

The State of IT Modernization 2020



Methodology and objectives

Sample

Field work This survey was fielded in the U.S. from December 10, 2019 through December 19, 2019

Total respondents 200 qualified completes

Method

Data collection Online Questionnaire

Audience To qualify for this survey, respondents were required to:

- Be employed in an IT, data, and/or security related job function
- Hold a title of Director or above
- Be employed at an organization with 2,500 employees or more

Survey goals

In this survey, we evaluate the state of IT modernization efforts in several areas including an operating model involving centers of data spanning on-premises, cloud, edge, etc., application modernization preparations, and IT processes. We examine IT budget allocated to IT modernization, specific changes organizations have made and have yet to make in each area, and obstacles to progress. We assess cloud experiences, such as costs, repatriation, and challenges. Lastly, we determine the areas where organizations have experienced measurable improvement as a result of IT modernization initiatives.

Respondent profile

Company size

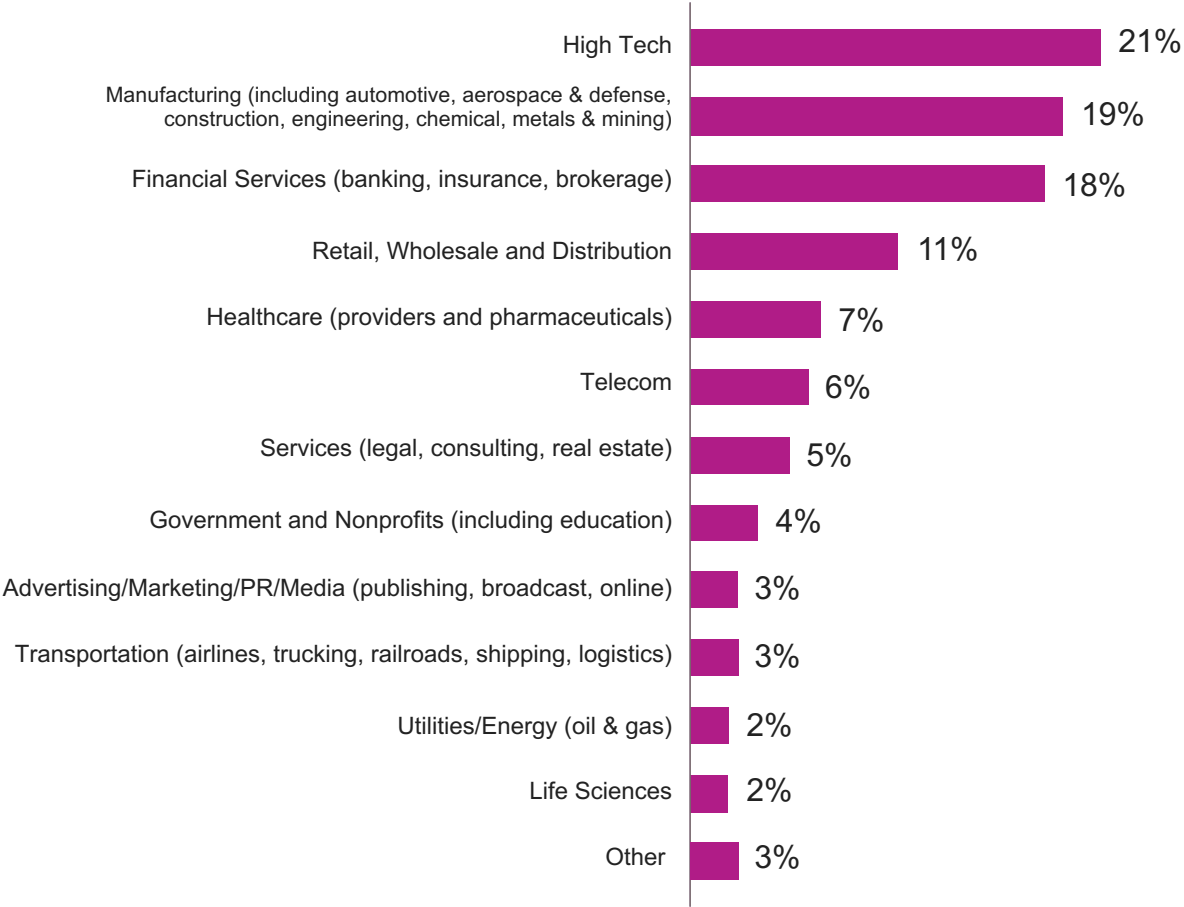
100,000 or more	19%
50,000 - 99,999	5%
30,000 - 49,999	5%
20,000 - 29,999	5%
10,000 - 19,999	9%
5,000 - 9,999	22%
2,500 - 4,999	38%

Job title

CIO, CTO	42%
CSO, CISO	6%
Chief Data Officer	4%
Chief Digital Officer	2%
Executive VP, Senior VP, General Manager	8%
VP	4%
Director	35%

Average
29,294 employees

Primary industry



Highlighted findings

Just 25% have achieved initial IT modernization objectives, yet organizations at all stages have seen measurable business improvements.

More than two-thirds of respondents (67%) state that IT modernization is essential to enable business transformation initiatives, indicating IT's pivotal role in advancing business objectives.

Only 25% say they have achieved their initial IT modernization objectives, but even those at these early stages of the journey report measurable business improvements in one or more areas such as quality of service, cost efficiency, availability, and customer experience.

41% delayed or abandoned some of their 2019 IT modernization initiatives, often due to competing priorities and/or lack of a clear strategy.

Major 2020 challenges include establishing new governance strategies to support modernization and cloud (35%), defining and optimizing new centers of data spanning cloud, on-premises and edge (34%), and determining how to integrate those centers of data (34%).

An average 40% of IT budgets is spent on IT modernization initiatives, with ranges from 34% to 45% depending on maturity stage and company size.

Highlighted findings (continued)

Over 95% are pursuing a full range of initiatives to modernize their operating environment, with only one-third of projects completed to date.

Adoption of software-defined networking (31%), moving applications to the cloud for later modernization (30%), and upgrading on-premises application infrastructure (30%) are the most likely operating model modernization projects to be completed. Adoption of open source systems is the least (22%).

95% are using or planning to use managed services for one or more IT functions, including organizations at all stages of the modernization journey.

Upgrading the security infrastructure and processes (57%) and determining the optimal mix of platforms/centers of data to support the organization's workloads (53%) are the top two challenges faced in modernizing the operating model.

Highlighted findings (continued)

84% moved select workloads from a public cloud to an alternative cloud or non-cloud location.

Cloud-native initiatives (50%) and multicloud approaches using more than one public cloud provider (49%) top the list of cloud update strategies used in 2019.

84% of organizations moved select workloads from a public cloud to an alternative cloud or non-cloud location, including organizations that are just beginning the IT modernization journey as well as those that are farthest along the path, reflecting the complexity of assessing and optimizing workload placements.

64% of organizations that have completed their initial IT modernization initiatives have switched from an all-private or all-public cloud strategy to a hybrid cloud approach, again highlighting the trial-and-error that many companies undergo to find the optimal cloud path for their needs.

Database, website/web apps, dev/test, and BI/data warehouse/data analytics are the workloads most likely to have been brought back in-house.

Managing public cloud security is the #1 challenge in cloud optimization, cited by 49% of respondents. Governance, multicloud management, and determining where cloud workloads will be placed are other top obstacles.

Highlighted findings (continued)

Public cloud cost overruns are common, with 69% taking steps to reduce these overages.

69% report their organizations have experienced higher-than-expected public cloud costs, averaging 62% higher than anticipated. Data egress charges, unplanned cloud adoption, and M&A activity are the top reasons cited for the cost overruns.

On average, respondents' organizations cite 3-4 measures they will take to optimize cloud costs in 2020. The list includes automatically turning workloads on and off based on usage patterns, regulating under-utilized instances, introducing more elastic design, and right-sizing workloads.

Application modernization is inhibited by a lack of automation capabilities.

Organizations that have made the most progress in application modernization have developed and/or launched a cloud native strategy but lag behind in areas such as infrastructure as code-based automated application deployment and implementation of cloud container services.

Absence of foundational needs for containerization and automation is the #1 obstacle to executing on application modernization strategy.

Highlighted findings (continued)

Implementing automation is also a stumbling block in IT process modernization.

Building a Continuous Integration and Continuous Delivery (CI/CD) framework to support IT process modernization is a top priority even among those in the early stages of IT modernization.

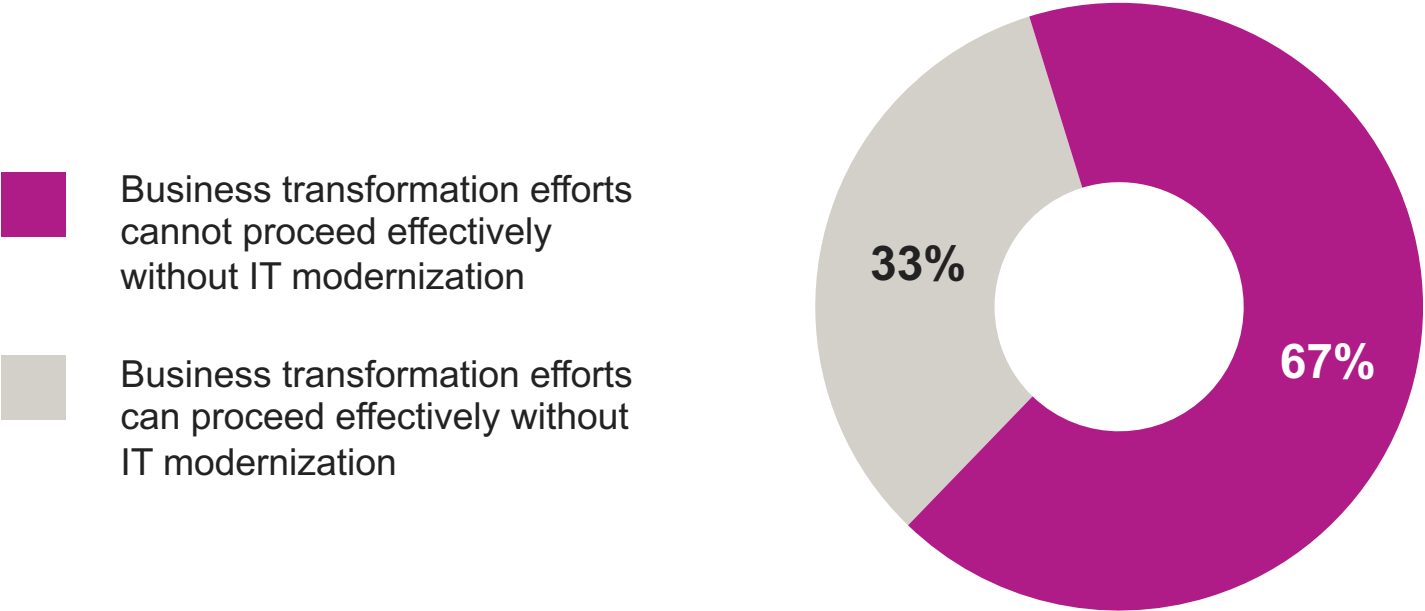
As with application modernization, the least progress in IT process modernization has been made in implementing automation and infrastructure as code.

Top challenges in supporting IT process modernization include IT silos (45%), lack of governance and compliance procedures (44%), skills gaps (43%), and budget constraints (43%).

Survey Findings

More than two-thirds of respondents (67%) state that IT modernization is essential to enable business transformation initiatives, indicating IT’s pivotal role in advancing business objectives.

Perceived relationship between IT modernization and business transformation

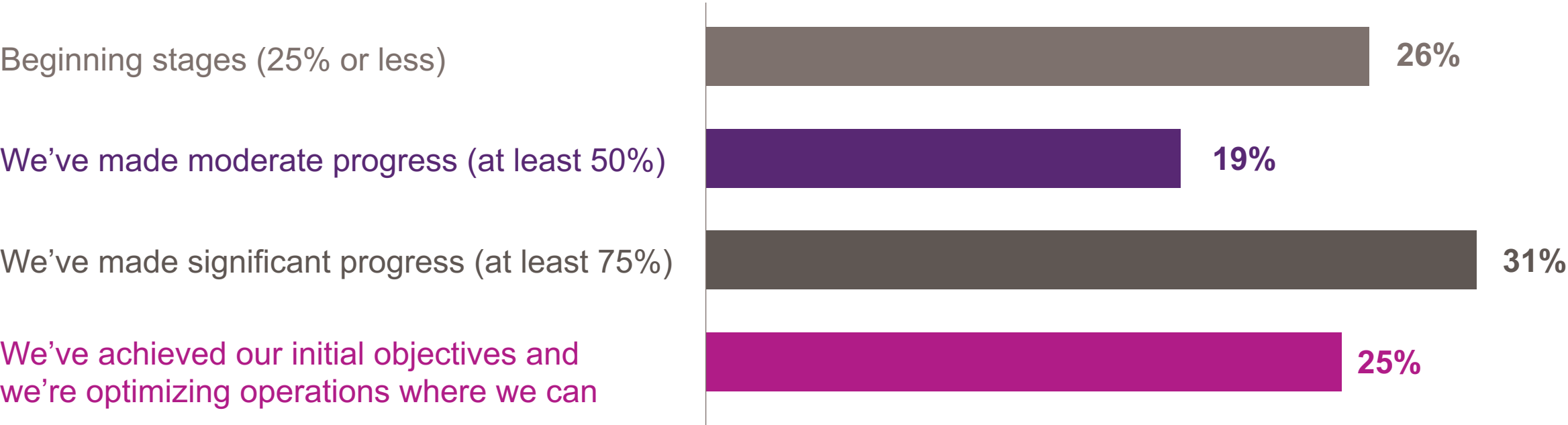


Q: In your view, what is the relationship between IT modernization and business transformation initiatives such as developing new services, improving customer experiences, and undertaking other activities that will benefit the business?

Just 25% have achieved initial IT modernization objectives, reflecting the complexity of the transformation journey.

Stated maturity of IT modernization efforts

In this survey, we are defining **IT modernization** as the transformation of IT platforms (public and/or private cloud, on-premises data centers, and/or edge), applications, governance, and processes to achieve desired business outcomes.

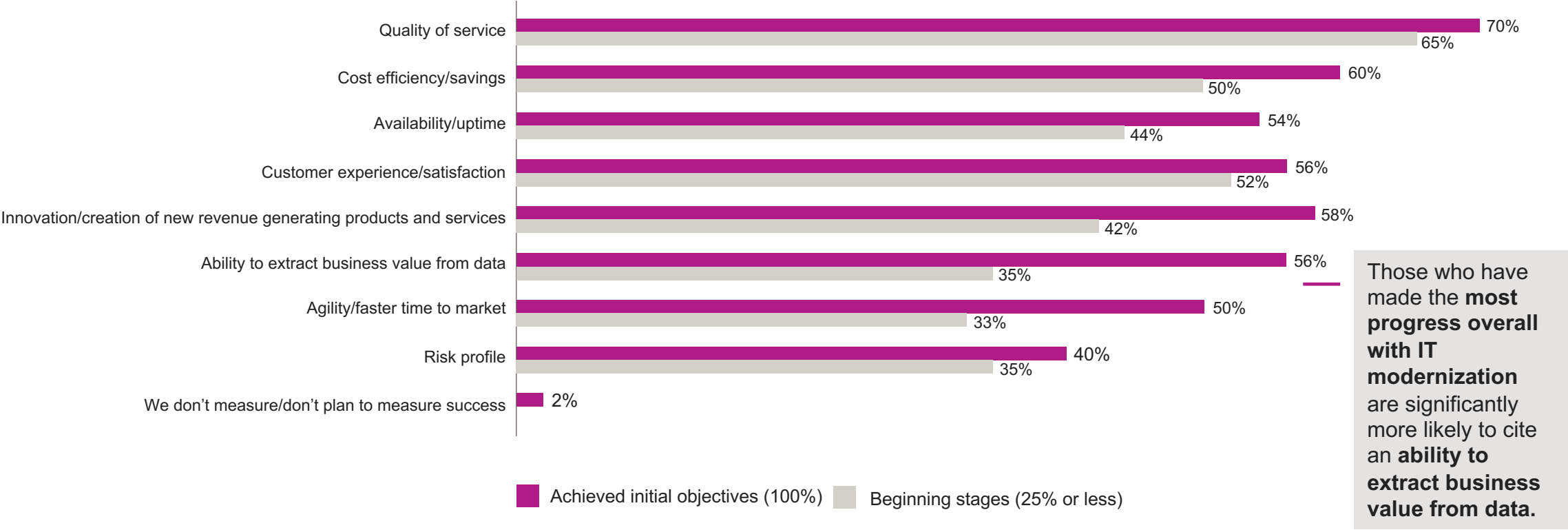


(NOTE: Percentages may not sum to 100% due to rounding.)

Q: Rate the maturity of your organization's IT modernization efforts as of today. In this survey, we are defining IT modernization as the transformation of IT platforms (public and/or private cloud, on-premises data centers, and/or edge), applications, governance, and processes to achieve desired business outcomes.

Regardless of where organizations are in their IT modernization journey, nearly all have seen measurable improvements in one or more business areas.

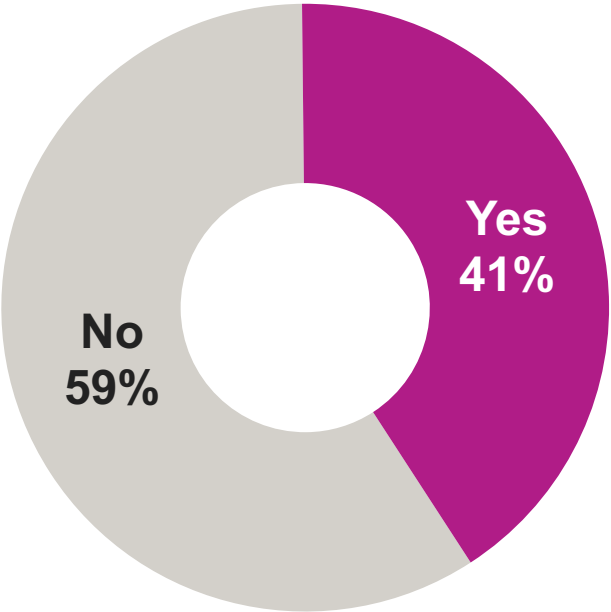
Areas where organizations have seen measurable improvements from IT modernization
(By stated overall IT modernization maturity)



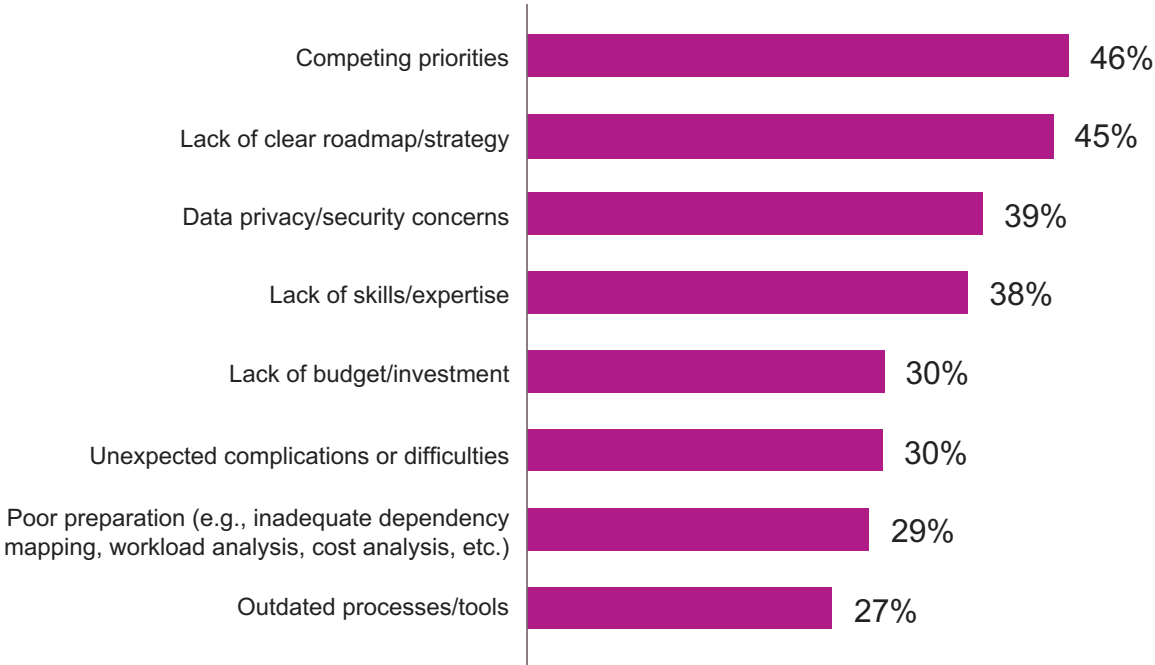
Q: In which of the following areas has your organization seen measurable improvements to date as a result of your IT modernization initiatives? (Please select all that apply.)

Despite the importance of IT modernization and the results to-date, 41% of respondents report that 2019 IT modernization initiatives at their organizations were delayed or abandoned, most often due to competing priorities and/or a lack of a clear strategy.

Whether IT modernization initiatives were delayed or abandoned in 2019



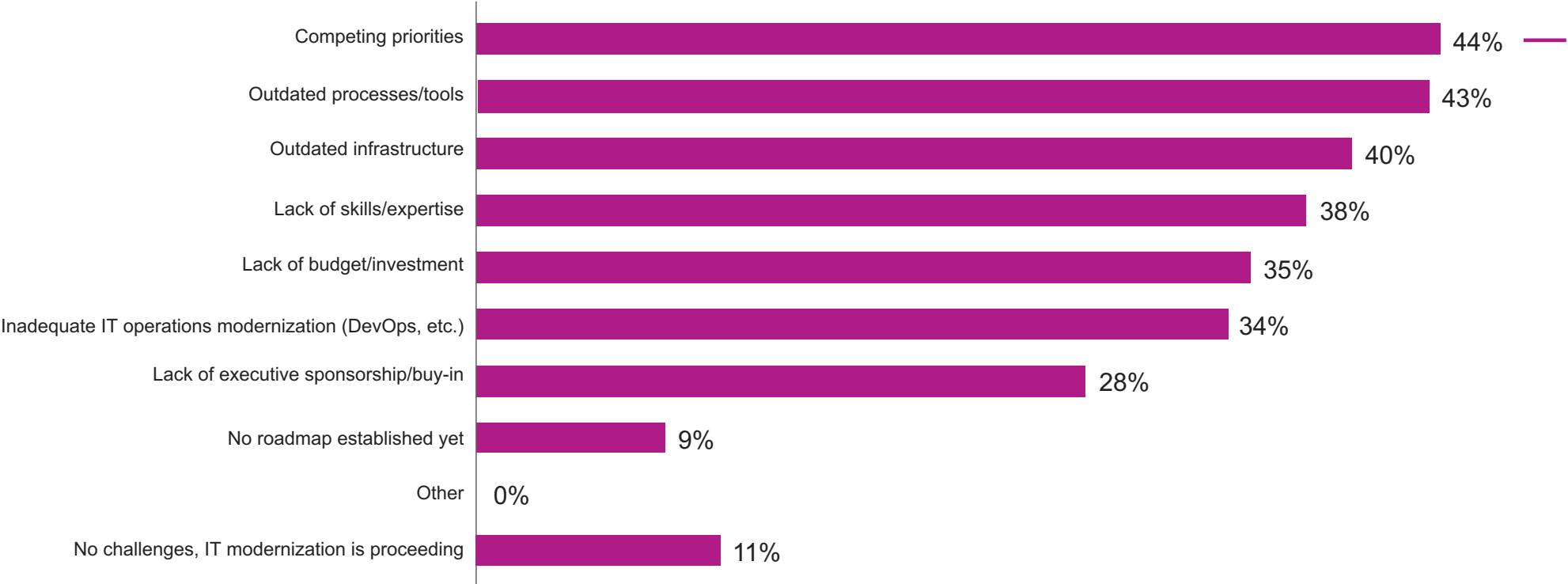
Reasons for delay or abandonment of IT modernization initiatives
(among those reporting delay or abandonment)



Q: Did your organization delay or abandon any IT modernization initiatives in 2019?
Q: If so, why?

Top obstacles to IT modernization in 2019 included competing priorities (44%), outdated processes and tools (43%), outdated infrastructure (40%), and skills gaps (38%).

Obstacles to pursuit of IT modernization projects

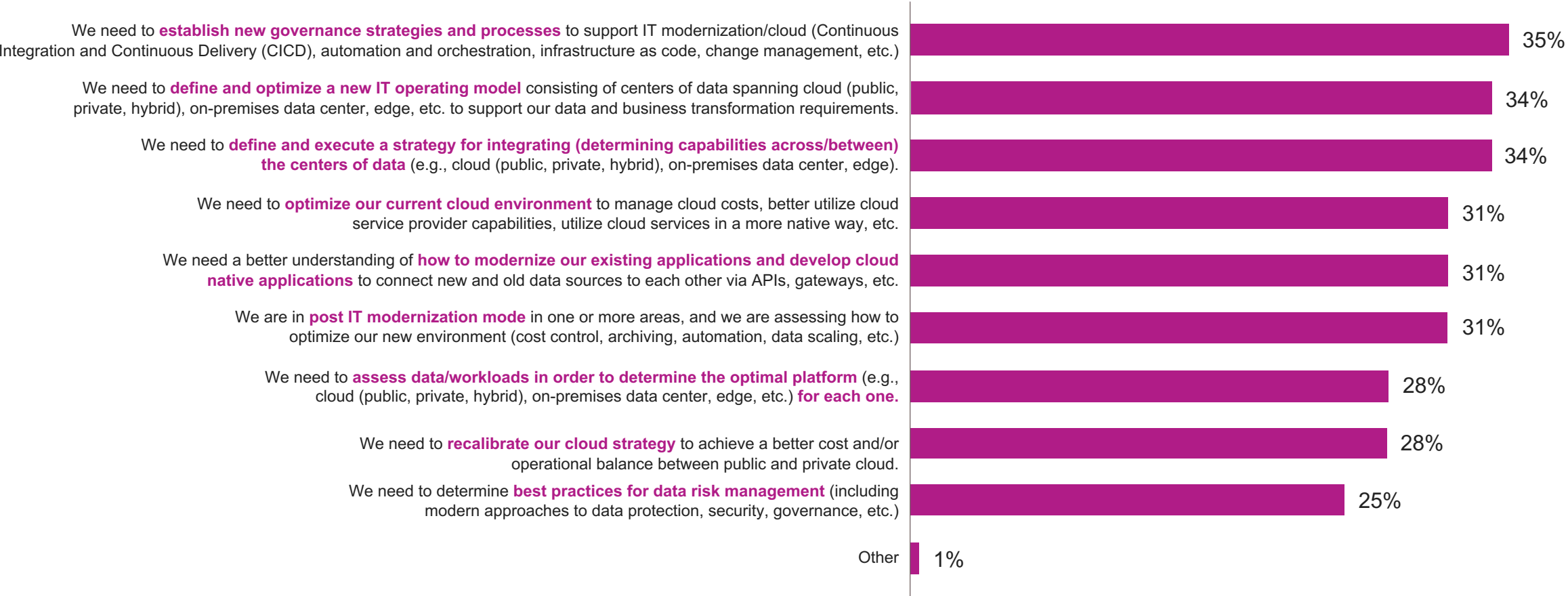


More often cited by those who have **made less than significant progress with IT modernization** (50% vs. 28% among those who have made more significant progress).

Q: In 2019, what obstacles did you face in your organization to pursue IT modernization projects? (Select all that apply.)

The top 3 IT modernization challenges in 2020 are projected to be establishing governance strategies and processes, defining and optimizing IT operating models, and integrating centers of data.

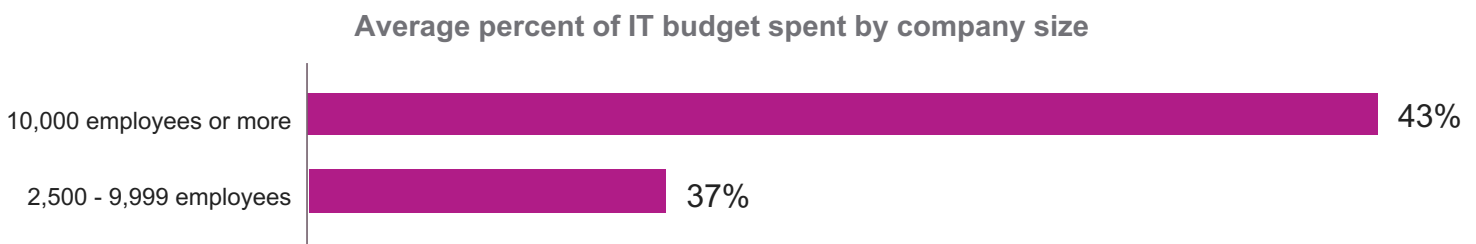
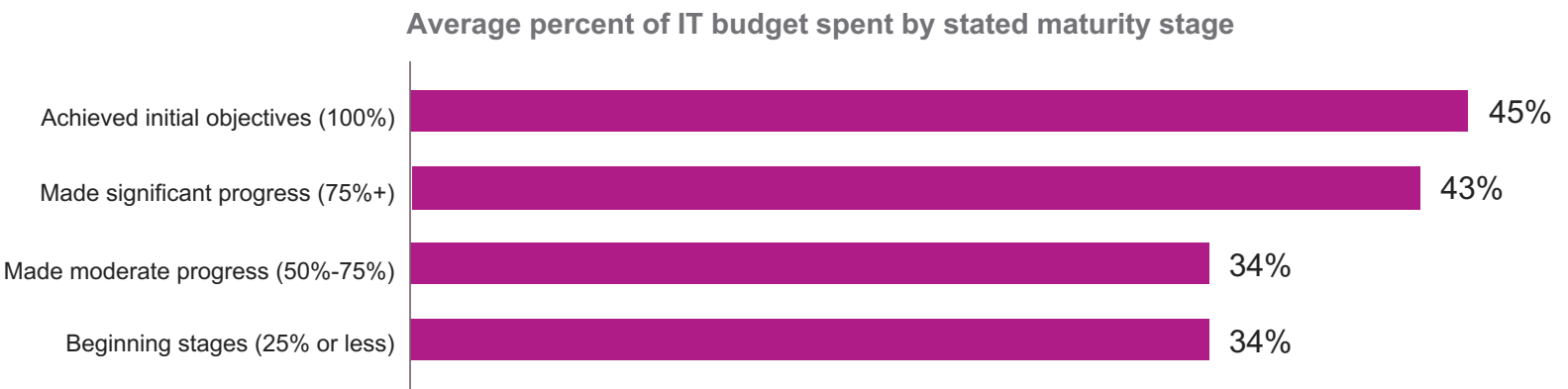
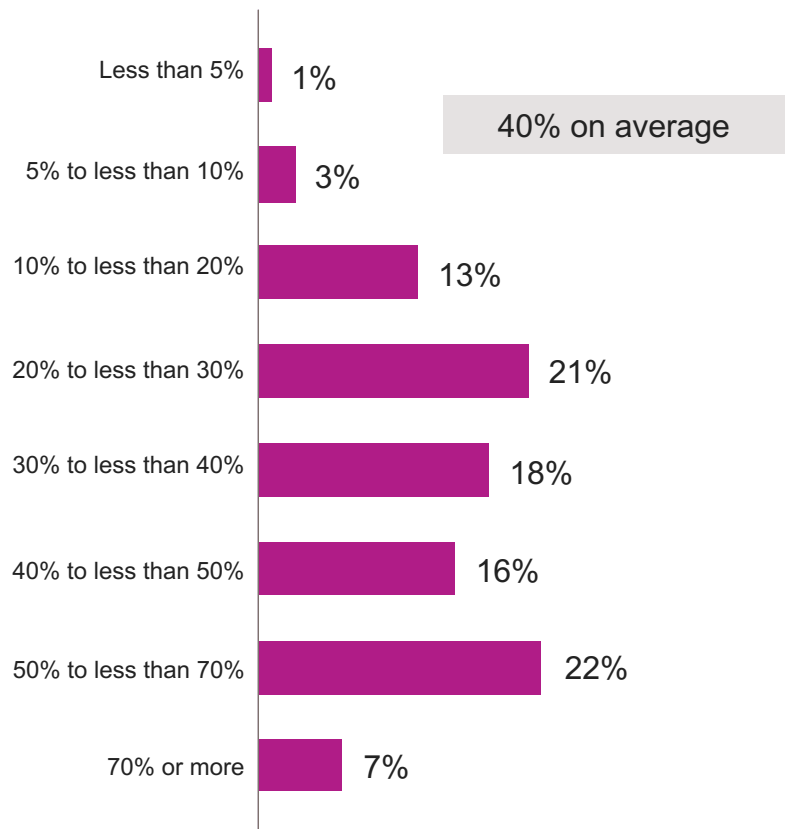
Top three IT modernization obstacles in 2020



Q: At a high level, what are your organization’s top three IT modernization challenges in 2020? (Select three.)

On average, respondents' organizations spend 40% of their IT budgets on IT modernization initiatives.

Percent of IT budget spent on IT modernization in 2019

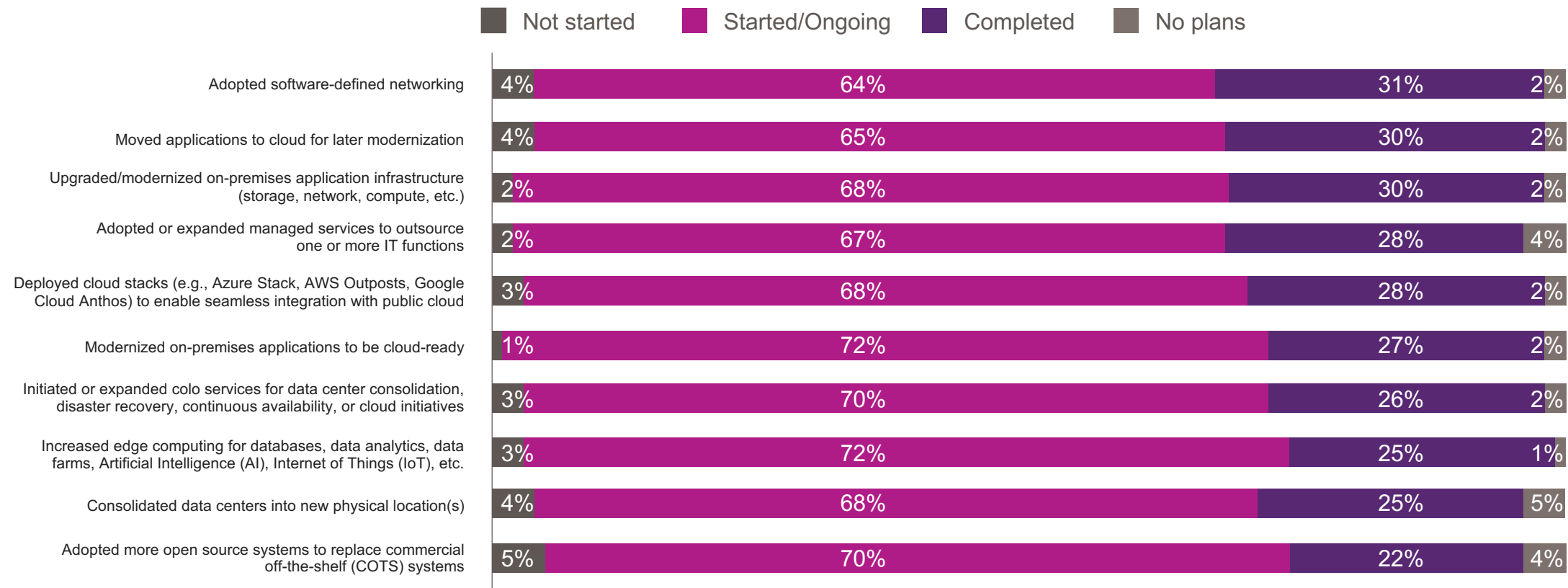


Q: Approximately, what percentage of your organization's IT budget was spent on IT modernization in 2019?

State of IT Modernization: Operating Environment

Over 95% of organizations are pursuing a full range of initiatives to modernize their operating environment, with only one-third of projects completed to date led by the adoption of software-defined networking (31%), moving applications to the cloud for later modernization (30%), and upgrading on-premises application infrastructure (30%).

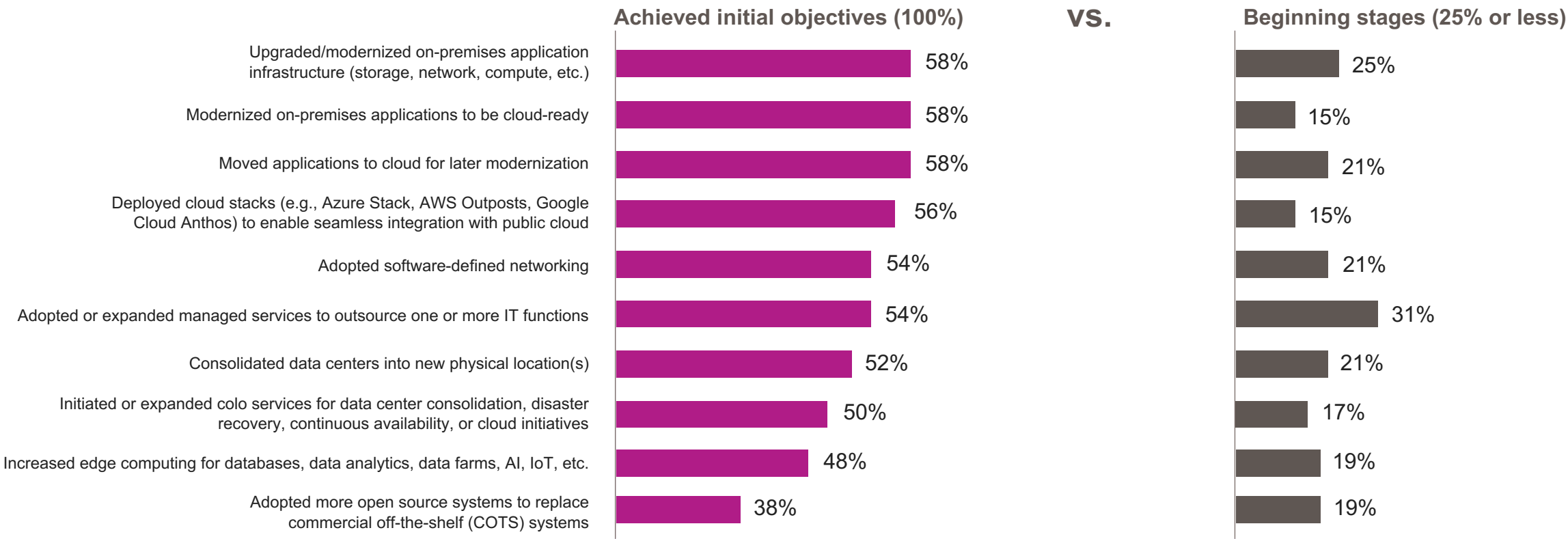
Changes made to modernize operating environment in 2019



Q: What specific changes did your organization make to modernize your IT operational environment (e.g., centers of data) in 2019?

Respondents who made the most progress toward IT modernization in 2019 are most likely to have completed on-premises infrastructure upgrades and application-related cloud projects. Adoption of managed services is one of the first action items completed among companies in the beginning stages.

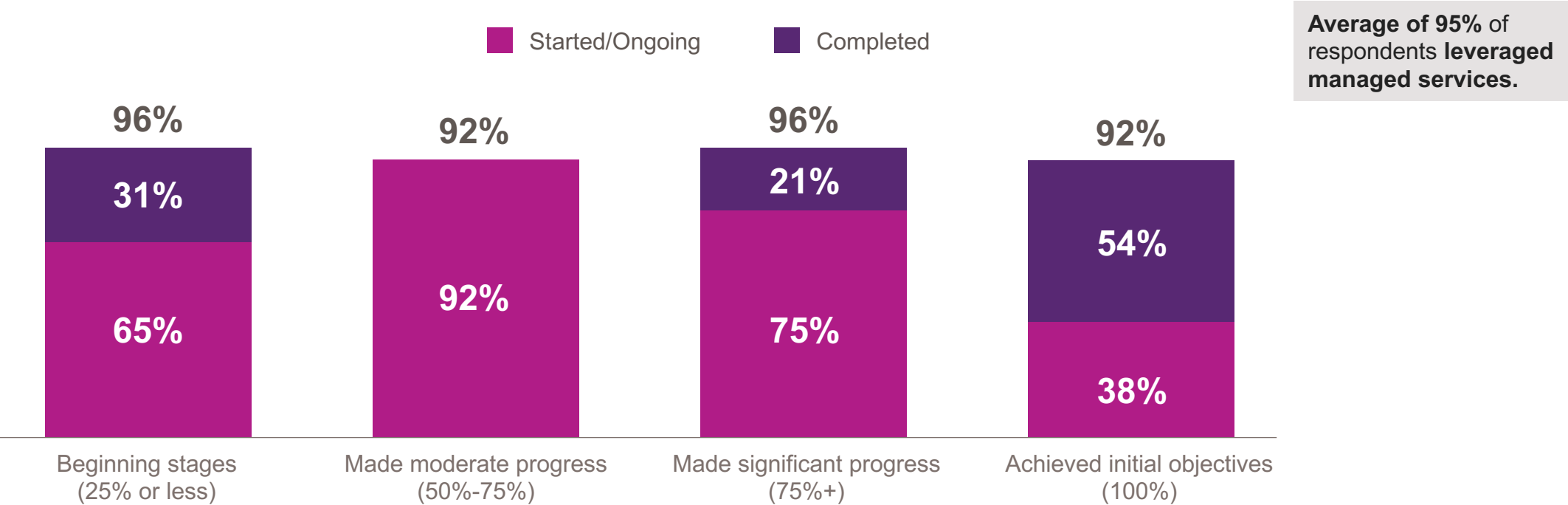
Changes COMPLETED to modernize IT operational environment in 2019
(% indicating change is “Completed” by stated overall IT modernization maturity)



Q: What specific changes did your organization make to modernize your operating environment (e.g., centers of data) in 2019?

Adoption of managed services is important at every stage of the IT modernization journey, with an average of **95% of respondents stating they outsourced one or more IT functions to a managed services provider.**

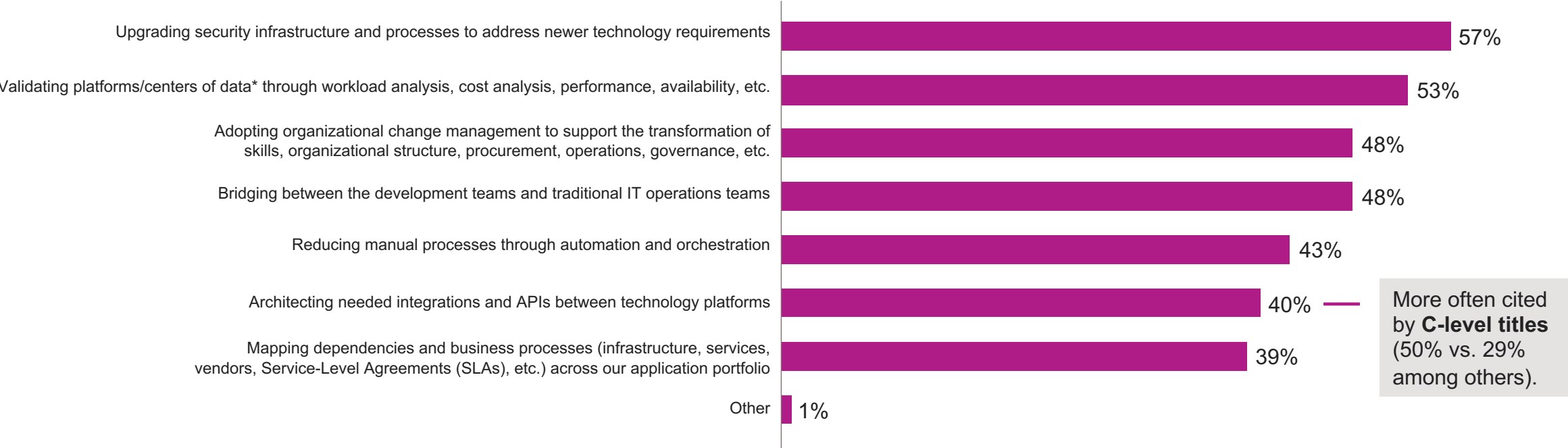
Adopting or expanding managed services to outsource one or more IT functions
(% indicating change is “Completed” or “Started/Ongoing” by stated overall IT modernization maturity)



Q: What specific changes did your organization make to modernize your operating environment (e.g., centers of data) in 2019 (adoption or expansion of managed services to outsource one or more IT functions)?

Upgrading the security infrastructure and processes (57%) and determining the optimal mix of platforms/centers of data to support the organization’s workloads (53%) are the top two challenges faced in modernizing the IT operating environment.

Obstacles to pursuit of modernization of IT operating environments



*E.g., data centers, colo facilities, hosting facilities, edge locations, private cloud Infrastructure as a Service (IaaS), private cloud Platform as a Service (PaaS), public cloud IaaS, public cloud PaaS, public cloud Software as a Service (SaaS), etc.)

Q: What are the major hurdles (past and/or future) in modernizing your organization’s operating environment (centers of data)? (Please select all that apply.)

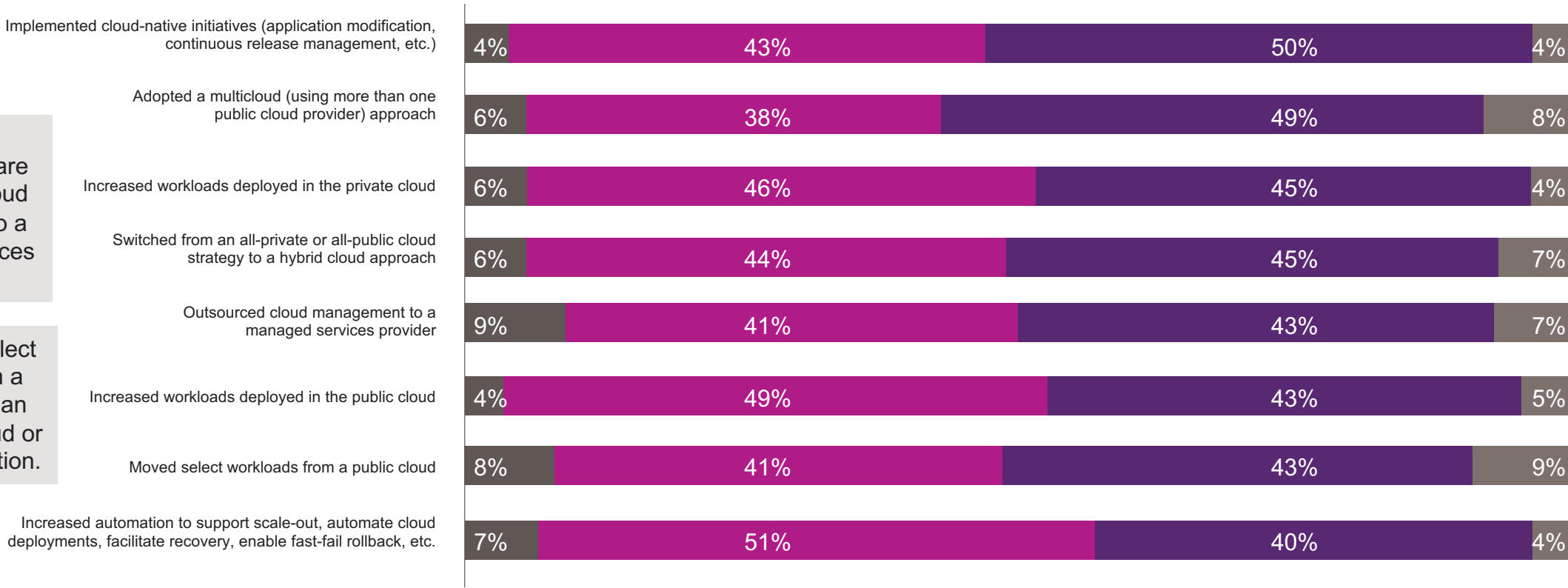
State of IT Modernization:

Cloud Strategy

Changes to cloud strategies in 2019 most often included completing initial cloud-native initiatives (50%) and adopting a multicloud approach using more than one public cloud provider (49%).

Changes made to cloud strategy (IaaS and PaaS) in 2019

■ Not started yet ■ Started/Ongoing ■ Completed ■ No plans to do this



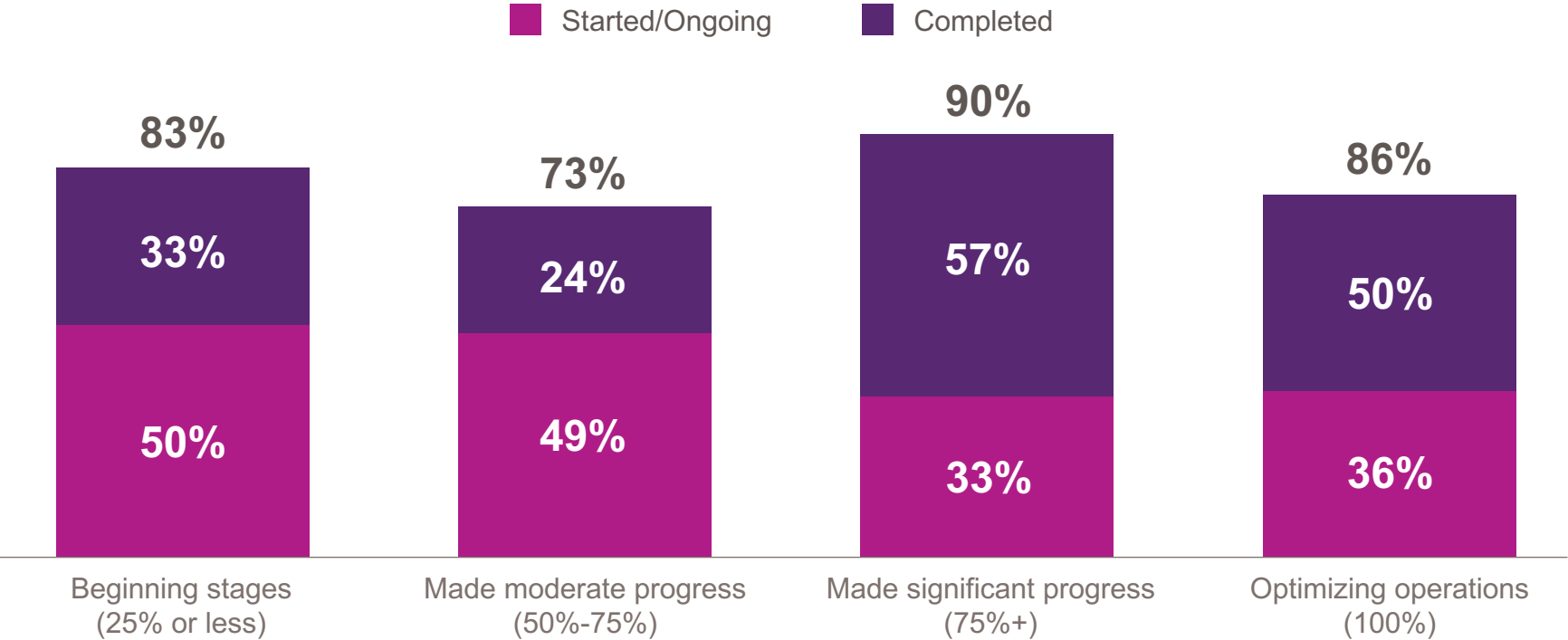
84% have outsourced or are outsourcing cloud management to a managed services provider.

84% moved select workloads from a public cloud to an alternative cloud or non-cloud location.

Q: What changes did your organization make in your cloud (IaaS & PaaS – not SaaS) strategy in 2019?

More than 8 in 10 organizations (84%) have outsourced or started outsourcing cloud management to a managed services provider. Use of managed services is high across all IT modernization maturity levels.

Outsourced cloud management to a managed services provider
(% indicating change is “Completed” or “Started/Ongoing” by stated overall IT modernization maturity)

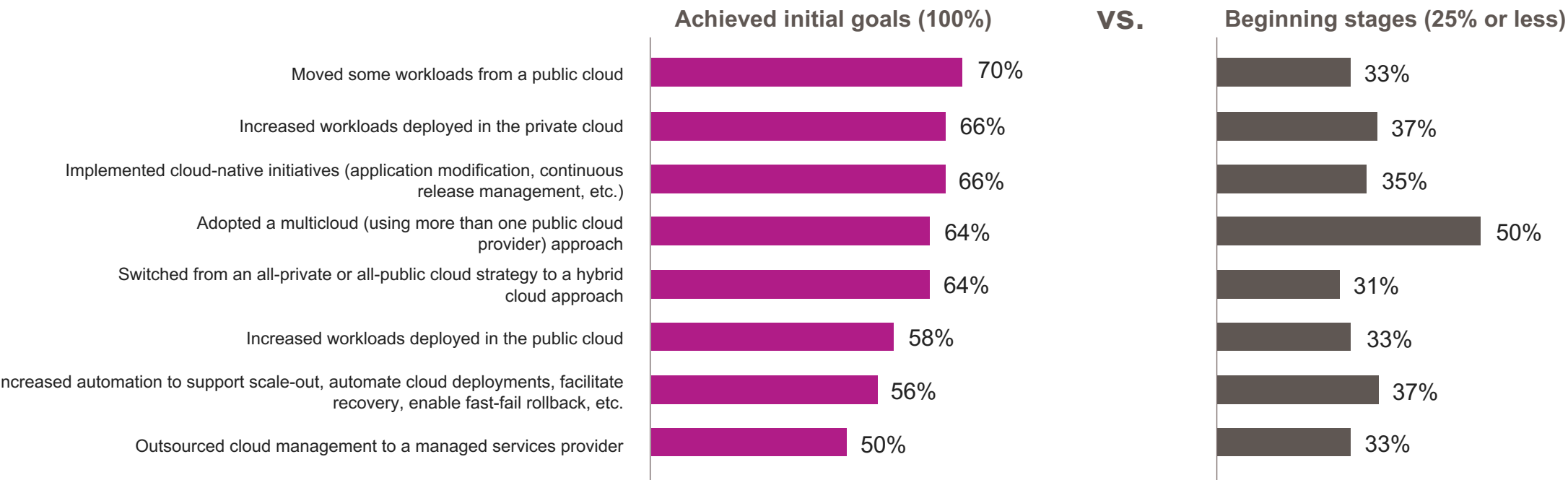


Q: What changes did your organization make in your cloud (IaaS & PaaS – not SaaS) strategy in 2019 (outsourced cloud management to a managed services provider)?

Cloud strategy changes in 2019 varied according to maturity level, but multicloud adoption led the list for those at the earliest stages of the journey.

Cloud strategy changes COMPLETED in 2019

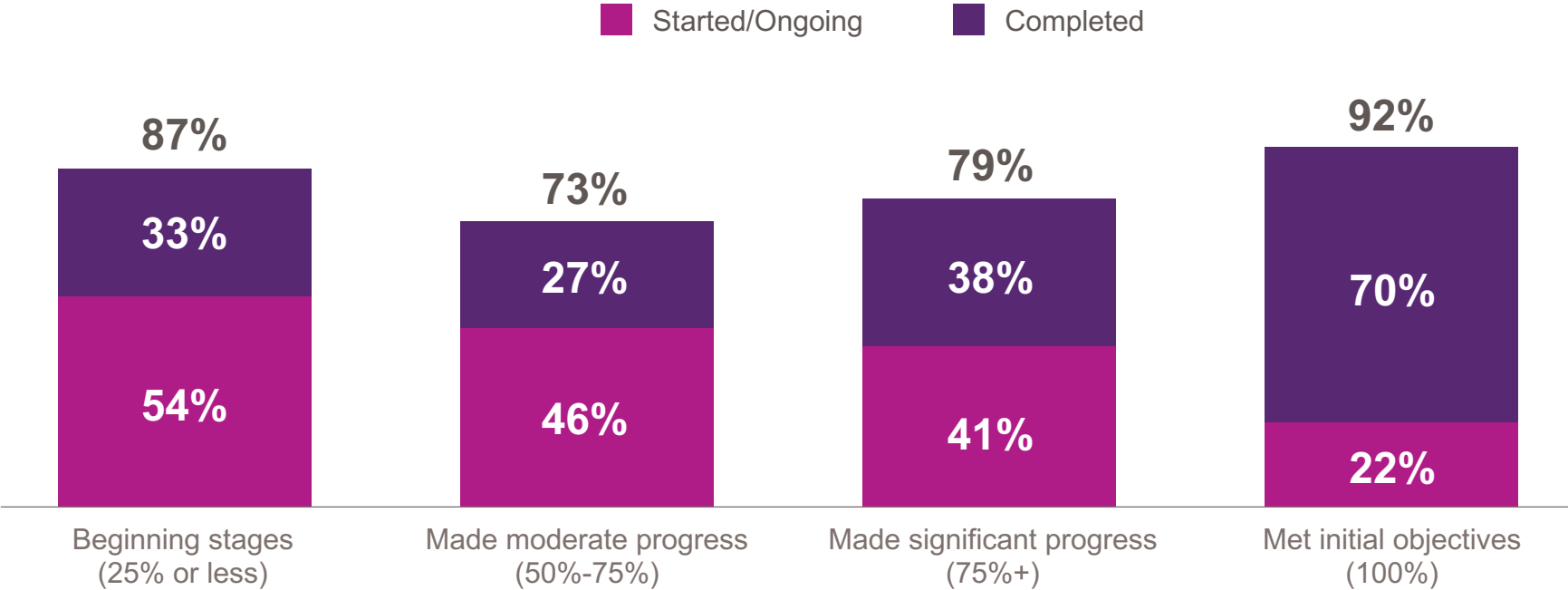
(% indicating change is “Completed” by stated overall IT modernization maturity)



Q: What changes did your organization make in your cloud (IaaS & PaaS – not SaaS) strategy in 2019?

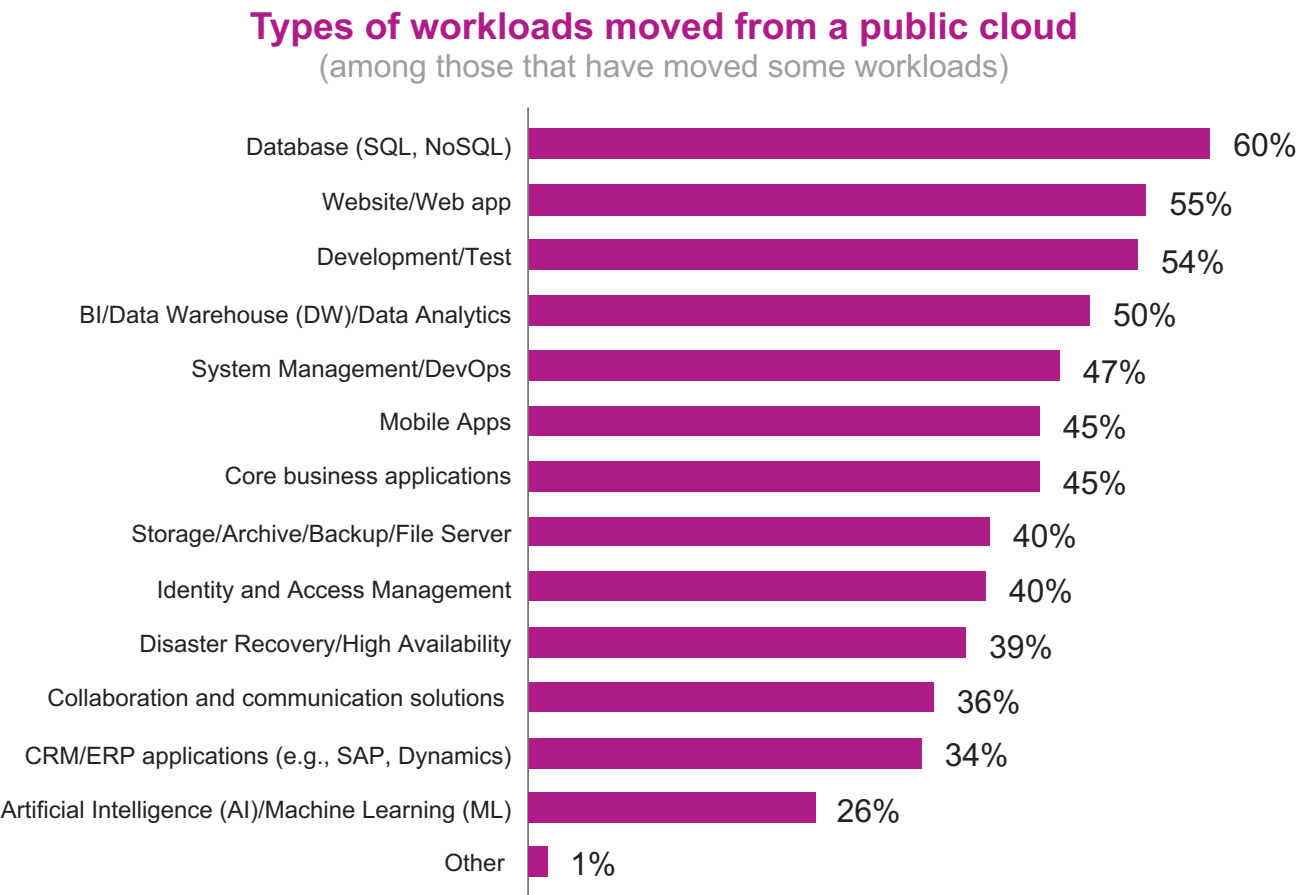
Regardless of maturity level, 84% of organizations overall moved select workloads from a public cloud to an alternative cloud or non-cloud location in 2019 (see slide 23), reflecting the challenges of determining optimal workload placement in today’s multicloud and hybrid cloud landscapes.

Moved select workloads from a public cloud
(% indicating change is “Completed” or “Started/Ongoing” by stated overall IT modernization maturity)



Q: What changes did your organization make in your cloud (IaaS & PaaS – not SaaS) strategy in 2019 (moved select workloads from a public cloud)?

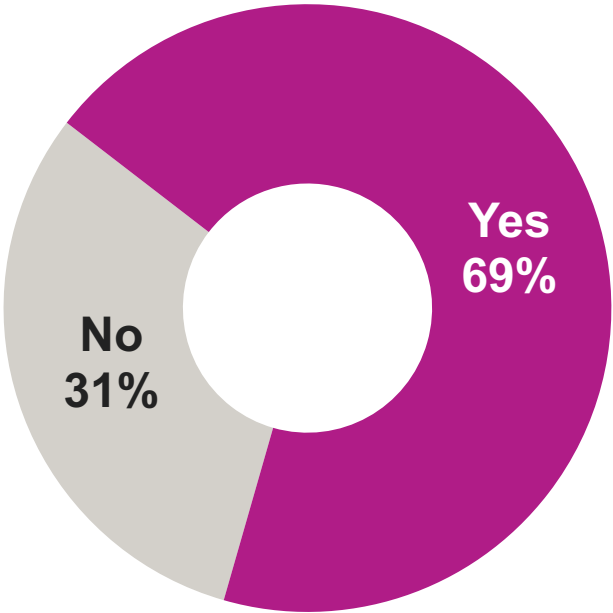
Moved workloads most often included database, website/web apps, dev/test, and BI/data warehouse/data analytics.



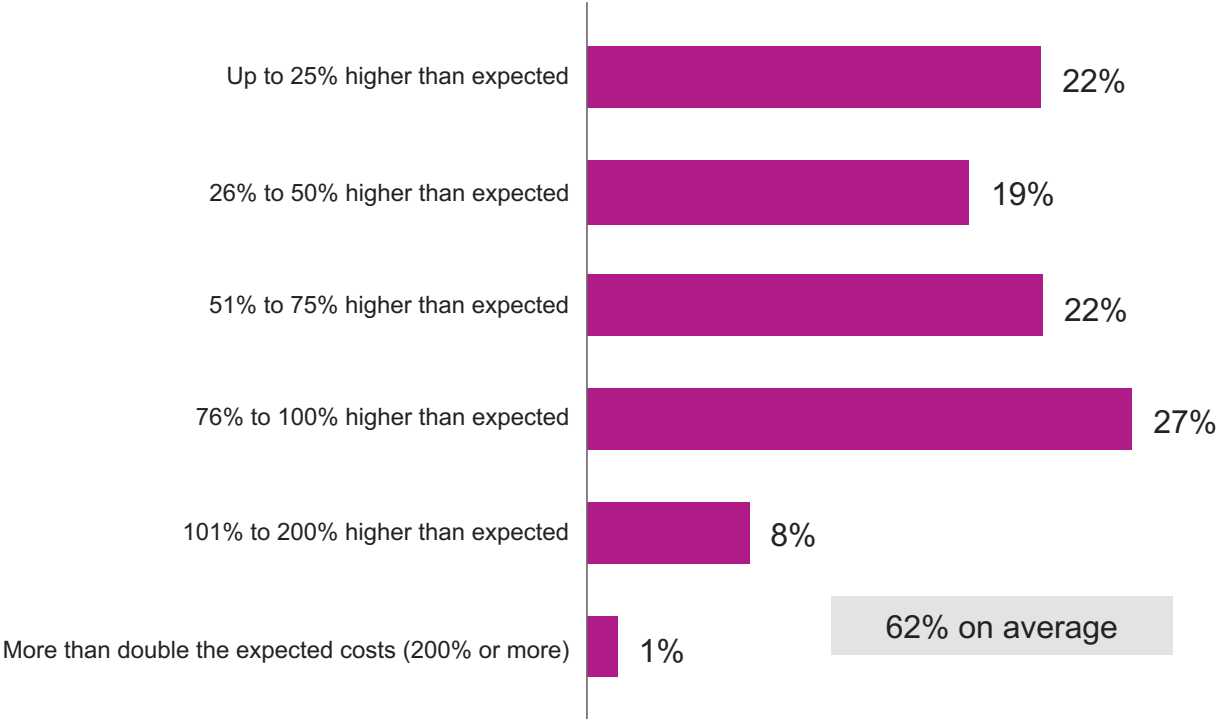
Q: Which of the following types of workloads has your organization moved from a public cloud?

More than two-thirds (69%) of all respondents report their organizations have experienced higher-than-expected public cloud costs – 62% higher than anticipated on average.

Whether organization has experienced higher-than-expected public cloud costs (IaaS and PaaS)



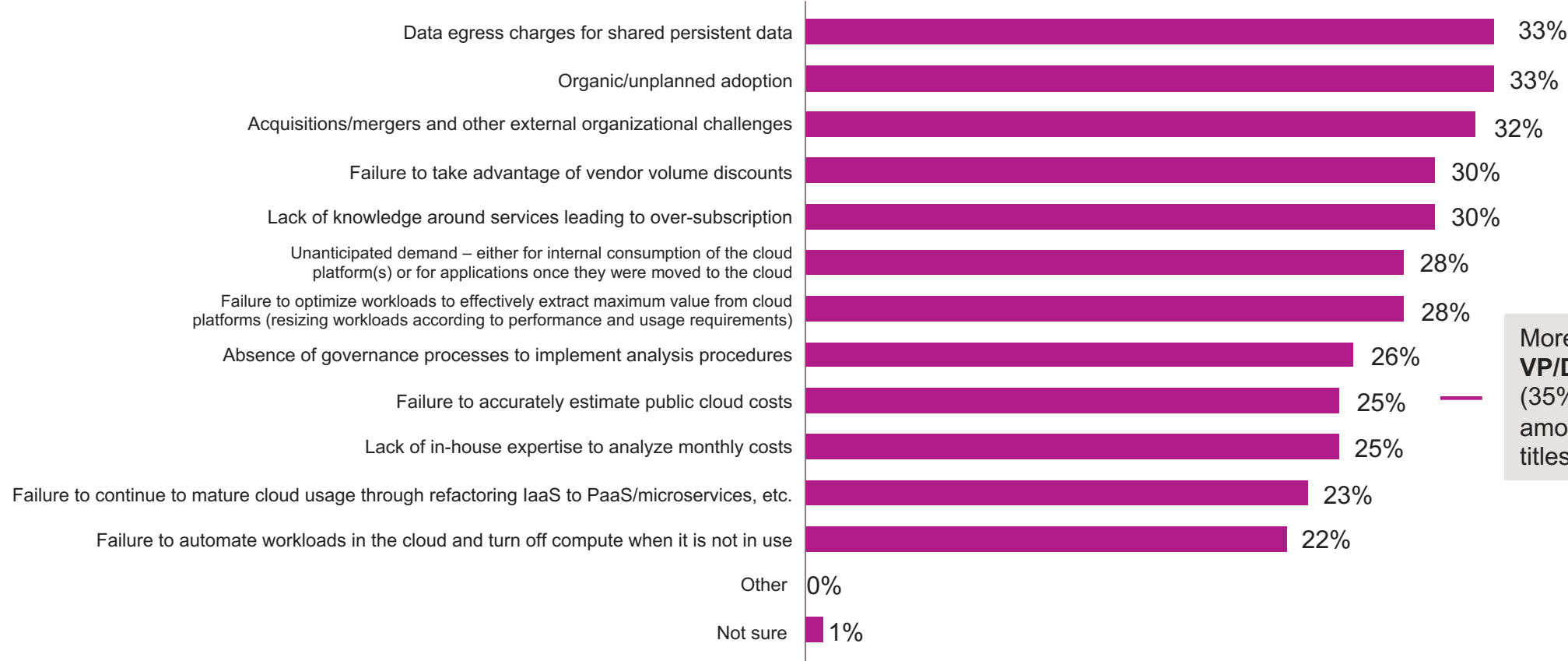
Amount of unexpected overage
(among those experiencing higher costs than expected)



Q: Has your organization experienced higher-than-expected public cloud (IaaS & PaaS – not SaaS) costs?
Q: You indicated your organization has experienced higher-than-expected public cloud (IaaS and PaaS) costs. How much was the unexpected overage?

Those who experienced higher-than-expected costs from public cloud deployments cite data egress charges, unplanned cloud adoption, and M&A activity as the most common causes of unexpected cloud costs.

Primary causes of unexpected public cloud costs
(among those experiencing an overage)



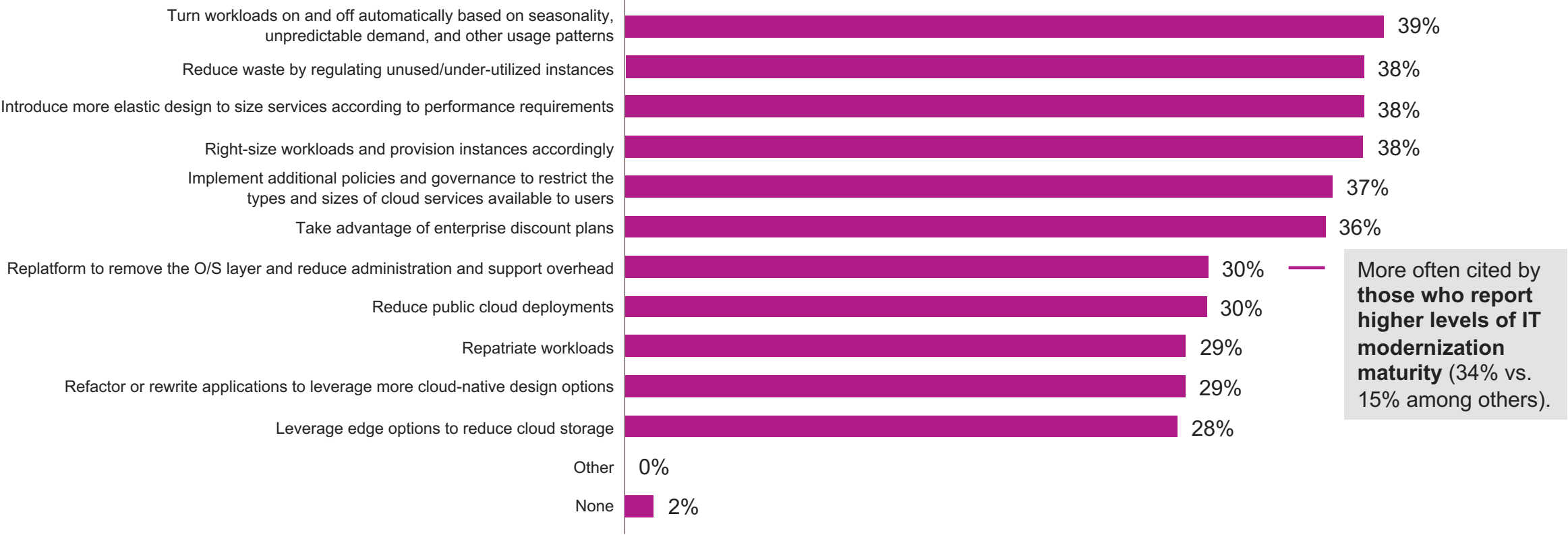
More often cited by **VP/Director titles** (35% vs. 17% among C-level titles).

Q: What was the primary cause of those unexpected cloud costs?

Top measures planned to optimize cloud costs in 2020 include automatically turning workloads on and off based on usage patterns, regulating under-utilized instances, adopting more elastic design, and right-sizing workloads.

Cloud cost optimization measures planned for 2020

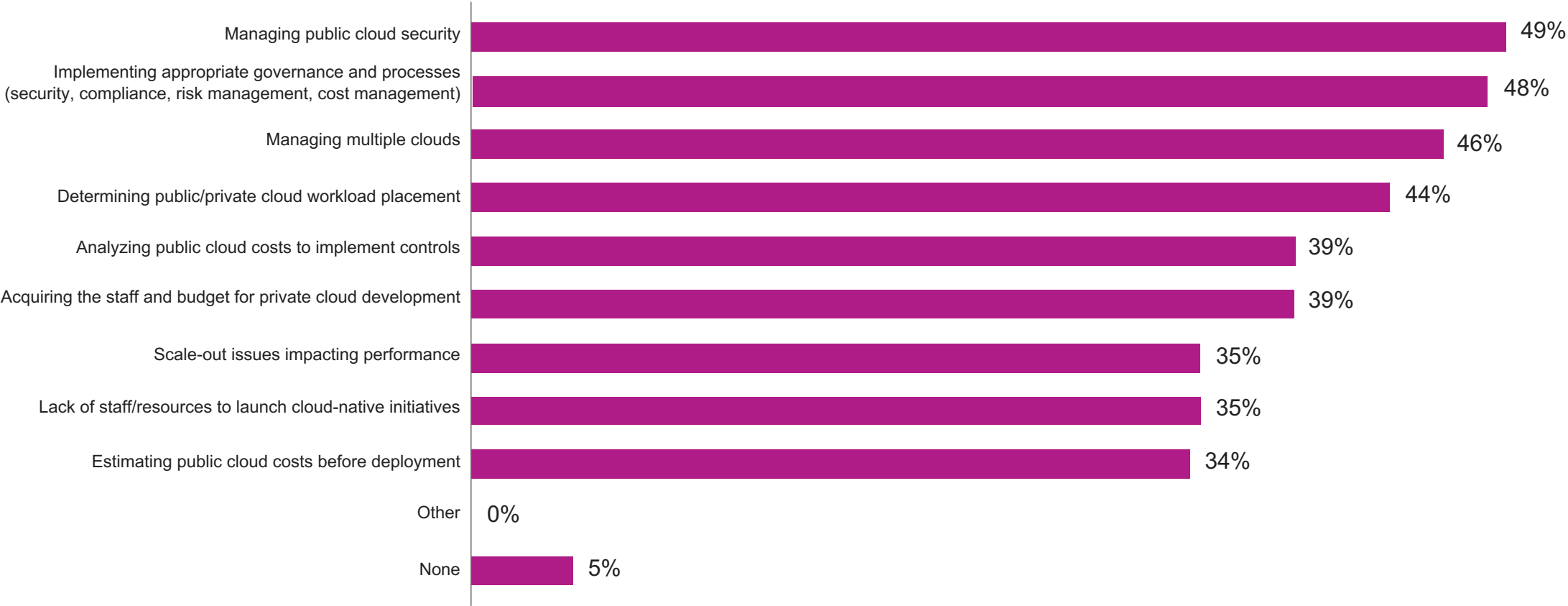
(among all respondents)



Q: What cloud cost optimization measures will your organization take in 2020?

Managing public cloud security is the #1 challenge when optimizing cloud experience/outcomes. Governance, multicloud management, and determining where workloads will be placed are other top obstacles.

Major hurdles in optimizing cloud experience/outcomes



Q: What are the major hurdles (past and/or future) in optimizing your cloud (IaaS & PaaS – not SaaS) experience/outcomes? (Please select all that apply.)

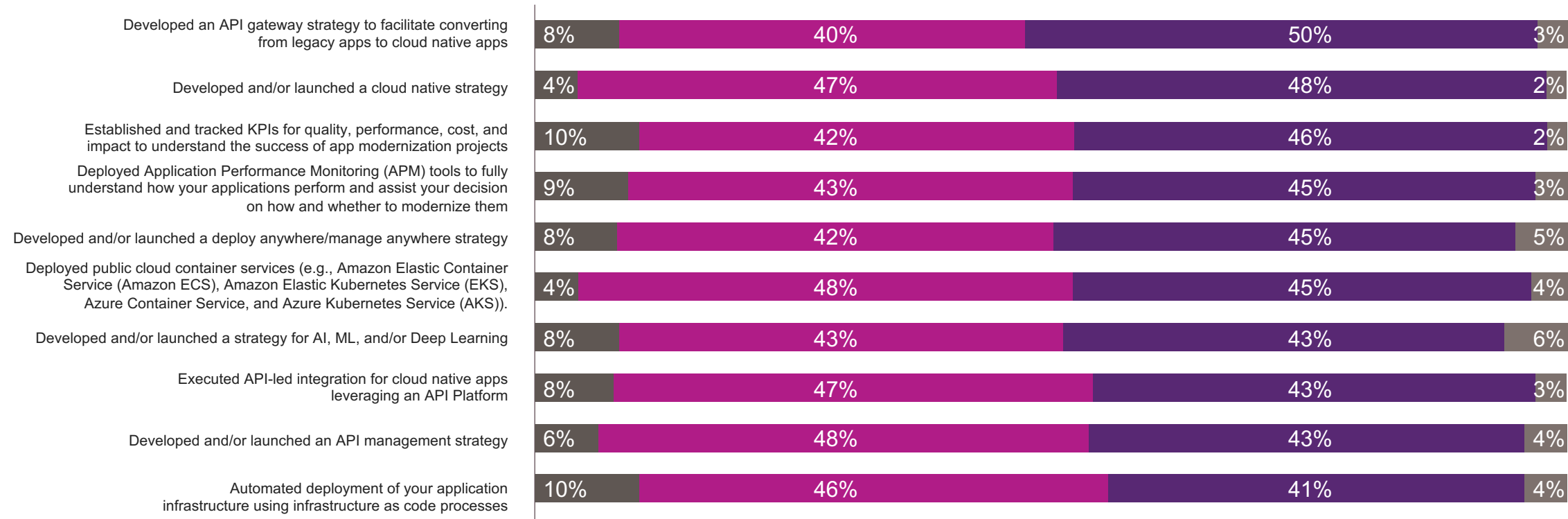
State of IT Modernization:

IT Operations Changes to Support Application Modernization

When it comes to changes to support application modernization, the most progress was made in developing an API gateway strategy to transition from legacy apps to cloud native apps. The least progress was made in using infrastructure as code to automate the deployment of the application infrastructure.

Changes made to support application modernization in 2019

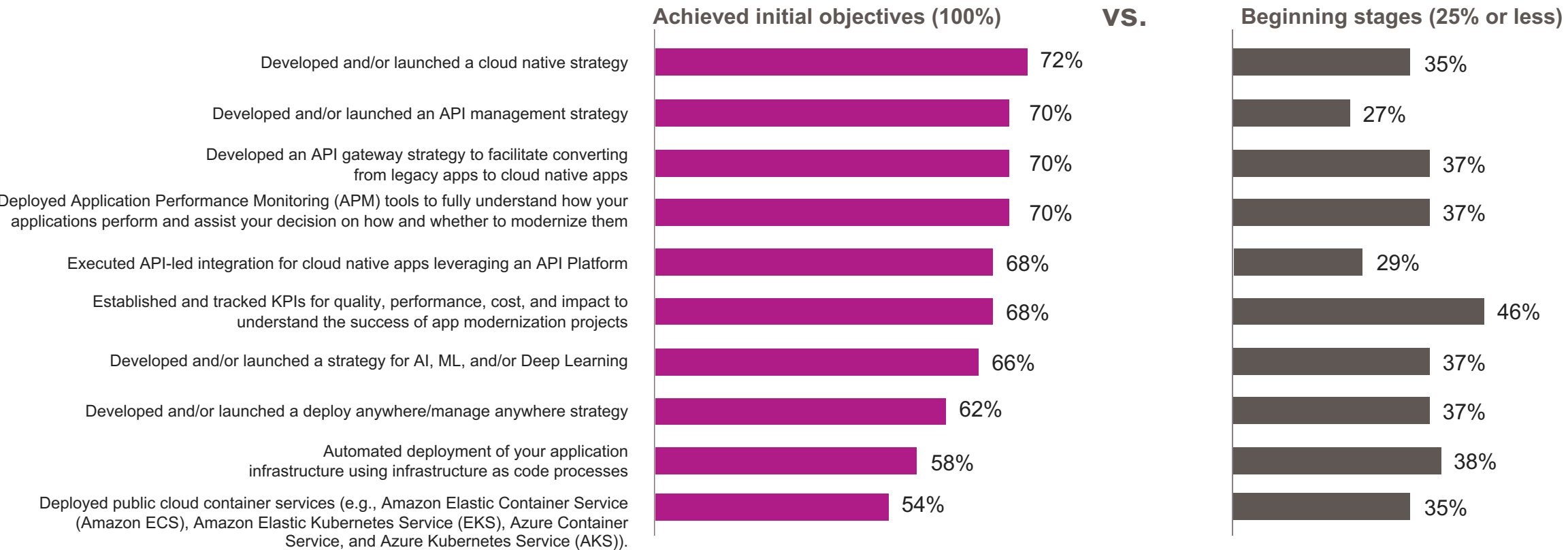
Not started yet Started/Ongoing Completed No plans to do this



Q: What changes did you make in your IT operations to support application modernization in 2019?

Organizations that are most mature on the application modernization journey have made the least progress on deploying public cloud container services. Those in the earliest stages of maturity have made the most progress on establishing KPIs for application modernization projects.

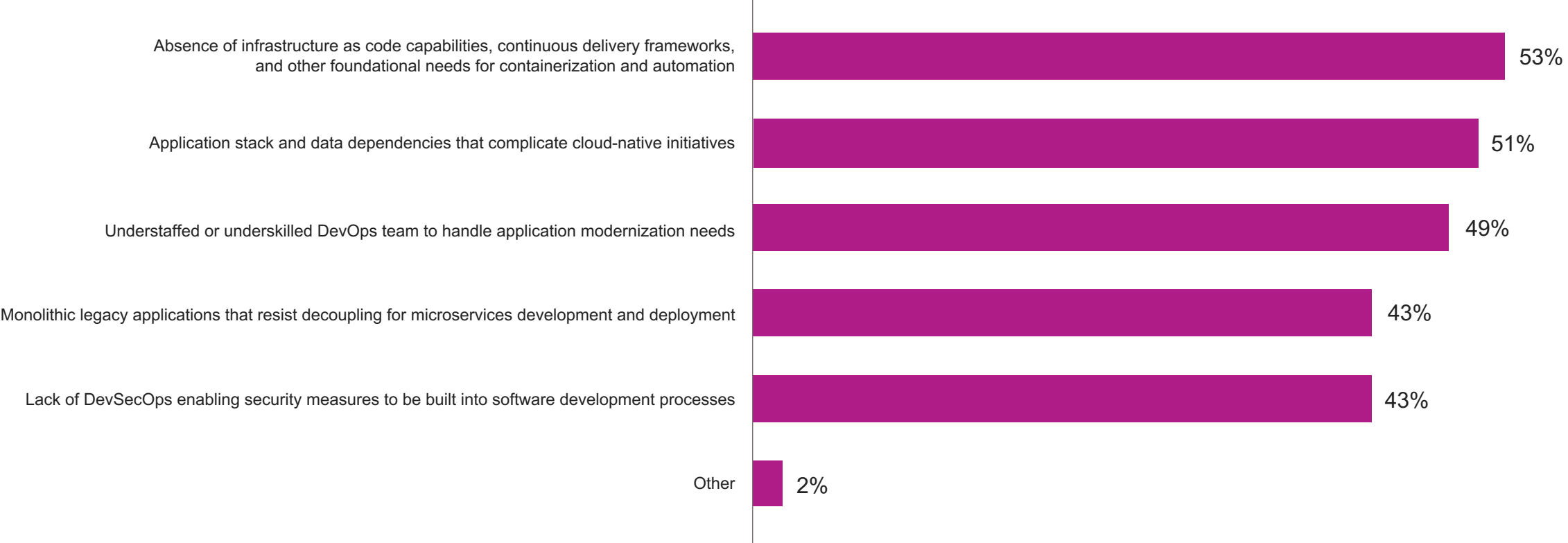
Changes COMPLETED to support application modernization in 2019
(% indicating change is “Completed” by stated overall IT modernization maturity)



Q: What changes did you make in your IT operations to support application modernization in 2019?

The #1 obstacle to executing on application modernization strategies is providing foundational elements (e.g., infrastructure as code capabilities and continuous delivery frameworks) needed for containerization and automation.

Major hurdles in updating IT operations to execute application modernization strategy



Q: What are the major hurdles (past and/or future) in updating your IT operations to execute your application modernization strategy? (Please select all that apply.)



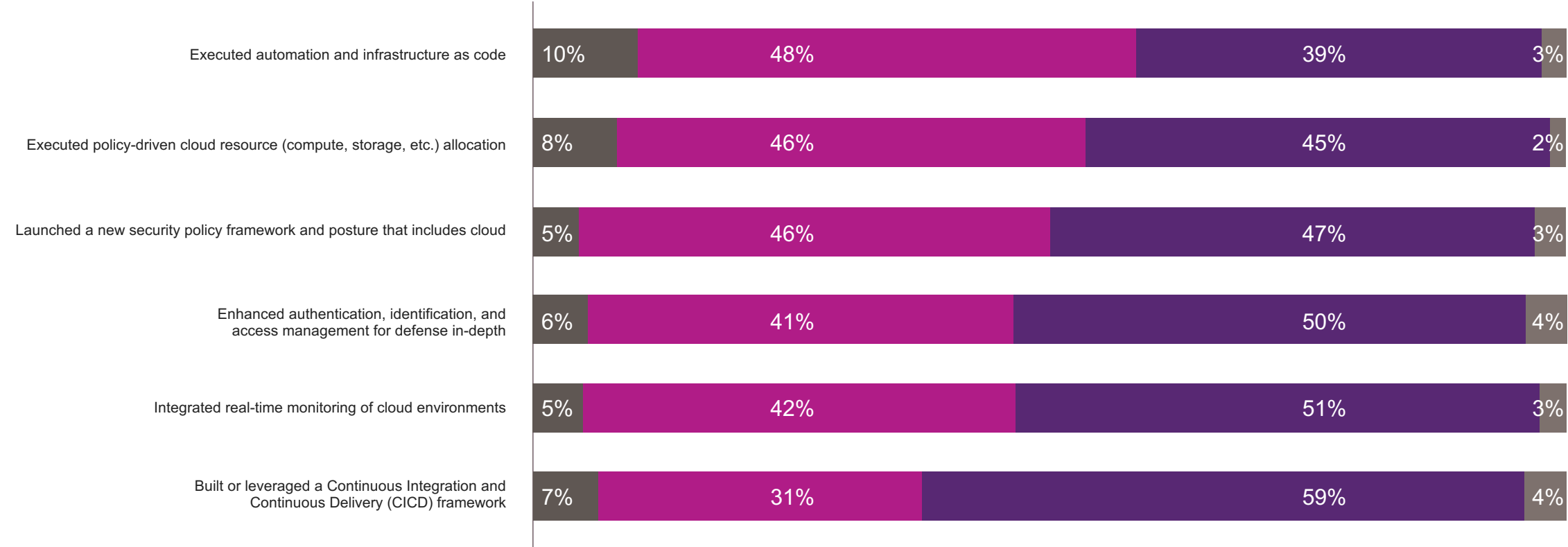
State of IT Modernization:

IT Processes

In terms of IT process modernization, automation via infrastructure as code is the area where organizations have made the least progress.

Changes made to support IT process modernization in 2019

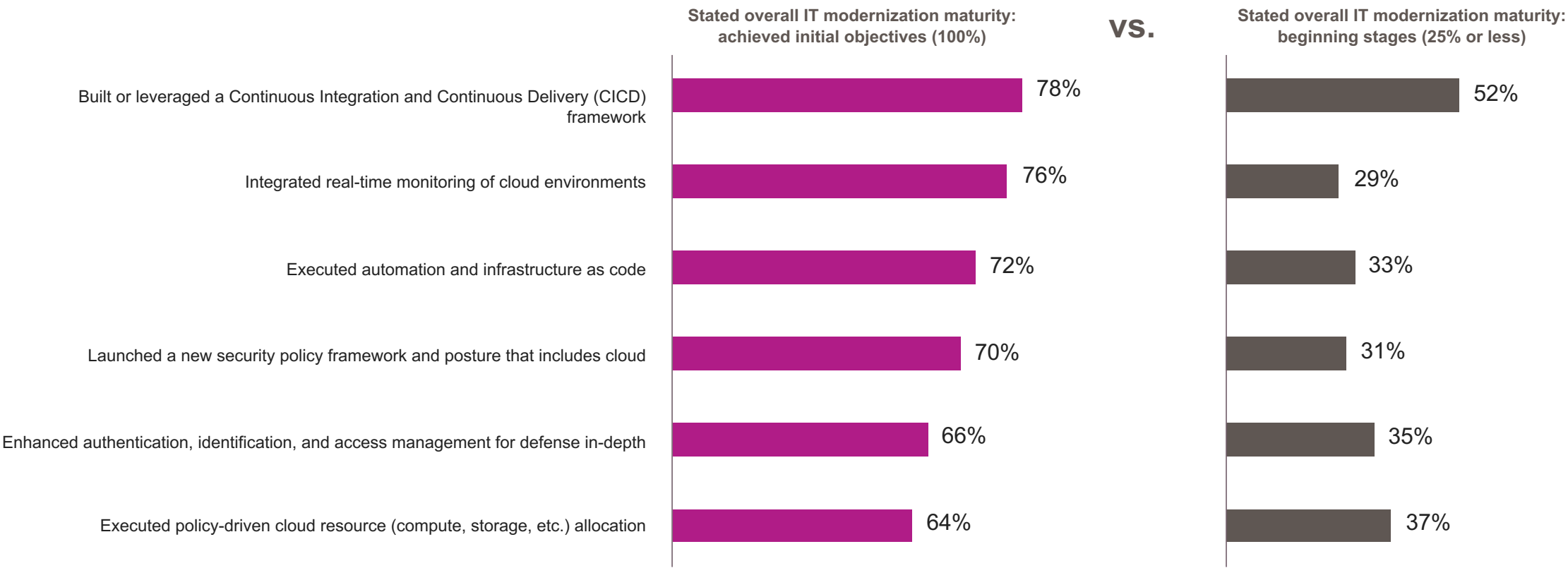
Not started yet Started/Ongoing Completed No plans to do this



Q: What changes did your organization make in IT process modernization in 2019?

Building a CI/CD framework to support IT process modernization was a top priority in 2019 even among those in the early stages of IT modernization.

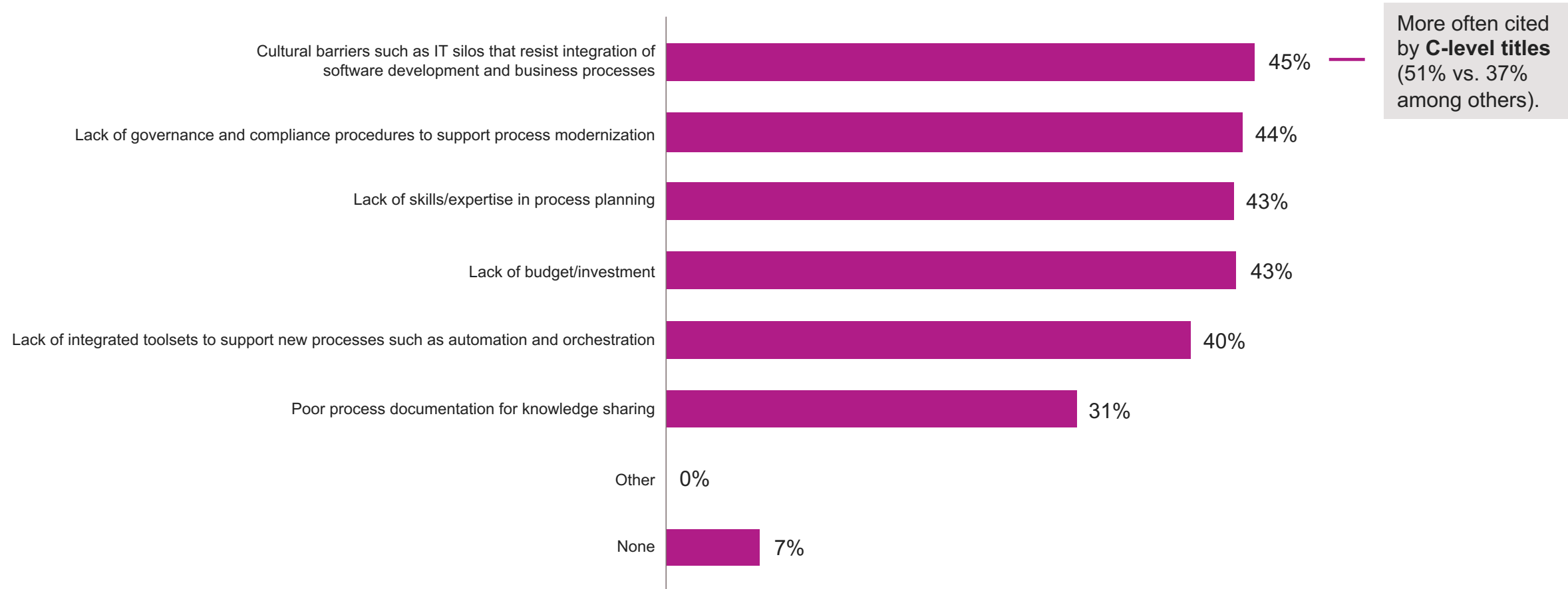
Changes COMPLETED to support IT process modernization in 2019
(% indicating change is “Completed” by stated overall IT modernization maturity)



Q: What changes did your organization make in IT process modernization in 2019?

Respondents cite multiple challenges in supporting IT process modernization, such as IT silos, lack of governance and compliance procedures, skills gaps, and budget constraints.

Major hurdles in supporting IT process modernization



Q: What are the major hurdles (past and/or future) in IT process modernization? (Please select all that apply.)

For more information

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