioned to stay competitive in a dynamic market and are poised to become an agentic enterprise.

In this report you will find critically important data points that underpin the need for a unified strategy and foundation for your data.



Executive Summary

93%

The vast majority of IT leaders report intentions to introduce autonomous agents within the next 2 years, and nearly half have already done so.

66%

Even so, 66% of respondents still don't provide an integrated user experience across their channels.

45%

The average number of apps used by respondents is 897 – with 45% reporting using 1000 applications or more – further hindering IT teams' ability to build a unified experience.

86%

With IT leaders being pushed to incorporate AI, 86% of respondents anticipate their teams' workload to rise in the next year. That's while still maintaining existing systems, including 70% who report governing enterprise-wide automations.

95%

Nearly all (95%) of IT leaders report integration as a hurdle to implementing AI effectively, but APIs have helped. 55% of IT leaders report APIs improve their IT infrastructure, while 45% recognize the ability for APIs to support enhancing user experiences.





Foreword

AI adoption speed has surpassed predictions from even a year ago, with 84% of enterprise CIOs* believing that AI will be as important to their businesses as the internet. Now, on the cusp of the next era of AI – the agentic enterprise – 40% of organizations report having deployed autonomous agents to augment current processes and teams, with another 41% planning to deploy agents within the next year.

As AI leaders continue to seek ways to meet the increased demand for efficiency and productivity, digital transformation has remained slow for most organizations. This puts greater strain on their teams to navigate balancing current capabilities with business aspirations: steadily incorporating AI and digital agents across an ecosystem of hundreds of distinct applications while also maintaining those same systems. With 95% of IT leaders still citing integration as a challenge to seamless AI implementation, pressure on IT is poised to increase as they continue to grapple with skills gaps, disconnected systems, and compliance concerns.

Despite this challenge, the demand for AI continues to surge. Leading organizations should establish a proactive integration strategy that unifies the entire IT estate, encompassing apps and systems, automations, and APIs, all of which are vital for driving revenue growth and reducing operational costs. This should be a foundational priority in 2025 and beyond, with a timeline for completion in months, not years.



Beena Ammanath
Global Deloitte AI Institute Leader

About the Report

MuleSoft's 10th annual Connectivity Benchmark Report, in collaboration with Vanson Bourne and Deloitte Digital, is based on survey data from interviews with 1,050 IT leaders across the globe.

We conducted this double-anonymous online survey between October and November 2024 across the United States, the United Kingdom, France, Germany, the Netherlands, Australia, Singapore, Hong Kong, and Japan.

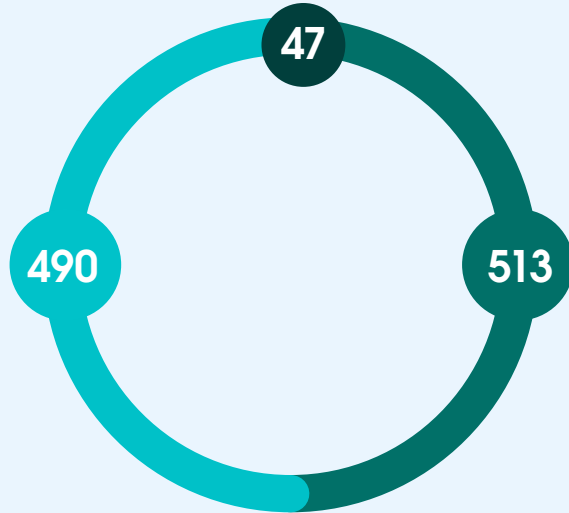
We ensured that only suitable participants responded to the survey using a rigorous, multilevel screening process. Respondents are all IT leaders with managerial positions or above in an IT department. All respondents work at an enterprise organization (defined as having at least 1,000 employees) in the public or private sector.



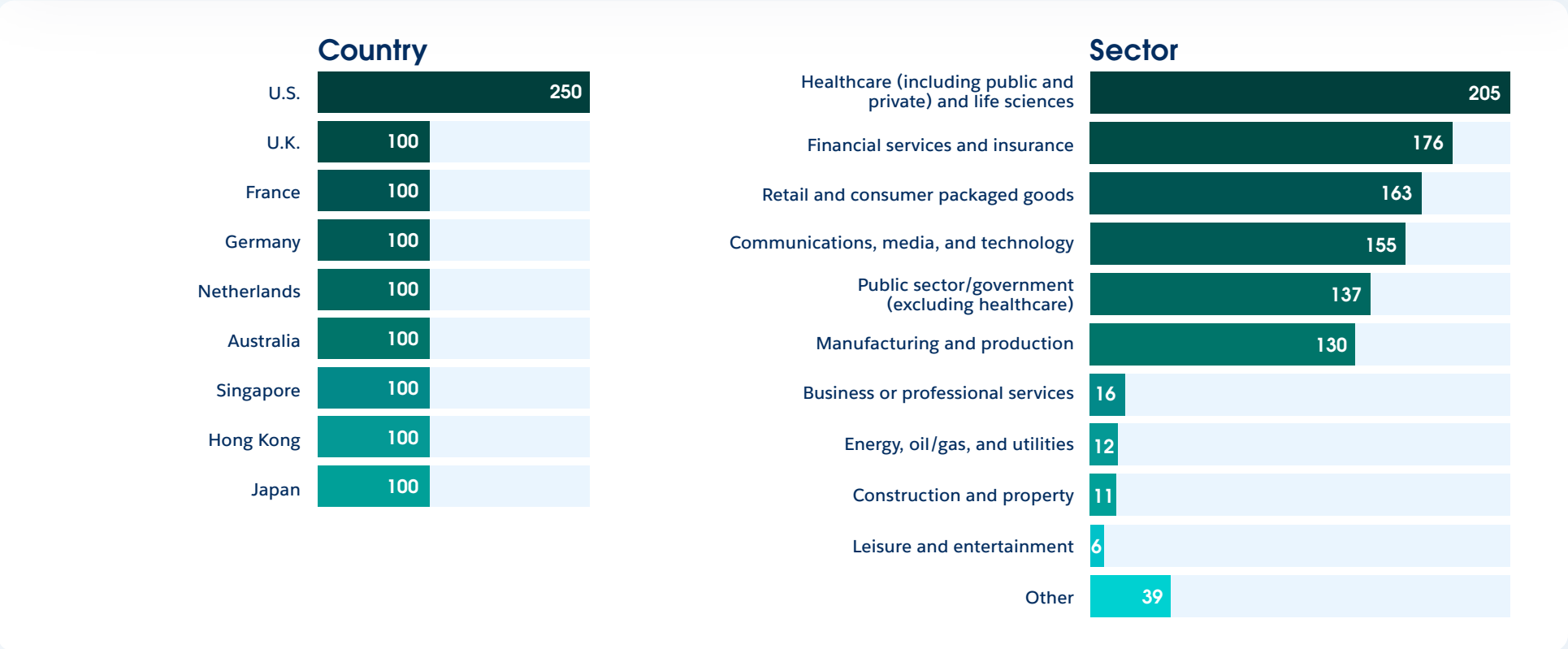
Methodology

1,050 IT decision makers were surveyed in October and November 2024, split in the following ways:

Company size

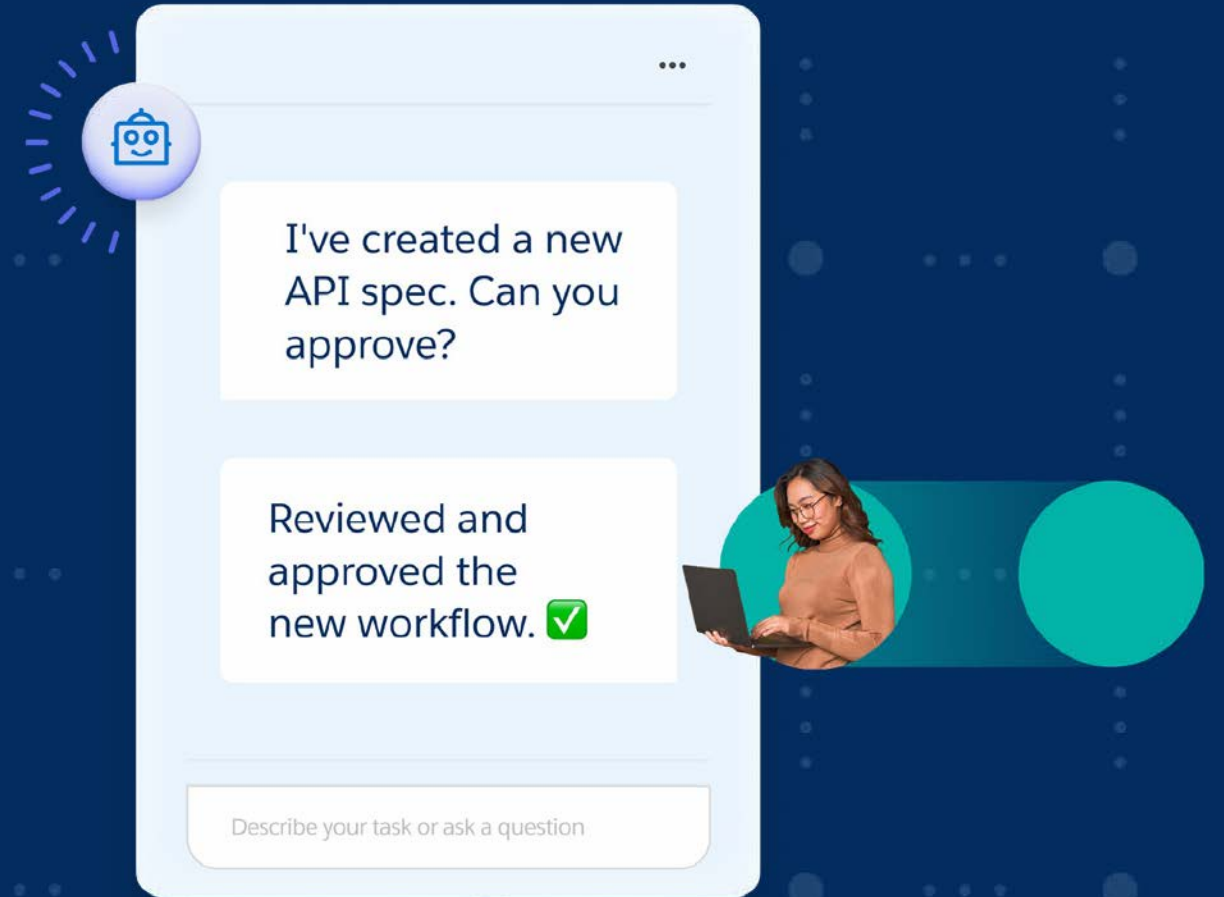


- 3,501-10,000 employees
- 1,000-3,500 employees
- More than 10,000 employees



5

AI Adoption Surpasses Projections



Top Insights

93%

Introducing autonomous agents within the next two years is on the roadmap for 93% of IT leaders – nearly half have already done so.

93%

The vast majority (93%) feel that AI will increase developer productivity over the next three years, which is up seven percentage points since last year's report.

78%

The average number of AI models estimated being used doubled from 2024 – and IT leaders predict a further increase of 78% in the next three years to an average of 32 models.

Autonomous Agents: A Growing Force

Building on the momentum of generative AI, organizations are rushing to implement autonomous AI agents.

A staggering 93% of IT leaders say they have already implemented or will be implementing autonomous agents in their organization within the next two years, while just 2% have no plans to do so at all.

Currently, 40% of respondents say they already have autonomous agents in place, and a further 41% are planning to implement them within the next year.



anticipate they will implement autonomous agents within the next two years.



say they already have autonomous agents in place.



AI Adoption Outpaces IT Leader Estimates

AI adoption has surged beyond expectations, with the number of models implemented exceeding what IT leaders anticipated.

Just last year, IT leaders estimated they would be increasing their AI model usage by 69% over the next three years from an average of 9 models to 16. However, that number has already been surpassed in only one year's time with respondents reporting an average of 18 models currently in use.

Now, IT leaders are seeing even more AI models on the horizon, predicting a substantial 78% increase in the number of models being used within their organization over the next three years – from an average of 18 in use today to an estimated 32 in use three years from now.



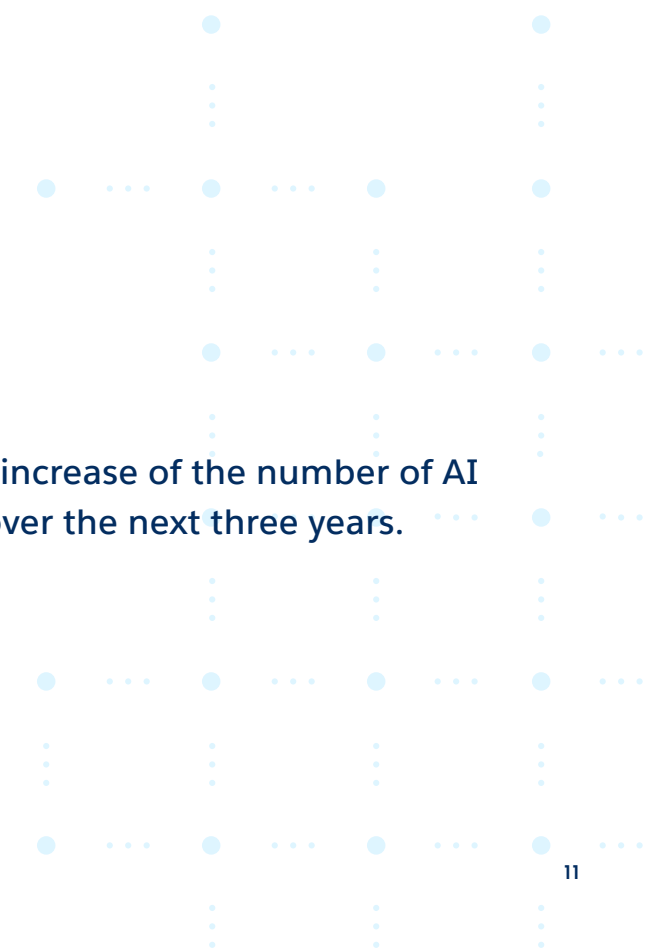
2x

The estimated average number of AI models used by organizations has doubled from 2024.



+78%

The predicted increase of the number of AI models used over the next three years.



IT Staffing Budgets Grow as AI Projects Accumulate

As demand for AI grows, so does the budget: 85% of IT decision-makers expect an increase in their overall budget in 2025, while 11% anticipate that their IT budgets will stay the same.

To prepare for the expanded use of AI, enterprise CIOs are allocating 25% of their budgets to data infrastructure and management (compared to 5% to AI).*

Along with an increased budget, 86% IT leaders anticipate workloads to rise, as well. On average they expect an 18% increase in the number of projects their organization will need to deliver.

To meet this growing demand, IT staffing budgets are also set to rise significantly, with an expected increase of 61.5% compared to last year's predicted amount with an estimated budget nearing \$17M (\$16.91M).

* Source: [CIO Dilemma Study, Salesforce, 2024](#).

Respondents report IT budget estimates have increased by an average of 61.5% since last year.



IT teams are increasingly leveraging proprietary AI models to enhance the security and governance of APIs. These AI models excel in detecting and mitigating security threats by analyzing traffic patterns and predicting potential breaches. They also automate compliance by enforcing policies and maintaining detailed audit trails, ensuring regulatory adherence. ”

Matt Fisher
 US Salesforce Alliance CTO, Deloitte Digital

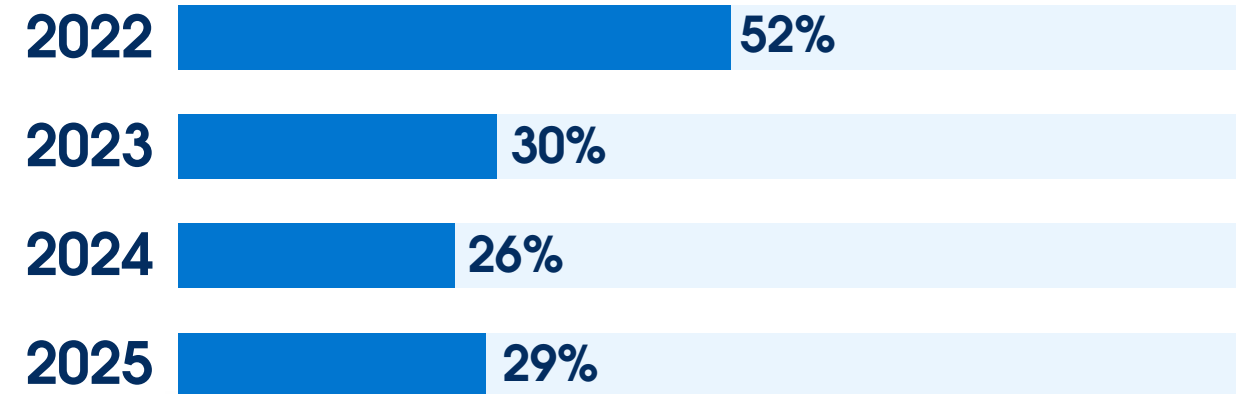
Increased Demand Breaks Trend in Projects Delivered on Time

Amidst a rise in AI demands, IT teams are still responsible for maintaining current systems and are struggling to meet existing demands. The percentage of projects not being delivered on time has risen to 29% from 26% last year.

This trend is particularly concerning given that timeliness of project deliveries had been improving since 2022 and are now increasing for the first time since then.

This is one area in which IT leaders are highly optimistic about AI's potential to boost productivity, with 93% expecting it to enhance developer productivity over the next three years, up from 85% in last year's survey.

Percentage of projects not delivered on time



93%

expect AI to enhance developer productivity over the next three years.

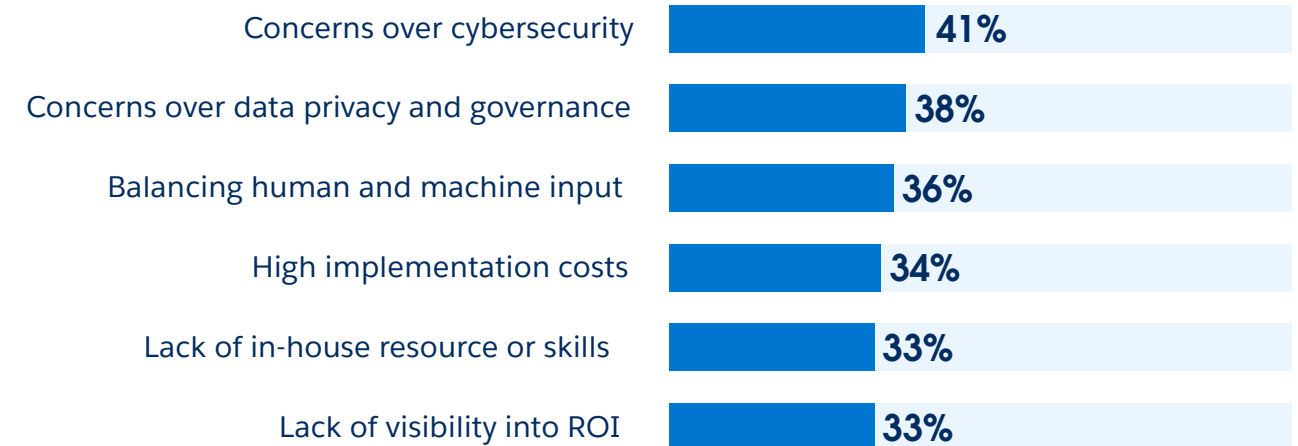
Primary Obstacles to AI Implementation: Integration and Outdated IT Architectures

AI's effectiveness is directly tied to the quality and accessibility of the data it processes. And integration remains the most significant barrier to AI implementation, with 95% of organizations facing challenges when integrating AI into their existing processes.

Cybersecurity and data privacy are paramount concerns for IT leaders during AI integration. These issues can complicate the process and require robust measures to ensure data integrity and compliance.

Outdated IT architecture further exacerbates the challenge of leveraging data for AI across the business. Modernizing infrastructure and enhancing cybersecurity are critical steps to overcome these obstacles and fully realize the potential of AI.

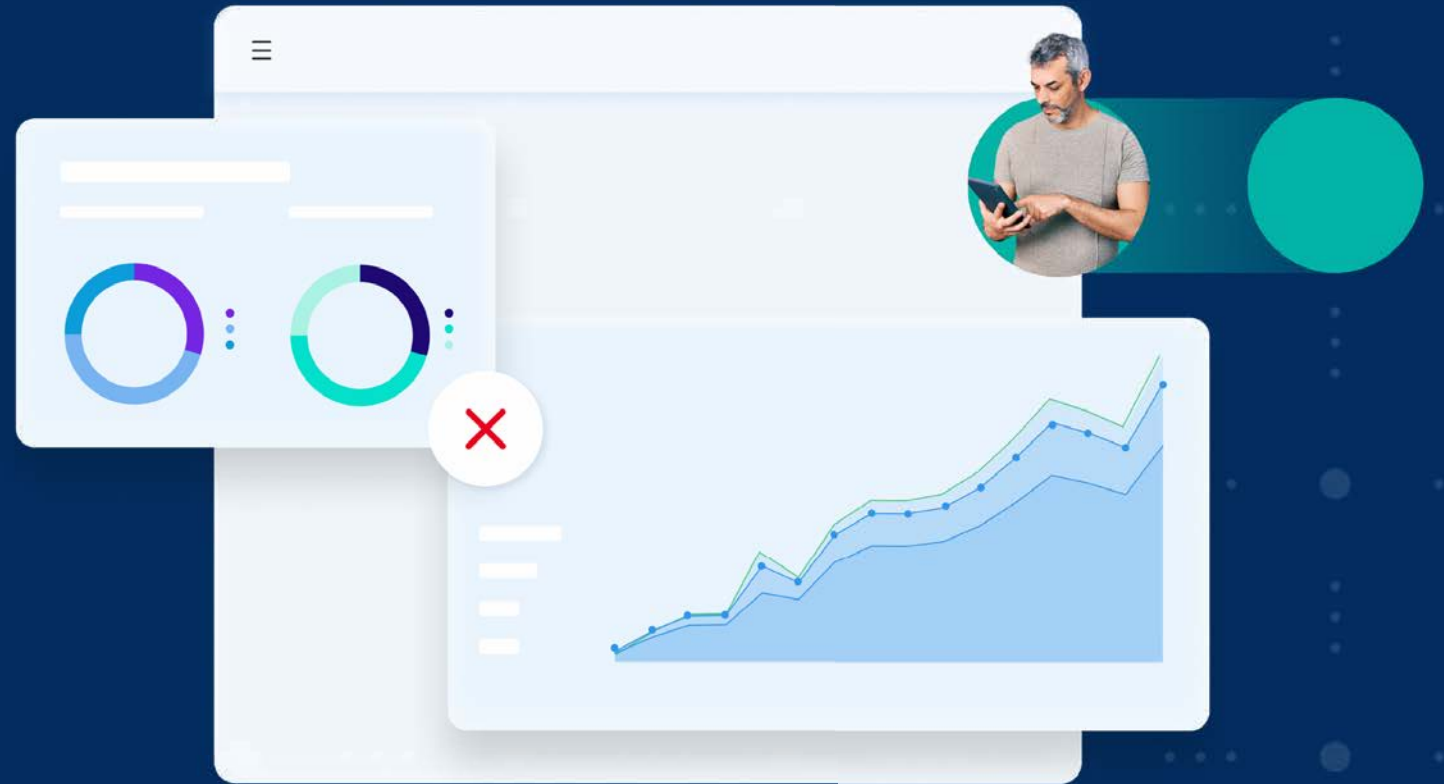
Challenges organization face when integrating AI into its existing processes




95%

report facing challenges when integrating AI into existing processes.

Disconnected Data Strains IT Resources



Top Insights



66%

Around two-thirds (66%) of respondents don't provide an integrated user experience across all of their channels.

83%

Integration challenges are hindering digital transformation at their organization for 83% of respondents.

49%

Around half (49%) report improved return on investment when creating a connected end-user experience.



Disconnected Data Presents a Challenge to Data-Driven AI

Disconnected data remains an overwhelming blocker to legacy modernization for the majority of organizations. Today, 83% of organizations report that integration challenges are a significant barrier to their legacy modernization efforts.

This disconnect creates friction for end users, a fact that is highlighted by 97% of IT leaders who acknowledge that their organizations struggle with integrating end user experiences.



of organizations experience barriers when utilizing data for AI use cases.



Customer Expectations Expose Legacy System Shortcomings

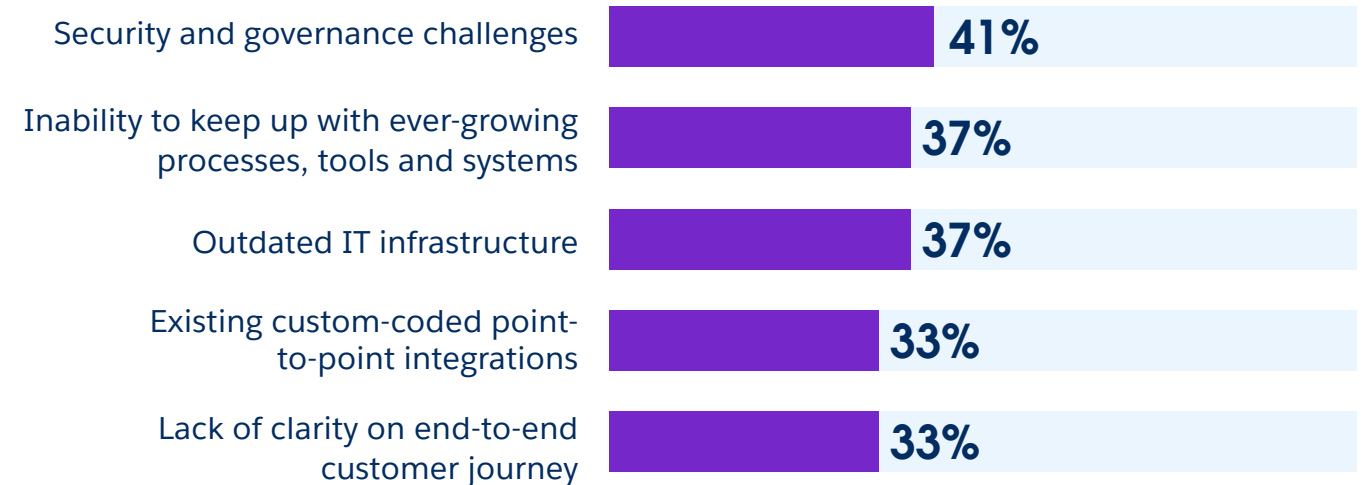
Today, customers demand seamless experiences that are driven by data, and disconnected systems can significantly undermine these expectations.

According to IT leaders, just 34% of organizations offer a fully integrated user experience across all channels.

The obstacles to delivering integrated customer experiences are diverse, with cybersecurity concerns, constantly evolving processes, and outdated IT infrastructure being the primary barriers.



Top challenges to increase the efficiency of the application development process



Maximizing Customer Value with Integrated Experiences

Integrating end user experiences has far-reaching impacts on revenue, the consumer, and the organization.

Respondents increasingly recognize the value they receive from API-related offerings, which ultimately allow companies to provide a connected customer experience. Nearly half (49%) of respondents claim that they see a greater return on investment when creating connected customer experiences.

IT leaders report several significant advantages, including better visibility, greater return on investment (ROI), faster project delivery to customers, and increased adoption of automation.



report improved return on investment when creating a connected end-user experience.

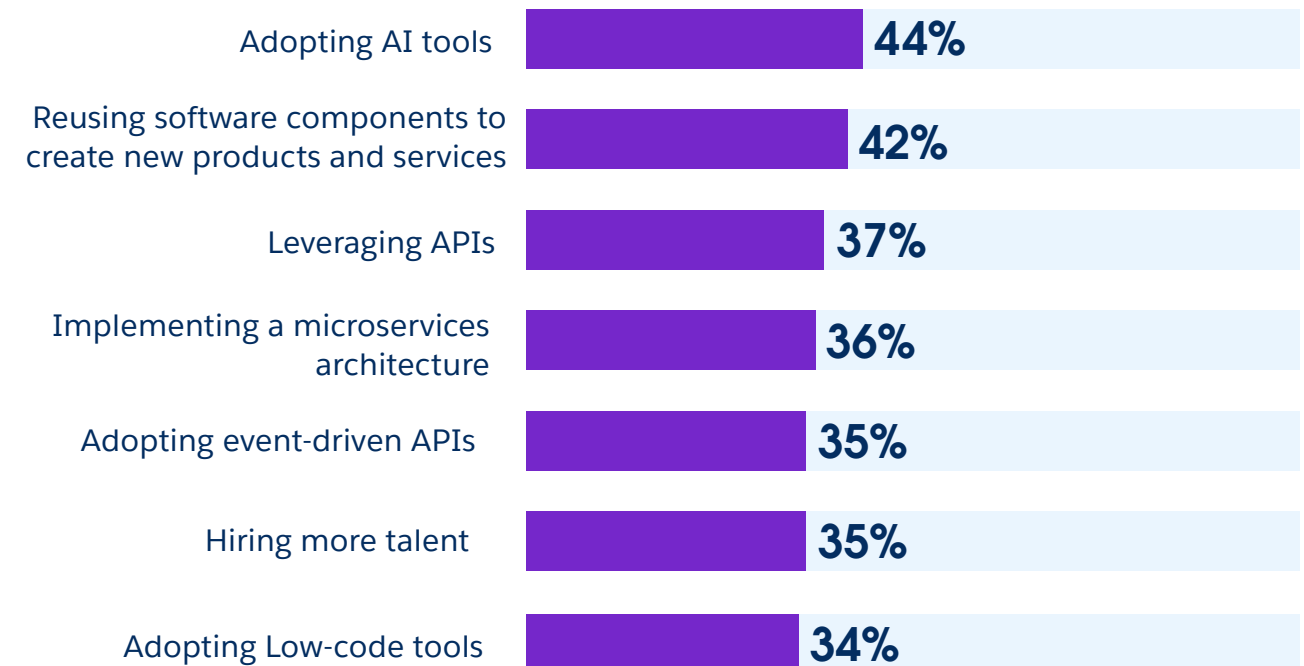
Varied Strategies Prove Beneficial to Revenue

IT teams are exploring a wide range of tools to boost efficiency in application development. Notably, the most popular methods include utilizing AI tools, reusing software components, and leveraging APIs.

This multifaceted approach is likely driven by the need to minimize revenue loss. According to 83% of IT leaders, every delay in their digital transformation journey, particularly in legacy modernization, represents a missed opportunity to capture revenue.

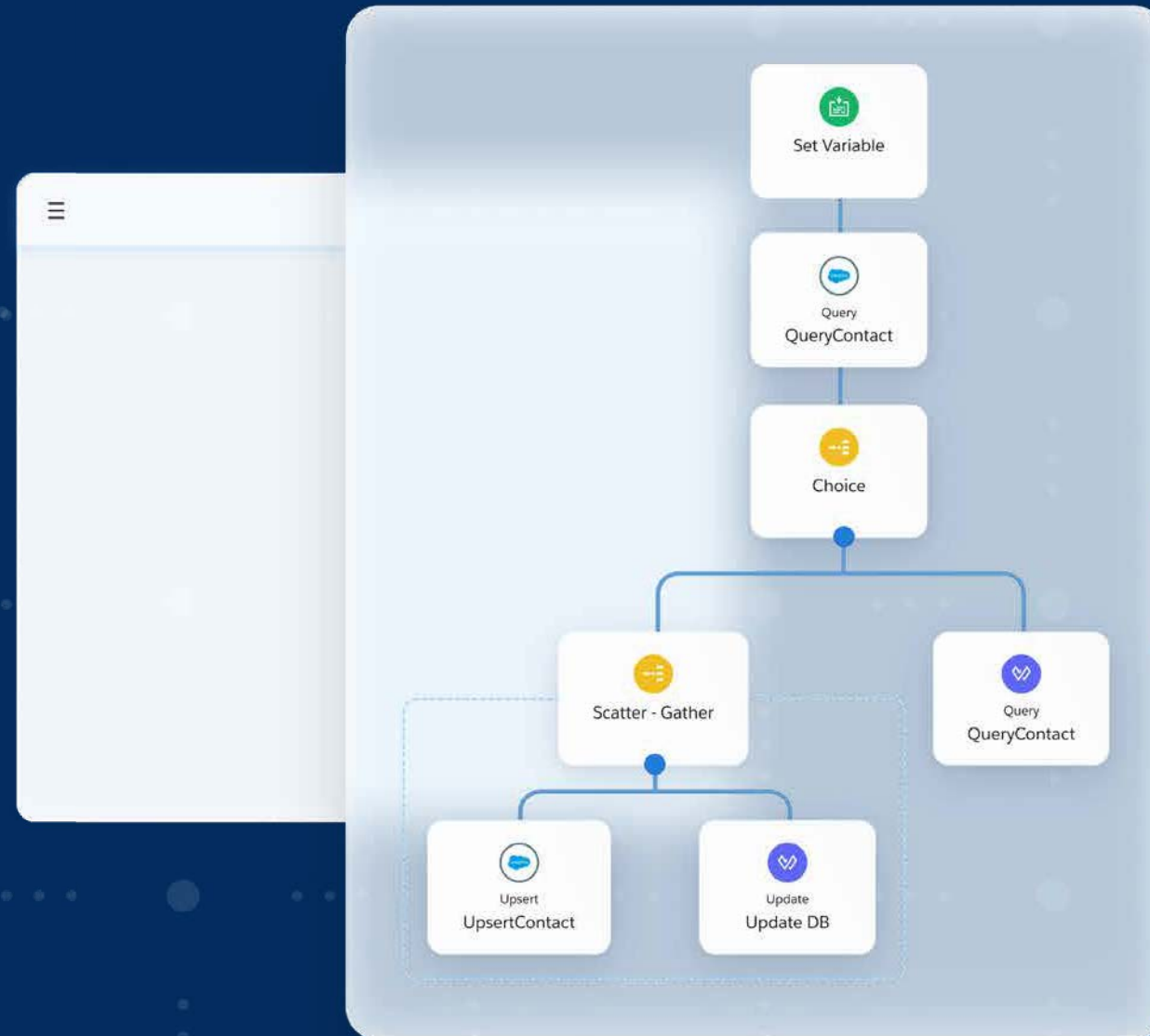


Top challenges to providing a seamless customer experiences



7

Rising AI Demand Fuels the Need for Robust Integration



Top Insights

46%

The average enterprise uses 897 apps with 46% reporting using 1000 applications or more.

74%

74% of organizations have IT systems that are overly dependent on one another.

↑%

Demand for integration has increased in all departments across the organization.



Organizations Face a Data Deluge

Organizations are leveraging a staggering number of applications, with an average of 897. Remarkably, 46% of these organizations report using 1,000 applications or more. Despite the high volume, the percentage of applications that are integrated or connected has remained stuck over the past three years.

Concerningly, only 2% of IT leaders report their organizations have integrated more than half of their applications.

This lack of integration is particularly concerning given that customer interactions are predominantly digital, with an estimated 71% of all customer engagements occurring in a digital format.



Number of applications that are not fully integrated or connected:

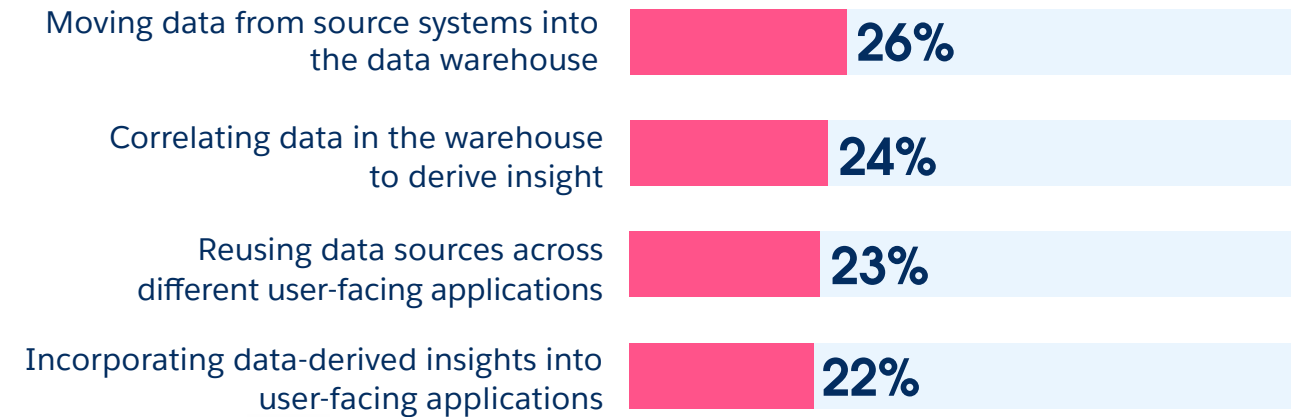


Data Silos Perpetuate Innovation Roadblocks

Only 10% of respondents report experiencing no challenges due to data silos, while 74% of organizations find their IT systems to be overly interdependent. This interdependence can lead to a variety of issues, including inefficiencies, data inconsistencies, and difficulties in accessing and sharing information across different departments.

Moreover, integrating siloed applications and data was cited as the second largest hurdle to digital transformation, following risk and compliance concerns. These silos complicate the process of merging different systems and hinder the ability to leverage data for strategic decision-making.

IT leaders' biggest integration challenges



report facing challenges with integration.



IT Sees a Rising Need for Integration Across All Departments

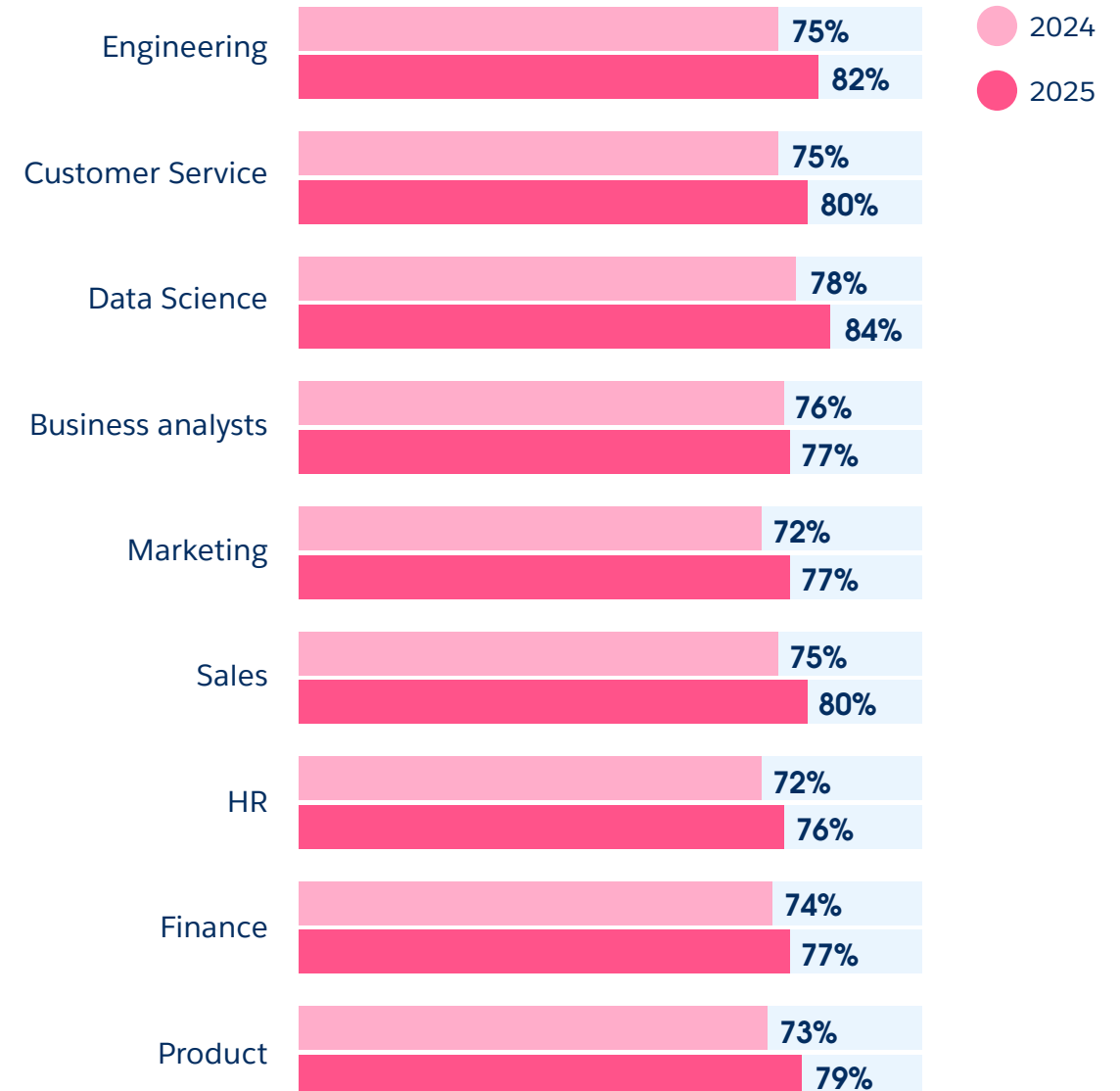
There's a rise in demand for integration across all departments within the organization. According to IT leaders, at least 80% or more data science, engineering, sales, and customer service departments are reporting a need for integration.

The most notable increases in demand came from the engineering department, which saw a seven percentage point rise, followed by data science and product departments, both of which reported a six percentage point increase.

These trends highlight the growing importance of seamless data and application integration in driving efficiency and innovation across various business units.



Teams where integration needs are reported

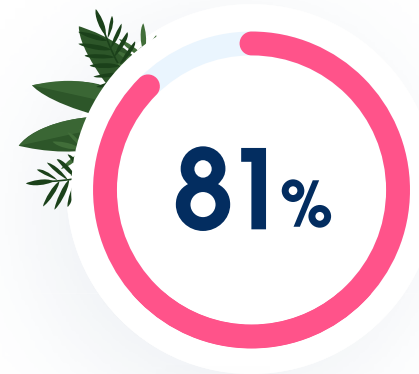


IT Teams Face New Hurdles with Widespread AI

A vast majority (81%) of IT leaders report that their companies are grappling with challenges in leveraging AI for system integrations.

The average application lifetime within organizations is 5 years, highlighting the need for robust and adaptable systems that can integrate new technologies— without compromising performance or security.

As AI continues to evolve, the pressure to keep the IT estate modern and functional will only intensify.



report facing challenges in leveraging AI for system integrations.



The average application lifetime within our respondents' organizations.



There's no AI without APIs. AI can only be effective when the infrastructure supports it — this means having a robust, enterprise-wide strategy that includes every app and system integrated.

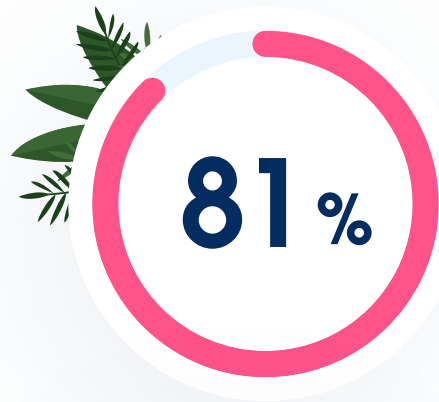
Karim Trojette
Global MuleSoft Alliance Leader, Deloitte Digital

Integration and AI — A Unified Strategy for Success

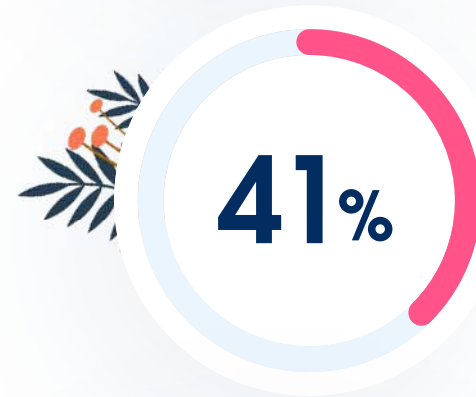
Without integration, AI does not have access to the critical data for it to function at its best. 81% of respondents identified data integration as one of the most significant challenges their organizations face when implementing AI for systems integrations.

Outdated infrastructure is a significant obstacle, with 41% of participants reporting that their organization's old IT architecture and infrastructure hinder the use of data for AI applications.

By aligning integration and AI, organizations can unlock the full potential of their data and drive transformative success. And becoming an agentic enterprise is impossible without robust integration.



identified data integration as one of the most significant challenges their organizations face when implementing AI.

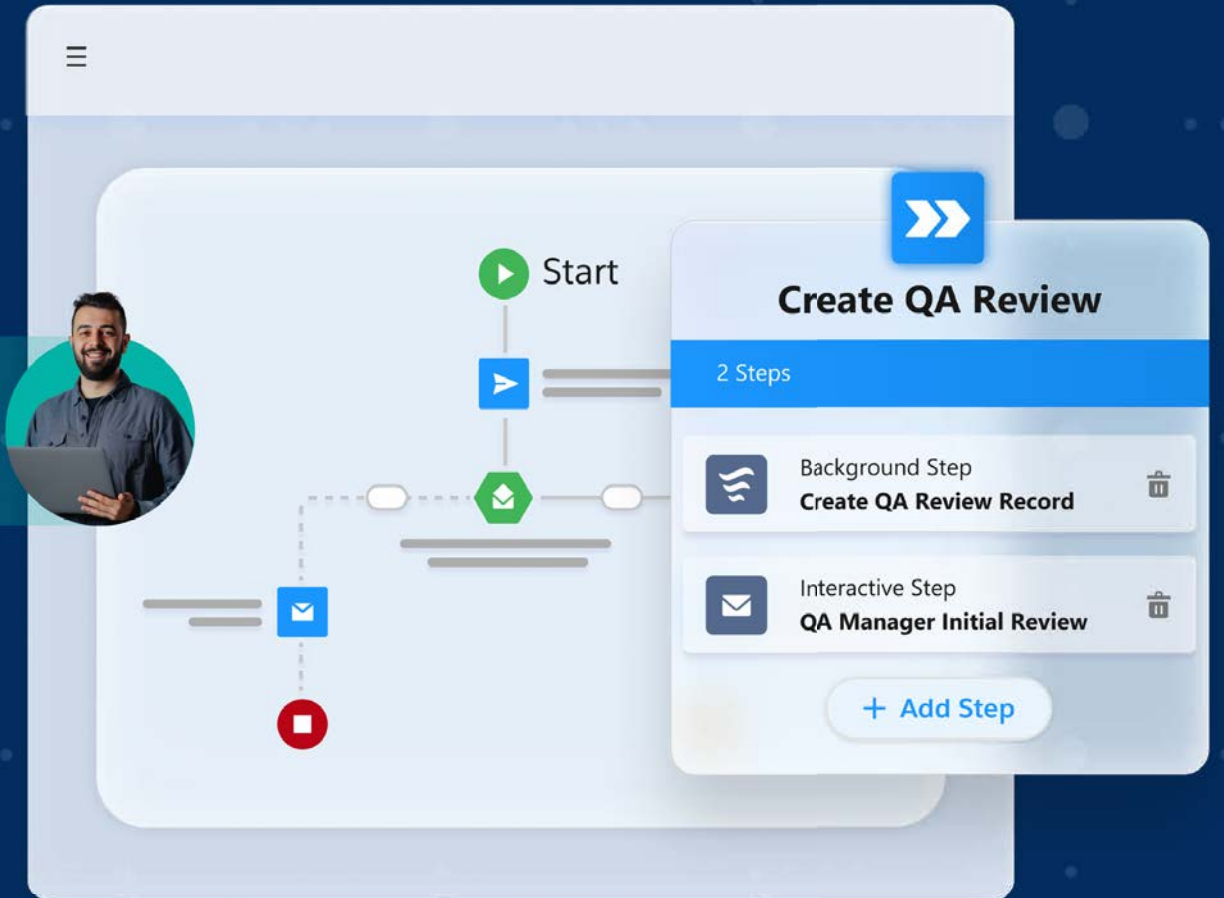


report that their organization's old IT architecture and infrastructure hinder the use of data for AI applications.



report integration as top barrier for integrating AI into existing processes.

Central IT Teams Lead the Automation Charge



Top Insights



39%

IT leaders estimate developers spend 39% of their time on creating custom integrations to deliver new digital capabilities.

65%

Over half (65%) of organizations have a complete or near-complete strategy for enablement of non-technical users.

70%

Central IT teams govern 70% of automations.



Leveraging an Automation Strategy to Accelerate AI Value

A well-rounded automation strategy is considered essential for effectively integrating AI into an organization, but many teams are still in the process of developing their strategies. One key component of this strategy is enabling non-technical users.

According to our respondents, 65% of organizations have developed a complete or nearly complete strategy to empower non-technical users with low-code and no-code solutions. A complete strategy is often a crucial step in making AI accessible to a broader range of employees, as it creates a foundation for employees to base their work on.

However, nearly a quarter (24%) of respondents are still in the process of developing their automation strategies, while almost 1 in 10 have only just begun planning.



of organizations have developed a complete or nearly complete strategy to empower non-technical users with lowcode and no-code solutions.



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1 in 10 have only just begun planning.



Automation Remains Reliant on IT Expertise

The demand for automation is abundantly clear with 98% of IT leaders highlighting their need for automation within their organization.

However, automation solutions require IT teams for implementation and monitoring, with an estimated 39% of developer time being spent on designing, building, and testing new custom integrations between systems and data, like automation, to enable new digital capabilities and solutions for the business.



of developer time estimated to be spent on working on new custom integrations to enable new digital capabilities.

Automation: A Team Effort Led by IT



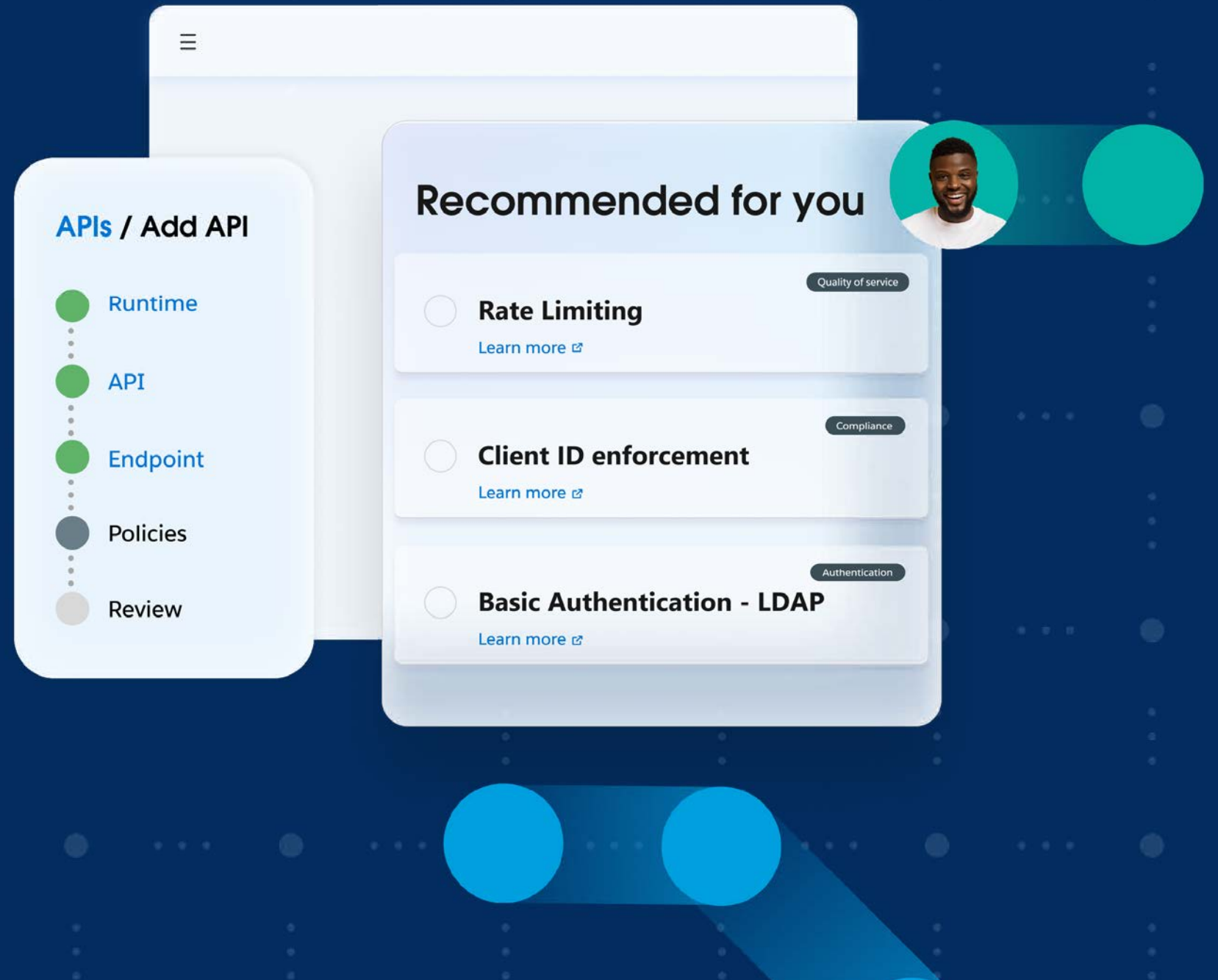
The reliance on IT teams underscores the necessity for a clear automation strategy, as well as robust governance and monitoring to ensure that everything operates correctly and securely.

Today, 71% of organizations have their automations overseen by IT developers while 63% of respondents report IT operations being involved in their organization's automation efforts. These governance measures are vital for scaling automation efforts across the enterprise.

Roles involved in automating business processes



IT Teams Signal a Rethinking of API Strategies



Top Insights

40%

On average, APIs and API-related implementations now account for 40% of company revenue according to IT leaders – up from 25% in 2018.

87%

87% of respondents agree that API management within their organization could be improved.

91%

To maximize the ROI of APIs, 91% of IT leaders say collaborating with a third-party would help.



APIs Have Proven Their Worth

APIs have long been considered essential for organizations, reducing inefficiencies and increasing productivity. Now, IT leaders are highlighting the significant value of APIs as it impacts revenue.

Respondents report that on average, 40% of their company's revenue is now generated from APIs and API-related implementations. This marks a substantial increase from their 2018 estimate of 25%, demonstrating the potential impact of a strategic API management approach.

Percentage of revenue is generated from APIs and API-related offerings



APIs Can Unify Customer Data But Security Stays Top of Mind

Privacy and data security concerns continue to top the list of challenges hindering the implementation of AI. According to the survey, 41% of respondents cite cybersecurity as their primary concern when implementing AI.

In terms of customer experiences, security also stands out as a major challenge, with 41% of respondents highlighting it as a key obstacle to integrating seamless end user experiences.



cite cybersecurity as their primary concern when implementing AI.

Diverse API Strategies Reflect Varying Levels of IT Maturity

While APIs have demonstrated their value, there is still room for improvement. The vast majority (87%) of respondents feel that API management within their organization could be improved.

Notably, more than a quarter (28%) of respondents report that their leadership has a clear, upfront strategy for API management that is implemented across the majority of the organization.

However, 7% of respondents admit that their organization lacks a comprehensive strategy, with each project developing independently.



report that their leadership has a clear, upfront strategy for API management that is implemented across the majority of the organization.



The rise in autonomous agents will only increase the need for APIs since they provide a standardized and secure way to expose and consume services leveraging agents to help to orchestrate the connections. ”

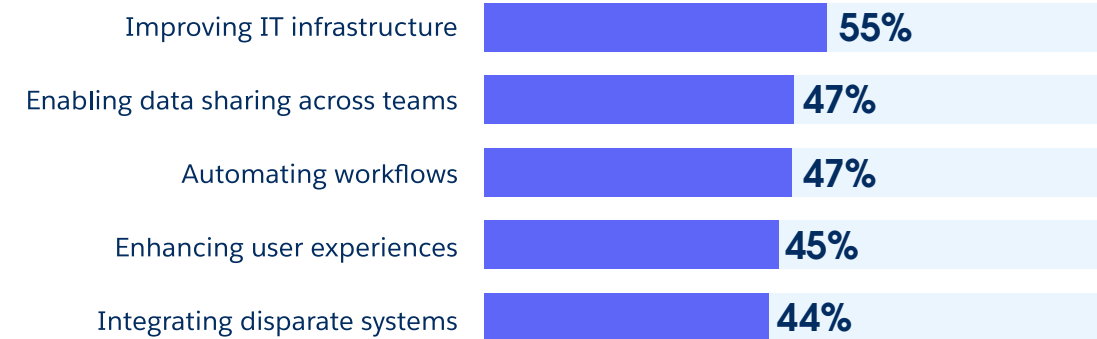
Kurt Anderson
Managing Director and API Transformation Leader, Deloitte Consulting LLP

IT Leaders Report APIs Could Use External Expertise

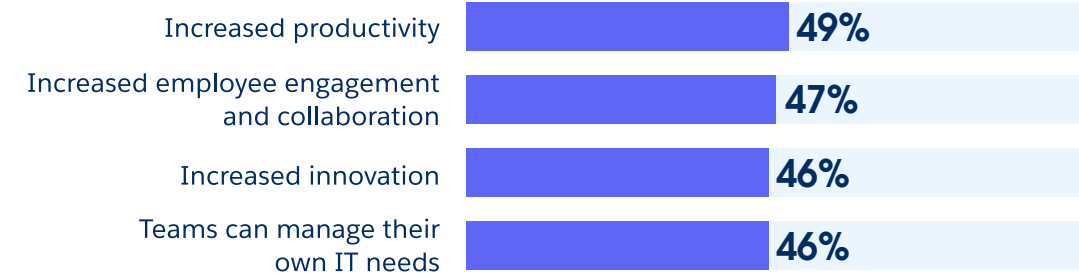
IT leaders clearly recognize the value of APIs, reporting a range of benefits such as enhancing IT infrastructure and facilitating data sharing across the organization.

Despite the numerous advantages, IT leaders overwhelmingly agree that third-party solutions can provide essential support. A striking 91% believe that collaborating with a third-party would help their organization maximize the return on investment (ROI) from APIs.

How APIs are being used to streamline and automate business processes



Business results realized from leveraging APIs

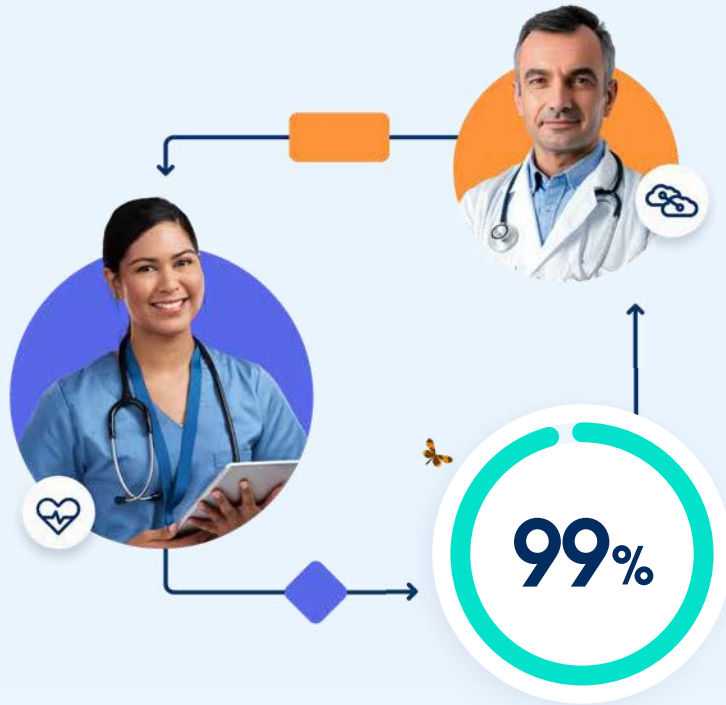


91% of respondents believe that collaborating with a third-party would help maximize the ROI from APIs.

Industry Data

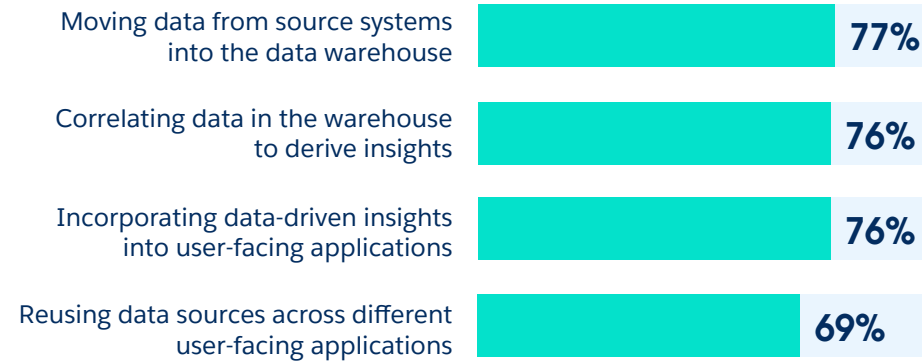


Health and Life Sciences

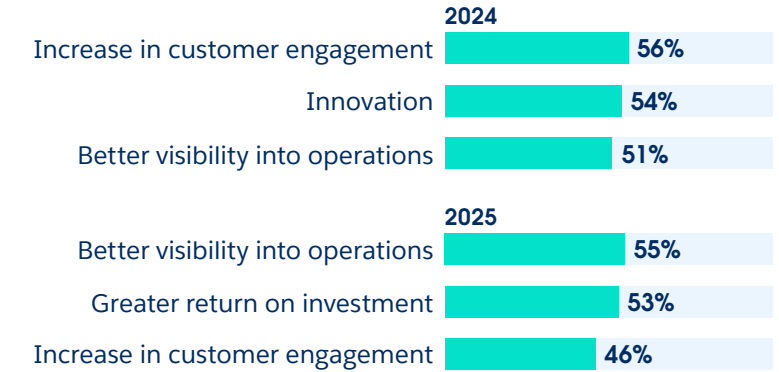


Nearly all organizations face challenges around data integration.

Top benefits of integrating



Top benefits of integrating user experiences



29% of organizations use 1,000 or more different, individual applications.



24% of applications are currently integrated / connected together.



62% of respondents report their IT infrastructure makes their systems overly dependent on one another.



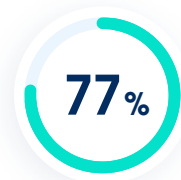
87% say that the number of projects they're being asked to deliver is increasing.



95% report that a portion of their projects were not delivered on time last year.



80% report API management within their organization could be improved.

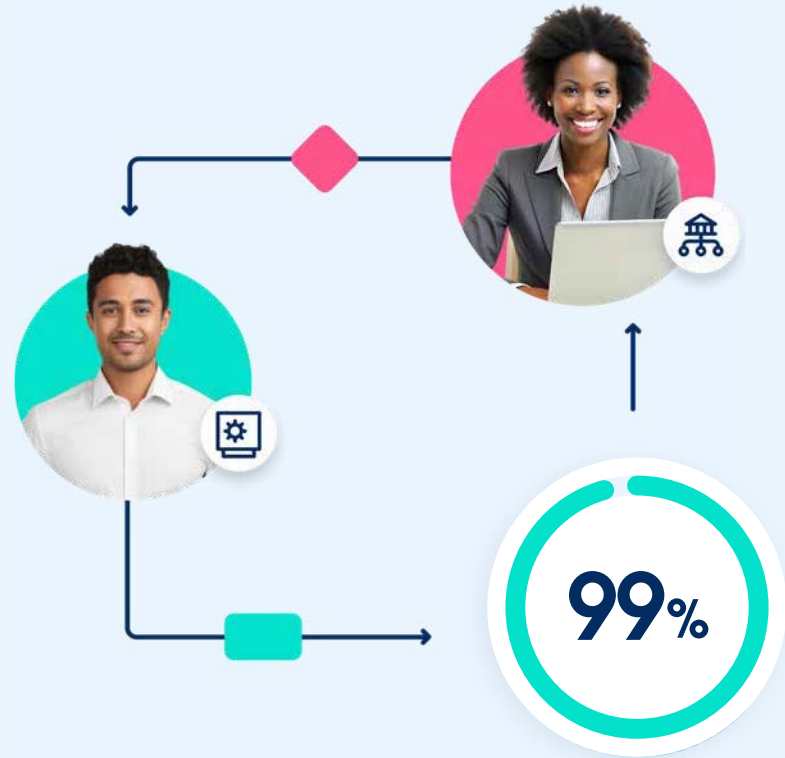


77% agree that their company faces challenges in leveraging AI for system integrations.



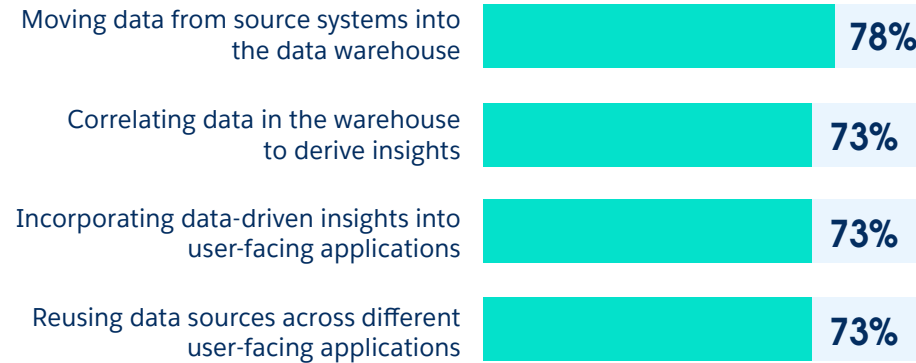
97% currently implement, or plan to implement autonomous agents within two years.

Financial Services

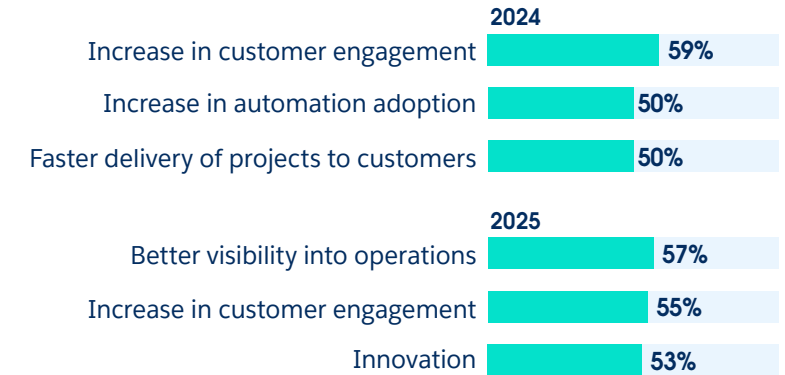


Nearly all organizations face challenges around data integration.

Top benefits of integrating



Top benefits of integrating user experiences



26% of organizations use 1,000 or more different, individual applications.



28% of applications are currently integrated / connected together.



58% of respondents report their IT infrastructure makes their systems overly dependent on one another.



90% say that the number of projects they're being asked to deliver is increasing.



94% report that a portion of their projects were not delivered on time last year.



77% report API management within their organization could be improved.

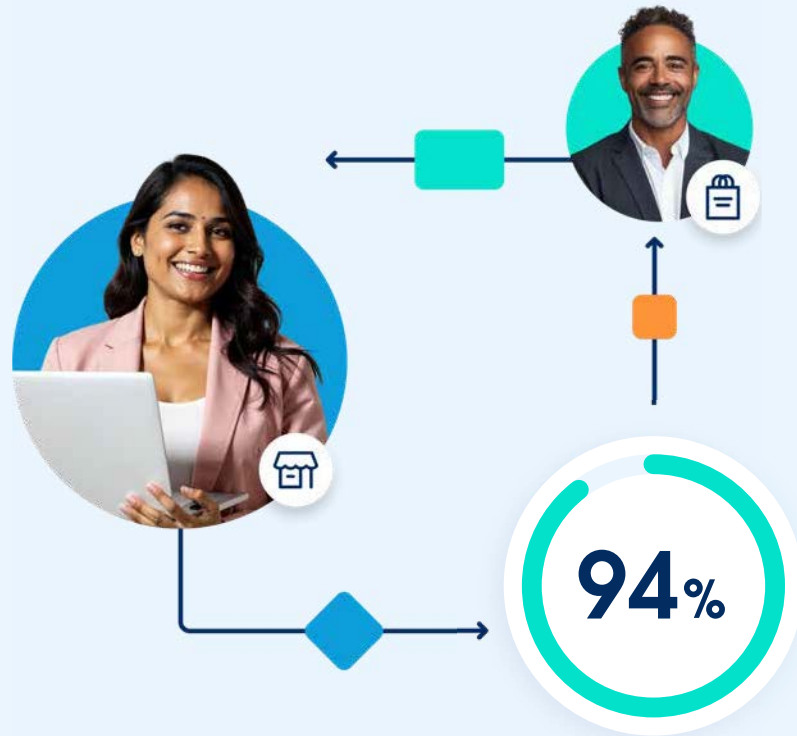


73% agree that their company faces challenges in leveraging AI for system integrations.



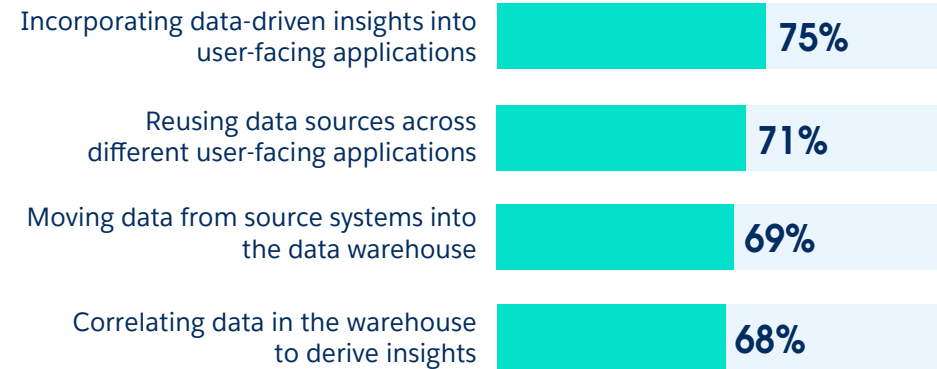
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Retail and Consumer Goods

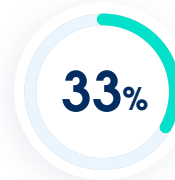
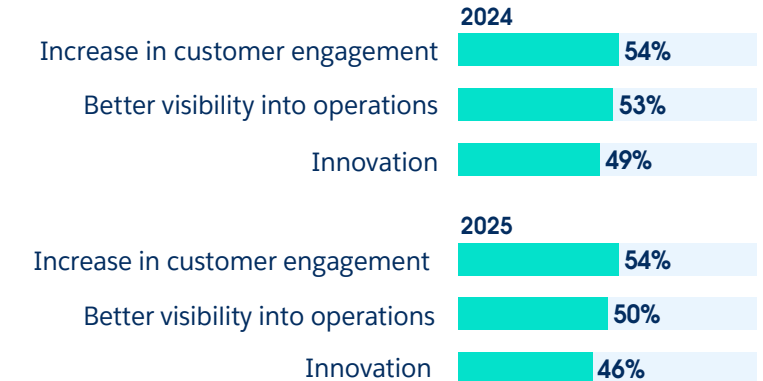


Nearly all organizations face challenges around data integration.

Top benefits of integrating



Top benefits of integrating user experiences



33% of organizations use 1,000 or more different, individual applications.



27% of applications are currently integrated / connected together.



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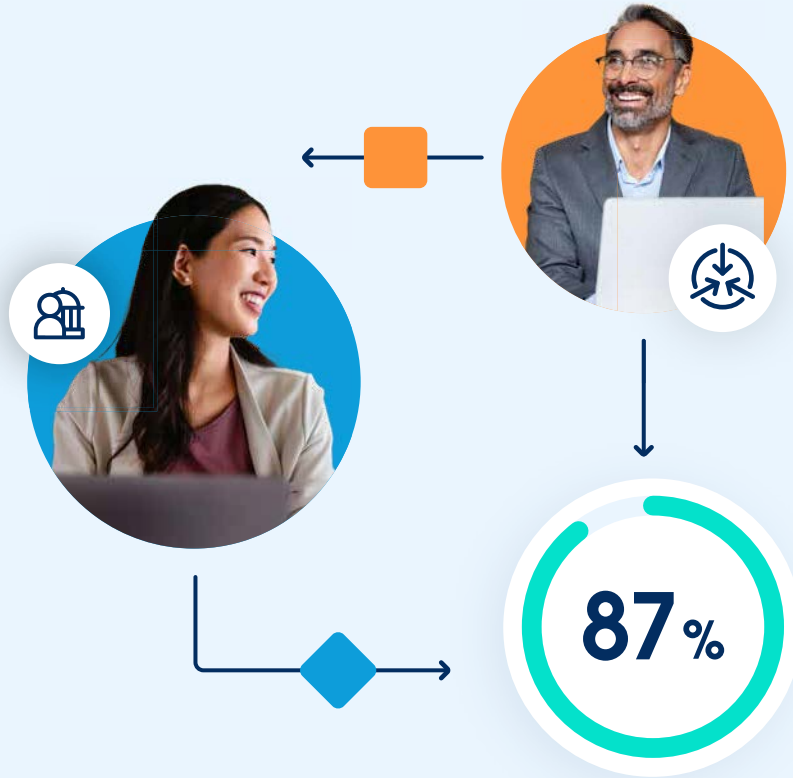


88% agree that their company faces challenges in leveraging AI for system integrations.



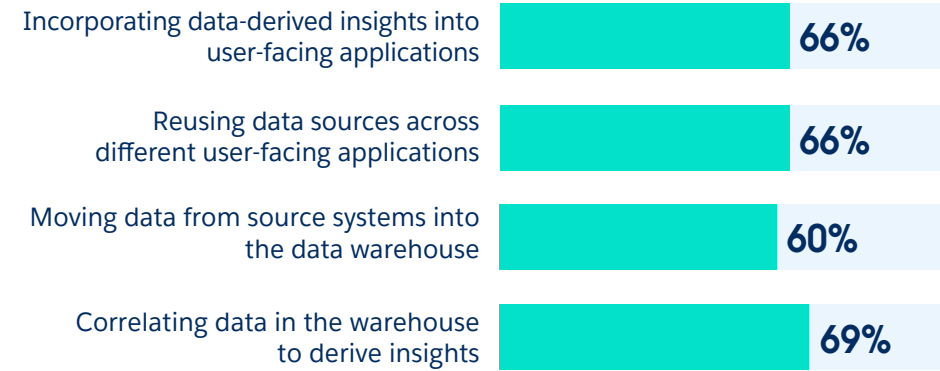
92% currently implement, or plan to implement autonomous agents within two years.

Public Sector

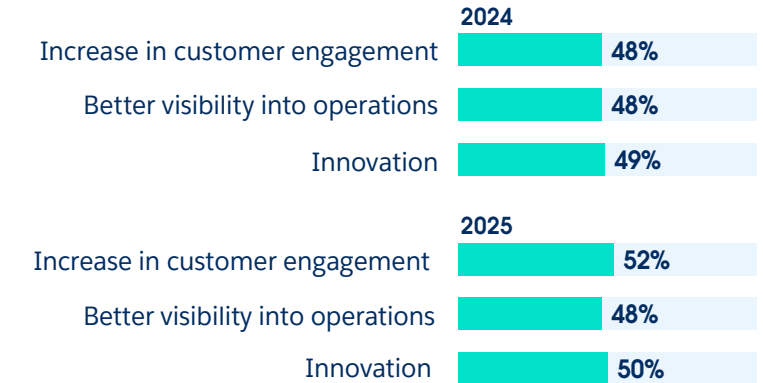


Nearly all organizations face challenges around data integration.

Top benefits of integrating



Top benefits of integrating user experiences



67% of pubsec organizations use 1,000 or more different, individual applications.



32% of applications are currently integrated / connected together.



88% of respondents report their IT infrastructure makes their systems overly dependent on one another.



90% say that the number of projects they're being asked to deliver is increasing.



42% report that a portion of their projects were not delivered on time last year.



95% report API management within their organization could be improved.

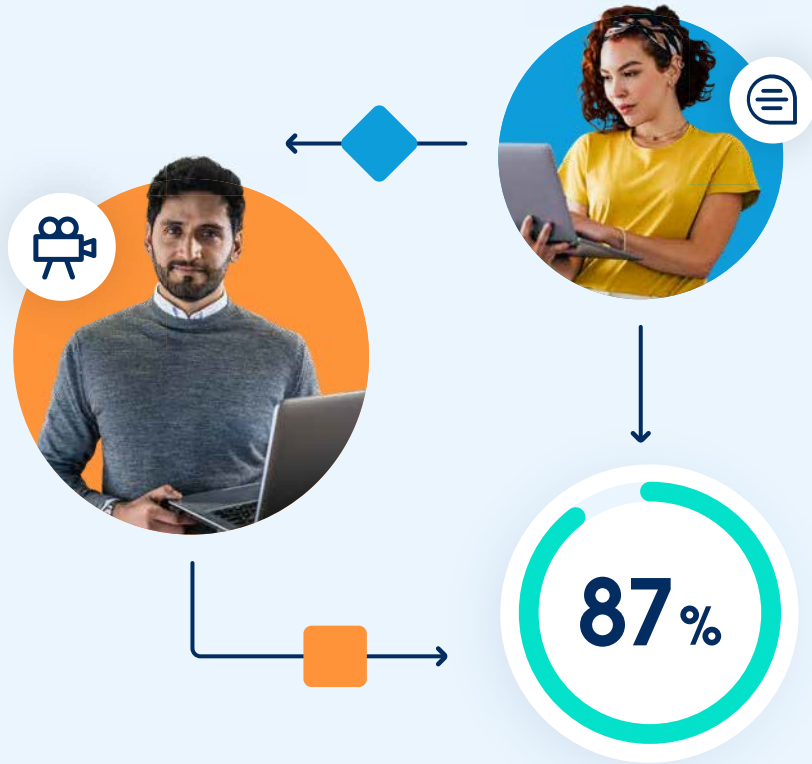


96% agree that their company faces challenges in leveraging AI for system integrations.



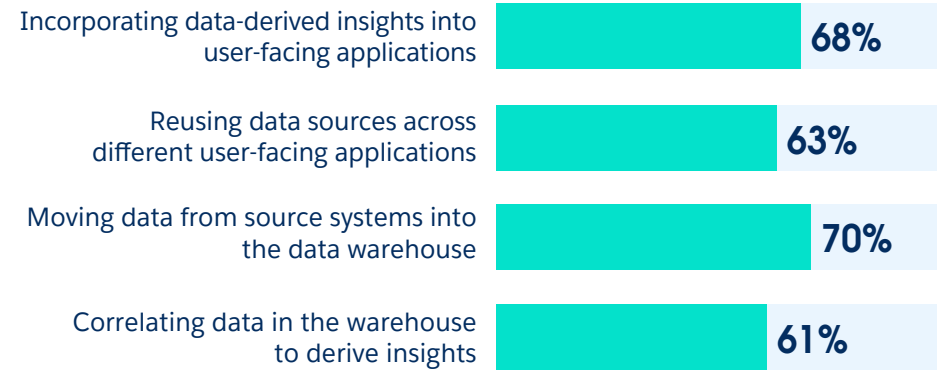
94% have currently implemented, or plan to implement autonomous agents within two years.

Communications, Media and Tech

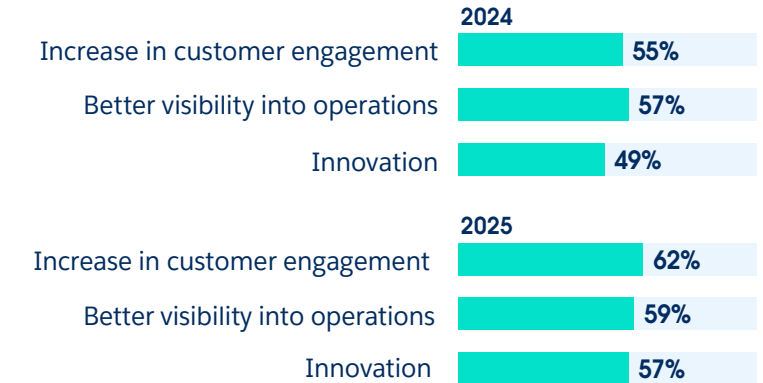


Nearly all organizations face challenges around data integration.

Top benefits of integrating



Top benefits of integrating user experiences



69% of organizations use 1,000 or more different, individual applications.



31% of applications are currently integrated / connected together.



77% of respondents report their IT infrastructure makes their systems overly dependent on one another.



87% say that the number of projects they're being asked to deliver is increasing.



31% report that a portion of their projects were not delivered on time last year.



95% report API management within their organization could be improved.



74% agree that their company faces challenges in leveraging AI for system integrations.



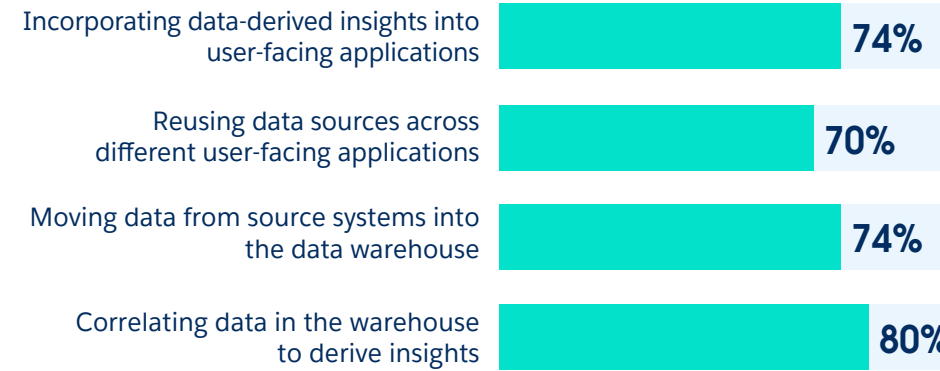
95% have currently implemented, or plan to implement autonomous agents within two years.

Manufacturing and Production

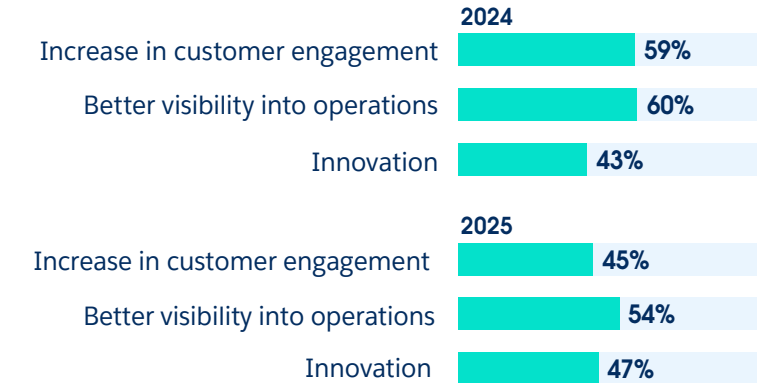


Nearly all organizations face challenges around data integration.

Top benefits of integrating



Top benefits of integrating user experiences



68% of organizations use 1,000 or more different, individual applications.



33% of applications are currently integrated / connected together.



89% of respondents report their IT infrastructure makes their systems overly dependent on one another.



76% say that the number of projects they're being asked to deliver is increasing.



40% report that a portion of their projects were not delivered on time last year.



94% report API management within their organization could be improved.



88% agree that their company faces challenges in leveraging AI for system integrations.



93% have currently implemented, or plan to implement autonomous agents within two years.

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