Future of Enterprise Integration

Enterprise Integration Is Critical To Digital Transformation

Cognizant   **IBM**   **FORRESTER®**

Table Of Contents

ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit forrester.com/consulting.

FORRESTER®

Executive Summary

Whether a firm's digital priority is touching digital experience, operational efficiency, product or service innovation, or the complete redefinition of its ecosystems, integration and associated technologies are everywhere. The need for these technologies within products, services, and processes, increasingly complexify integration. At the same time, integration requires sustainable agility to thrive in a constant stream of digital transformation, and it requires security that reaches from ecosystem and partner integration all the way to the enterprise core.

Leaders have learned that siloed legacy systems with one-off integration will not deliver that type of agility. Cloud-based integration plays a role, but it's not enough, either. A modern solution architecture must simplify legacy renewal, and integration strategy must encompass customers, business partners, IoT, APIs, analytics, business processes, internal and external data, SaaS apps, on-premise apps, and much more.

Integration technologies are a critical digital enabler and, accompanied by the right business design approach, they allow rapid business reconfiguration to create new business models and new ecosystems while continually optimizing customer experience and business operations.

In February 2018, Cognizant and IBM commissioned Forrester Consulting to evaluate the future of integration strategy in the context of rapidly evolving needs of digital transformation. To explore this topic, Forrester conducted an online survey with 378 IT and line-of-business professionals at global enterprises with knowledge of or responsibility for digital transformation and approach to integration. We found that traditional integration strategies can't keep up with the demands of digital transformation, and a successful integration strategy should encompass characteristics of digital strategy across multiple dimensions.

Integration allows rapid business reconfiguration to create new business models and ecosystems while continually optimizing customer experience and business operations.

KEY FINDINGS

› **Traditional integration strategies fall short.** Ninety-three percent of firms reported challenges with traditional integration strategies, citing most frequently the inability to process increasing data volumes, refresh in real time, and connect data silos. Current solutions can't keep up with digital transformation initiatives.

› **Successful integration requires more than iPaaS and cloud.** The path to a successfully integrated future is not paved by siloed apps, processes, and integration technologies. Unifying across these silos will be detrimental to business performance and agility; and integration platforms can be used as a stepping stone for modernization.

› **Modernizing integration strategies allows for an array of business and IT benefits.** Successful modernization allows for increased business agility, quick response to competitive and market changes, and continual optimization of customer experience. Further, a modernized approach allows IT to better support business benefits.

FORRESTER®

Digital Business Requires Digital Building Blocks

Empowered consumers, hyperadoption, and digital innovation: what do these things have in common? They all affect the way you do business. Today's firms need to deliver wholly new customer and employee experiences, optimized cross-enterprise processes, new channels to market, or completely new business models and revenue streams.[1] The digital landscape is increasingly complexifying, and with it so is your business ecosystem.

As firms transform to digital, it's more important than ever they use integration to deliver configurable building blocks to digital business, instead of designing integration technically. A modern integration strategy must include "software assets that digitally encode the design of the business, like business transactions packaged as APIs; automated, instrumented, event-based digital processes; multitouchpoint role-based workspaces; insight-driven digital decisioning to augment human decision making; and more."[2]

In surveying 378 companies, we found that:

› **Integration is a key element of digital initiatives.** Digital is the new norm, and firms are placing high priority on many digital initiatives, from modernizing existing legacy apps to investing in new technology (see Figure 1). Integration is one of the key elements of digital initiatives and it's becoming more and more important to enable firms to join platforms.

Digital businesses win, serve, and retain customers by continuously creating and exploiting digital assets to simultaneously deliver new sources of customer value and increase their operational agility.

Figure 1

"How much of a priority are the following digital initiatives for your company?"

85% Modernizing legacy applications

84% Cloud-based platforms/infrastructure-as-a-service/platform-as-a-service

84% Cloud-based apps/software-as-a-service

79% Using APIs to engage new partners, ecosystems, and developers

78% Mobile apps and customer experience improvement

75% Internet-of-things (IoT) solutions and products

70% Machine learning/artificial intelligence and customer experience improvement

68% Robotic process automation/business process improvement

Base: 378 IT and LoB professionals with knowledge of/responsibility for digital transformation and approach to integration from global enterprises
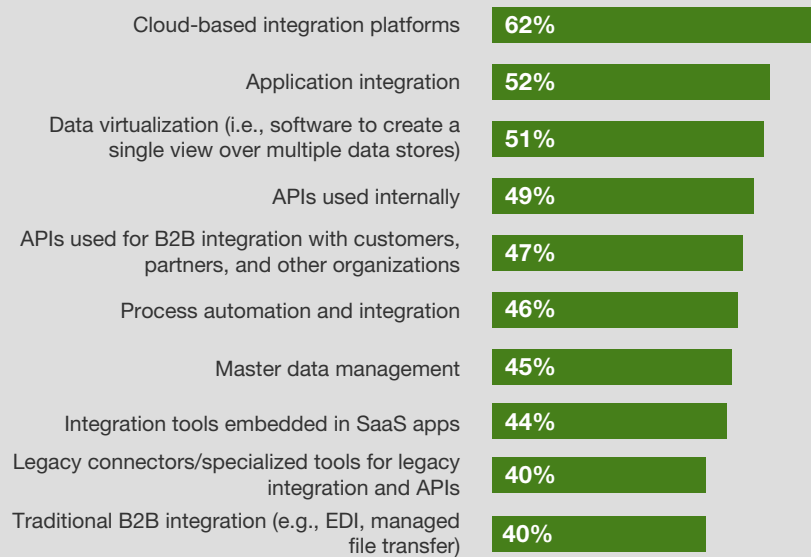Note: Showing combined data for "Priority" and "High priority"
Source: A commissioned study conducted by Forrester Consulting on behalf of Cognizant and IBM, February 2018

FORRESTER®

› **Integration is complexifying.** The separation of systems of record and systems of engagement with different lifecycles or methods (respectively waterfall versus agile or DevOps) has also added new constraints for integration solutions, such as integration governance and continuous integration or continuous development. So, the complexity is not only on the technical connectivity and capabilities, but also on the way integration should be delivered and maintained without compromising integrity and security. Due to the need to support digital initiatives, integration strategies today require multiple components, from cloud-based integration platforms, app integration, data virtualization, to APIs, and much more (see Figure 2). Digital transformation and integration decision-makers indicate they include an average of 6.5 components as part of their integration strategy today.

› **Traditional integration is not strategically aligned.** Ninety-three percent of firms struggle with a traditional integration strategy because it can't keep up with these digital business demands and complexity. It's important to note that firms don't have one single challenge that stands out, but they struggle across the board with increasing data volumes, refreshing data in real time, connecting data siloes, and more.

Figure 2

"Which of the following does your company currently include in its integration strategy?"

Cloud-based integration platforms	62%
Application integration	52%
Data virtualization (i.e., software to create a single view over multiple data stores)	51%
APIs used internally	49%
APIs used for B2B integration with customers, partners, and other organizations	47%
Process automation and integration	46%
Master data management	45%
Integration tools embedded in SaaS apps	44%
Legacy connectors/specialized tools for legacy integration and APIs	40%
Traditional B2B integration (e.g., EDI, managed file transfer)	40%

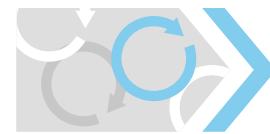Base: 378 IT and LoB professionals with knowledge of/responsibility for digital transformation and approach to integration from global enterprises
Source: A commissioned study conducted by Forrester Consulting on behalf of Cognizant and IBM, February 2018

An average of 6.5 components are part of integration strategies today, further reinforcing the growing complexity of integration.

FORRESTER®

And when integration strategy doesn't support digital innovation, firms lose: they can't keep up with customer demands, serve customers in the time of need, or prevent competitors from winning their customers. From a business perspective, they lose revenue and are unable to implement new business models to keep up with digital demands. These repercussions are serious, and firms are taking steps to avoid them: 94% are planning to, are currently, or have already modernized their integration strategy (see Figure 3). They are primarily driven by a need to improve integration security, drive efficiency and profitability, and keep up with market changes.

Figure 3

"What are your organization's plans to change its integration strategy to support digital transformation?"

44%
Currently making this change

24%
Planning to within the next 12 months

10%
Planning to in the next few years
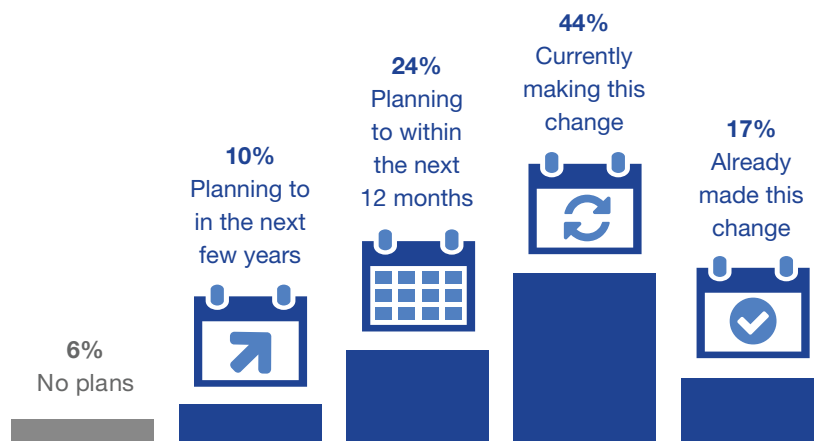
17%
Already made this change

6%
No plans

Base: 378 IT and LoB professionals with knowledge of/responsibility for digital transformation and approach to integration from global enterprises
Note: Percentages do not total 100 because of rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of Cognizant and IBM, February 2018

94% recognize their integration strategy needs to support digital transformation: over a third plan to change it and the majority are currently making this change.

Successful Integration Mimics Digital Strategy

The right integration strategy is foundational to the type of digital transformation that prepares a firm to adapt and react to an unknown, unpredictable future of innovation and digital disruption. We found that 80% agree that their company's vision for digital transformation implies a degree of business agility and digital disruption, which has led them to heavily rethink and redesign their future integration strategy. So, what does successful integration look like? It should inherit the characteristics of digital strategy and help across multiple dimensions, like security, data insights, and business agility. The consequence is a modern integration strategy that mandates consistency across the organization, better platforms and security, and expert support. Almost all firms in this study have taken these steps to modernize their integration strategy (see Figure 4).

Future integration strategies will require many elements to enable digital initiatives, not simply technologies like iPaaS and cloud integration, or the belief that API management will solve all needs. Integration is highly complex so the notion that we can solve the problem of siloed apps and processes with siloed integration technologies does not stand. Firms must create a strategy around business design--an approach to integration that centers first on sustainable business outcomes and agility, unifying across application silos rather than merely making it easier to live with them. Using "digital business design" principles, firms can connect integration strategy directly to the current and future success of their business.

Figure 4

"What steps are you taking/have you taken to modernize your integration strategy?"

53% Driving greater cooperation and consistency across the enterprise on integration strategy

49% Investing in integration platforms and architectures

48% Increasing security investments for managing risks of digital innovation

47% Partnering with consultants and systems integrators with integration competency and expertise

46% Creating new visions and architectures for a comprehensive approach to integration and digital transformation

Base: 378 IT and LoB professionals with knowledge of/responsibility for digital transformation and approach to integration from global enterprises
Source: A commissioned study conducted by Forrester Consulting on behalf of Cognizant and IBM, February 2018

99% of companies are taking action to modernize their strategy.
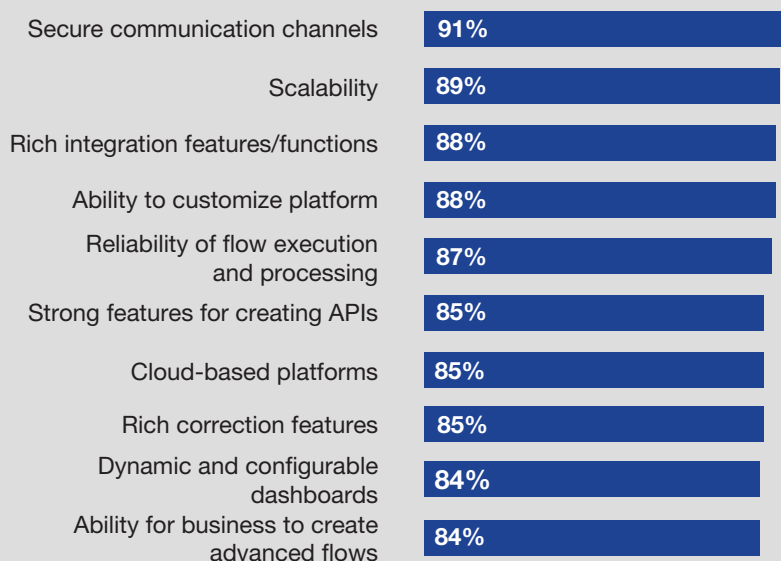
FORRESTER®

USE INTEGRATION PLATFORMS AS A STEPPING STONE TO MODERNIZATION

With the future of integration rapidly complexifying, firms need an integration platform that connects processes, data, and transactions across separately built applications. Firms place high importance on many capabilities in an integration platform, further reinforcing the theme of complexifying integration. At the top of the list, we see secure communication channels, scalability, rich integration features and function, and ability to customize based on needs (see Figure 5). Among the capabilities valued in an integration platform, 87% place high importance on ongoing support, yet another indicator of the complexity of integration and the need for expert help. It's important to note that the complexity is not coming only from the technical requirements and their evolution. The list of non-functional requirements, all rated as highly important by firms in this study, is simply too much to be covered by a single platform or vendor.

Forrester defines digital business design as "A business-centered approach to solution architecture, implementation, and integration that brings business and technology design together by placing design priority on user roles, business transactions, processes, canonical information, events, and other business aspects that embody a complete definition of a business."

Figure 5

"How important are the following capabilities in an integration platform?"

Capability	
Secure communication channels	91%
Scalability	89%
Rich integration features/functions	88%
Ability to customize platform	88%
Reliability of flow execution and processing	87%
Strong features for creating APIs	85%
Cloud-based platforms	85%
Rich correction features	85%
Dynamic and configurable dashboards	84%
Ability for business to create advanced flows	84%

Base: 378 IT and LoB professionals with knowledge of/responsibility for digital transformation and approach to integration from global enterprises
Note: Showing combined data for "Important" and "Very important"
Source: A commissioned study conducted by Forrester Consulting on behalf of Cognizant and IBM, February 2018

87% Ongoing support

The high importance placed on ongoing support is another indicator of the complexity of integration and the need for expert help.

FORRESTER®

And if companies cannot maintain the level of skills or competencies internally, the solution can be in favor of managed services that serves more as a partner rather than a simple provider. Then firms can expect to see benefits from modernizing integration and the way to source it (see Figure 6). From a business perspective, 98% expect business benefits, including:

› Increased business agility, response to market changes, and ability to react to unknown, unpredictable disruption

› Quickly create new business models and improve business insights

› Continually optimize customer or employee experience

› Quickly improve organizational structures, business processes, operational efficiency, and profitability

IT benefits are also common for 98% of firms, including:

› Quickly reconfiguring solutions to support improved business processes and easily make business changes
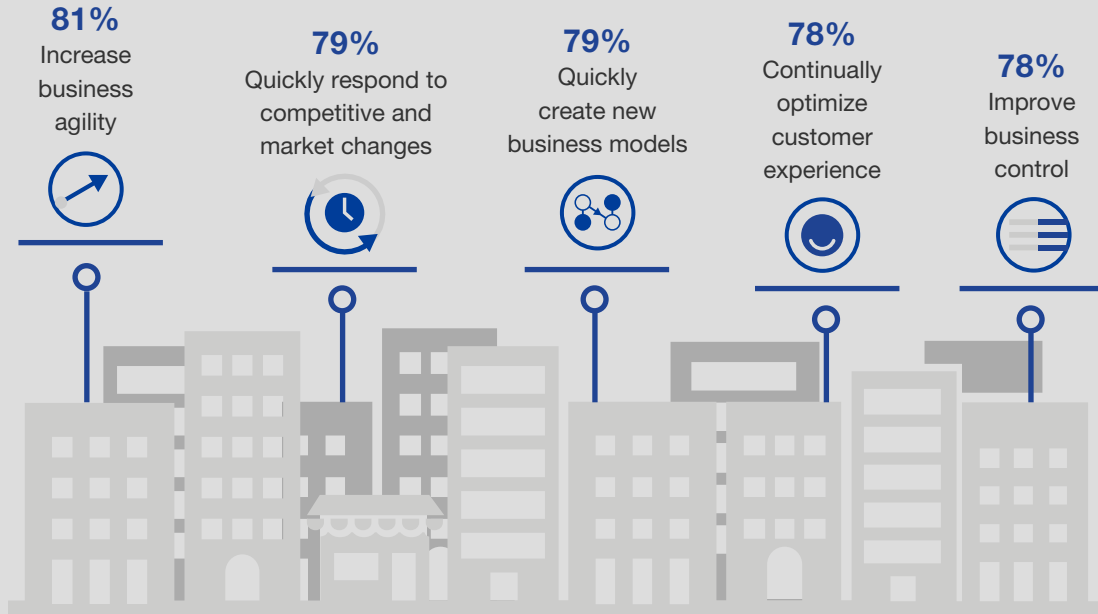
› Link integration to business outcomes

98% expect business and IT benefits as a result of modernizing their integration strategy to support digital transformation
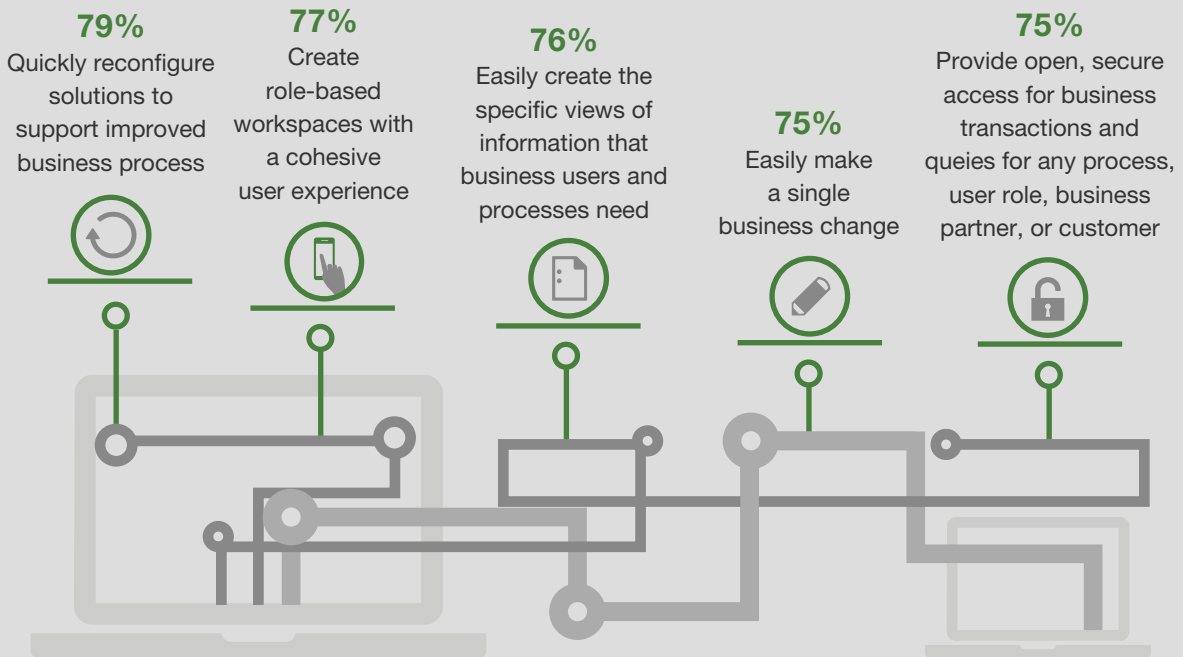
Figure 6

BUSINESS BENEFITS

Modernizing integration strategy to support digital transformation has business benefits.

81%
Increase business agility

79%
Quickly respond to competitive and market changes

79%
Quickly create new business models

78%
Continually optimize customer experience

78%
Improve business control

IT BENEFITS

Modernizing integration strategy to support digital transformation has IT benefits.

79%
Quickly reconfigure solutions to support improved business process

77%
Create role-based workspaces with a cohesive user experience

76%
Easily create the specific views of information that business users and processes need

75%
Easily make a single business change

75%
Provide open, secure access for business transactions and queies for any process, user role, business partner, or customer

Base: 378 IT and LoB professionals with knowledge of/responsibility for digital transformation and approach to integration from global enterprises
Note: Showing combined data for "Significant impact" and "High impact"
Source: A commissioned study conducted by Forrester Consulting on behalf of Cognizant and IBM, February 2018

FORRESTER®

Key Recommendations

Whether considering a digital transformation or having already completed it, companies must recognize the strategic role of integration technologies as central to their next products and services. Forrester's in-depth survey of IT and line of business professionals about integration yielded several important recommendations:

Clarify the strategic role (or not) of integration technologies in your business. Write an integration strategy document clearly identifying changes and challenges like increase in complexity and security. Promote a large reading outside the IT team, in particular to the business, to co-build the right integration as a product or service differentiator.

Overcome the complexity through guidelines. The number of integration patterns is dramatically increasing with the multiple integration scenarios like IoT, hybrid integration and cloud-based iPaaS platforms, systems of engagement applications, and the need for more agility. Guide your developers and architects through varying combinations of integration possibilities while still managing security and integrity.

Outsource integration skills/competencies the right way. Integration is complex and continuously evolving. Maintaining the necessary skills and competencies internally is challenging for large enterprises and even more difficult for midsize firms. If your integration is becoming strategic and you have difficulty hiring and sourcing competencies, it's time to move beyond simple outsourcing or hosted services and consider strategic partnerships like integration concierge, integration as a service, or managed service to maintain successful integration over time.

Adapt Integration governance to allow self-service and support Agile projects. Centralized governance—the rule that enforces reuse in systems of record integration (typically using SOA and ESB)—does not allow the agility to support systems of engagement nor the demand for self-service integration. Adapt governance by project to control risks while involving citizen integrators in the line of business. Data analysts, data scientists, data stewards, process owners, and quality operators are some potential personas required by simplified integration tools like iPaaS .
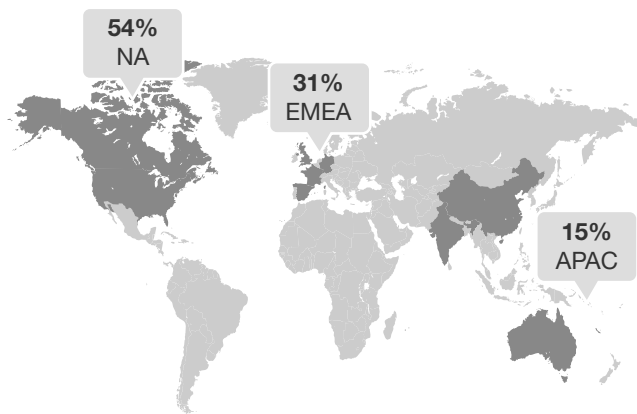
Appendix A: Methodology

In this study, Forrester conducted an online survey of 378 cross-industry organizations in US, Canada, UK, France Germany, Netherlands/Holland, Spain, Australia, China, and India to evaluate their integrations strategies. Survey participants included decision makers in IT, digital business strategy, Marketing, and Sales. Questions provided to the participants asked about current integration strategies, challenges with legacy integration, and plans to improve. Respondents were offered incentives as a thank you for time spent on the survey. The study began and was completed in February 2018.
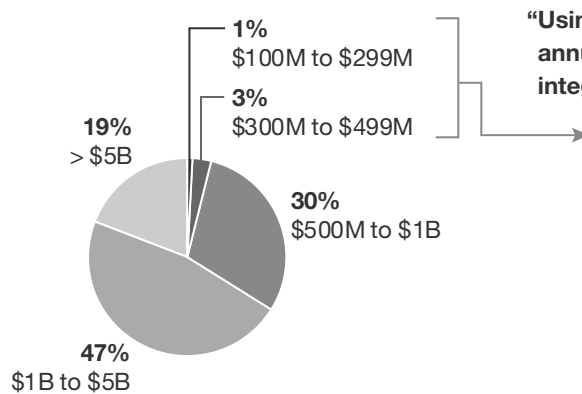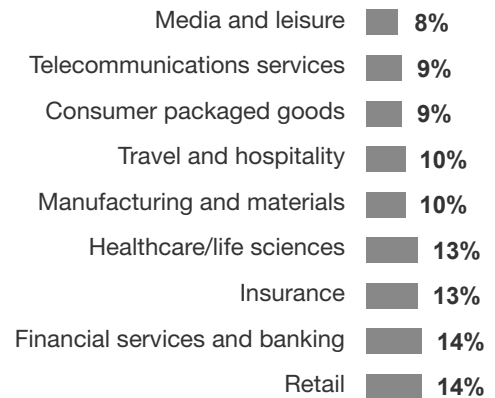
Appendix B: Demographics/Data

RESPONDENT DEMOGRAPHICS

Regions

Countries included: US, Canada, UK, France, Germany, Netherlands/Holland, Spain, Australia, India, China

54% NA

31% EMEA

15% APAC

Industry

Media and leisure	8%
Telecommunications services	9%
Consumer packaged goods	9%
Travel and hospitality	10%
Manufacturing and materials	10%
Healthcare/life sciences	13%
Insurance	13%
Financial services and banking	14%
Retail	14%

1% $100M to $299M

3% $300M to $499M

19% > $5B
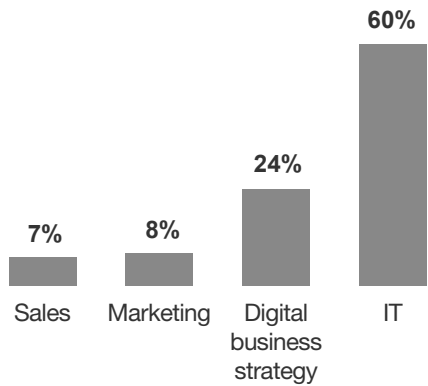
30% $500M to $1B

47% $1B to $5B

"Using your best estimate, what is your organization's annual integration budget (i.e., license, support, integration buildout, center of excellence, etc.)?"
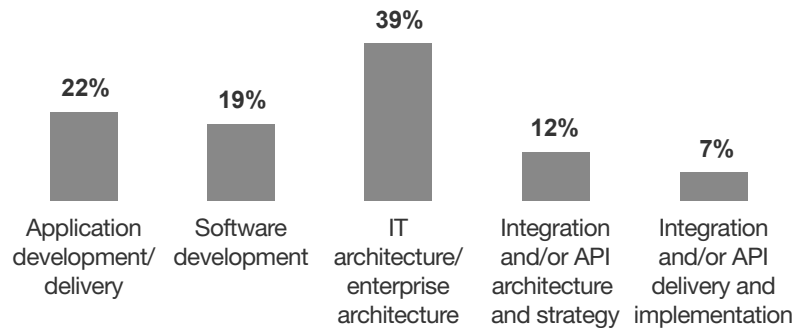
Over $5 million	29%
$3 million to $4.9 million	35%
$2 million to $2.9 million	35%

FORRESTER®

Respondent level

C-level executive	Vice president	Director	Manager	Technical lead	Architecture lead
13%	23%	28%	26%	8%	2%

"Which of the following best describes your current department or function?"

Sales	Marketing	Digital business strategy	IT
7%	8%	24%	60%

"Which of the following best describes the work you are directly involved in?"

Application development/ delivery	Software development	IT architecture/ enterprise architecture	Integration and/or API architecture and strategy	Integration and/or API delivery and implementation
22%	19%	39%	12%	7%

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

https://www.forrester.com/report/A%20Developers%20Guide%20To%20Forresters%20Strategies%20 For%20Integration%20And%20Digital%20Business%20Platforms/-/E-RES137952

https://www.forrester.com/report/The+Age+Of+The+Customer+Is+Shaking+Up+Integration+Technologies+An d+Practices/-/E-RES115617

https://www.forrester.com/report/Digital+Business+Design+Is+The+New+Integration/-/E-RES83641?objectid =RES83641#reference1

https://www.forrester.com/report/The+Integration+Imperative+Of+Digital+Experiences/-/E-RES119667

Appendix D: Endnotes

[1] https://www.forrester.com/report/A%20Developers%20Guide%20To%20Forresters%20Strategies%20 For%20Integration%20And%20Digital%20Business%20Platforms/-/E-RES137952

[2] https://www.forrester.com/report/Digital+Business+Design+Is+The+New+Integration/-/E-RES83641?objectid =RES83641#reference1

FORRESTER®