

ESG Research Insights Paper

Research Proves IT Transformation's Persistent Link to Agility, Innovation, and Business Value

Using Data to Identify What Transformed IT Organizations Look Like, and How They Are Driving a Digital Advantage

By Adam DeMattia, Director of Research; John McKnight, Vice President of Research and Analyst Services; Jennifer Gahm, Senior Project Manager; and Monya Keane, Senior Research Analyst

March 2018

This ESG Research Insights Paper was commissioned by Dell EMC and Intel and is distributed under license from ESG.

Contents

Introduction3

Market Overview3

 How ‘IT Transformation’ Differs from ‘Digital Transformation’ 3

 Real-world Results 3

 Distinguishing IT Transformation Levels 4

 The IT Maturity Curve 4

 The Trend Is Positive, and It Should Accelerate..... 5

Business Performance and Driving Growth6

Competing to Win: Speeding Time to Market Through Better IT Agility7

 Using Data to Drive Decision Making..... 8

 Timely Application Deployment..... 8

 Keeping IT Projects on Schedule 8

 Time to Provision VMs 9

Delivering Business Value: The Economics of IT.....9

 IT Projects Under, On, and Over Budget..... 9

 Innovation versus Keeping the Lights On..... 9

 Cost Competitiveness versus the Public Cloud 10

 IT Spend per Business-critical Application 11

 VMs per Server Administrator 12

Aligning IT with the Business12

 Examining the Measures of IT Effectiveness According to Respondents’ IT Transformation Maturity Stage 12

 IT Involvement with Business Strategy 13

 How Executive Leadership Evaluates the IT Organization’s Effectiveness 14

 IT/Line of Business Cooperation 14

 IT as a Competitive Differentiator..... 14

The Bigger Truth15

Assess Your Own IT Transformation Maturity15

Appendices16

 Research Methodology 16

 Criteria for Evaluating Respondent Organizations’ IT Transformation Maturity..... 16

 Respondent Demographics..... 23

Introduction

IT Transformation is the act of modernizing and automating information technology systems and software holistically to improve IT operations and refine relevant business processes. It's a major endeavor, but quantitative research shows it is well worth the effort to achieve real outcomes.

This report presents findings stemming from original ESG research based on a survey of 4,000 IT decision makers from around the globe.¹ Where applicable, it includes year-over-year trending with similar research conducted one year prior. Use the findings to compare your company's IT competencies against those that have achieved "fully transformed" status and get a clear sense of what they're accomplishing.

You can also take advantage of a [complimentary online IT Transformation self-assessment](#). It uses the same data to provide in-depth explanations of many benchmarks, and it offers customized recommendations on where you should focus based on your transformation status. Gauge your organization against others, get ideas to transform further, and position your company ahead of competitors.

Market Overview

The idea of IT Transformation resonates with companies even more now than it did 12 months ago. It's clear that senior executives view transformation as a strategic imperative. When ESG asked respondents to agree or disagree with the statement: "If my IT organization does not embrace IT Transformation, **we will not be a competitive company**," 81% agreed. That is a ten-percentage point increase from last year.

How 'IT Transformation' Differs from 'Digital Transformation'

IT Transformation and another industry term, "digital transformation," sound synonymous but differ. Importantly, one does not happen without the other:

- **Digital transformation** emphasizes evolving to thrive in a digital economy—for example, using smart devices, connected sensors, and data-driven insights to out-innovate, out-think, and out-pace competitors. Digital transformation focuses on embracing change to become the disruptor, not the disrupted.
- **IT Transformation** centers on modernizing the underlying technology infrastructure. The business becomes "more transformed" by growing beyond its reliance on rigid, manual, hard-to-maintain legacy technologies. IT Transformation enables speed, efficiency, scale, and cost-effectiveness—automating manual tasks and streamlining operations to free up resources and fuel digital transformation initiatives.

81% of respondents agree that if they don't embrace IT Transformation, then their companies won't be competitive. That's a ten-percentage point increase from last year.

Real-world Results

Regardless of how transformed your IT organization is today, it's vital for you to understand what other companies, leaders and laggards alike, are (or aren't) prioritizing, and what results they've seen. Those insights will help you home in on where to focus the first or next step on your own IT Transformation journey.

You will discover that, done right, technology modernization and automation, combined with proper organizational dynamics, bring tremendously positive outcomes (see Figure 1).

¹ Please see *Appendix I: Research Methodology* and *Appendix III: Respondent Demographics* for details about the survey.

Figure 1. IT Transformation Outcomes



Source: Enterprise Strategy Group

Distinguishing IT Transformation Levels

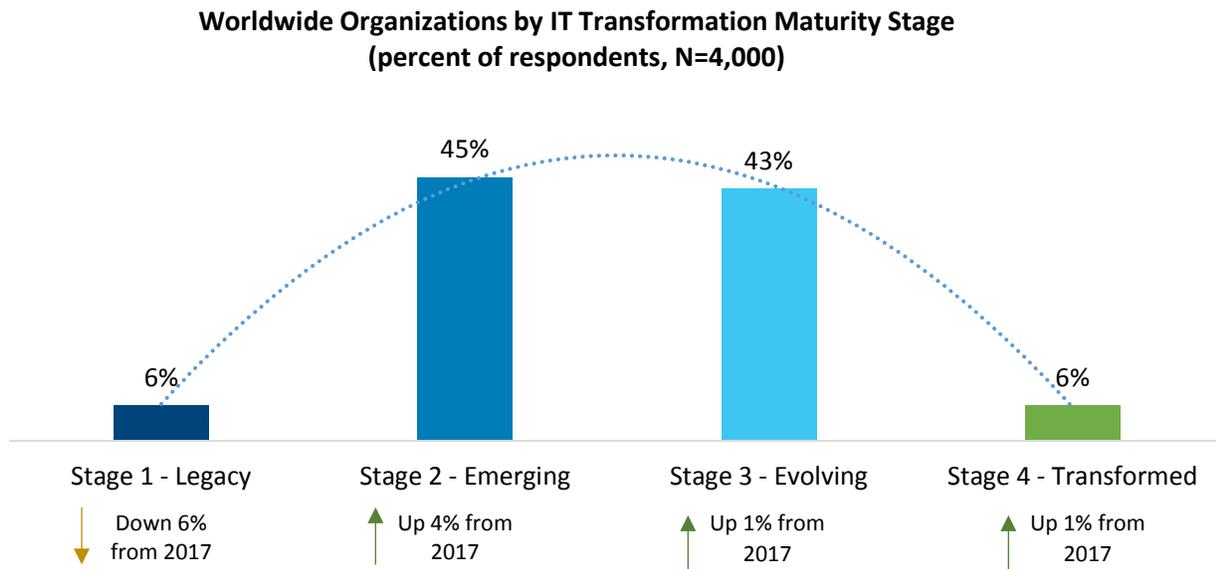
ESG categorizes a company's IT Transformation level by examining how extensively it has adopted:

- **Modernized data center technologies**—*Transformed* organizations take steps such as virtualizing their servers. They use all-flash storage where appropriate. They run a considerable portion of their workloads using scale-out and converged or hyper-converged infrastructure platforms. They commit to a software-defined approach for networking and storage. And they adhere to a comprehensive and well-tested data protection strategy with the best-available backup, deduplication, and archiving tools at its foundation.
- **Automated IT processes**—*Transformed* organizations automate their environments to help them deliver IT as a service in a cloud-like model for cost transparency, efficiency, and responsiveness. They incorporate automation to support server change configuration and storage provisioning. And they offer self-service capabilities so end-users can order and manage on-premises resources as needed.
- **Transformed organizational dynamics**—*Transformed* organizations believe in tight business and IT alignment, and business units regularly inspect IT outcomes for effectiveness. The IT organization's executives almost always report directly to the C-suite leadership team, making it easier for IT to contribute to business strategy. Transformed organizations also often adopt DevOps principles and methodologies.

The IT Maturity Curve

It's imperative for organizations to evolve beyond a dependence on obsolete IT products and processes. But many still have a long way to go. To get a clear picture of the state of IT Transformation globally, Dell EMC and Intel asked ESG to create a research-based, data-driven maturity model. The model defines the stages of IT Transformation and determines the extent to which organizations around the world have reached each stage.² Figure 2 shows the percentage of organizations in each category.

² Please see *Appendix I: Research Methodology* and *Appendix II: Criteria for Evaluating Respondent Organizations' IT Transformation Maturity* for details about the survey.

Figure 2. IT Transformation Distribution: The Maturity Curve


Source: Enterprise Strategy Group

The Trend Is Positive, and It Should Accelerate

Comparing this year's findings against last year's, it appears that organizations' IT Transformation initiatives are getting more mature. The rise is most evident in the lowest stage; the proportion of *Legacy* organizations shrank from 12% to 6%. Still, fully transformed organizations only represent 6% of the market. Room for improvement exists, and increasing urgency is warranted.

To gauge sentiment, ESG asked respondents if they agreed or disagreed that: "If we don't embrace IT Transformation, **we will not be a competitive provider of IT services to the business.**" Most respondents (69%) agreed with the statement last year. This year, 82% agreed—a 13-percentage point increase. Additionally, more-than four-fifths of respondents said they believe IT Transformation is important to the success of the overall business.

"Transformation is essential for companies that want to stay one step ahead of their competitors."

—VP of IT, 10,000-person life sciences company, Stage 4 ITT Maturity

More IT leaders are realizing the importance of transformation, in large part due to:

- **The dependency they see between IT and digital transformation.** Ninety-six percent of respondents said they have digital transformation initiatives underway—either at the planning stage, at the beginning of implementation, in process, or mature. Those initiatives are linked to IT Transformation progress. Respondents whose organizations have achieved *Transformed* status are 16 times more likely to have mature digital transformation projects underway versus *Legacy* companies (66% compared with 4%).
- **Time-to-market pressures.** Eighty-eight percent of respondents said their companies are under pressure to deliver products and services faster, which requires having a more agile approach to IT. Successful IT must allow the organization to deploy and scale digital services at the pace of business.
- **A pervasive requirement to reduce costs.** Even *Transformed* IT organizations get measured on keeping costs low and delivering projects on/under budget. Success depends on having a reliable, highly automated, easy-to-deploy, and easy-to-manage infrastructure.

The research also showed a strong link between digital transformation and business confidence. When ESG asked respondents to characterize their company’s forward-looking competitive position from “very strong” to “extremely poor,” 84% of respondents with mature digital transformation initiatives underway said they were in a strong/very strong position to compete and succeed: In fact, the respondent companies with digital transformation initiatives underway were 2.5 times more likely to be confident in their organization’s competitive position than companies that are not pursuing digital transformation initiatives (33%).

Business Performance and Driving Growth

Strong business performance means different things to different organizations. But typically, accelerating innovation, speeding development, outperforming industry peers, keeping customers happy, reducing costs, and driving revenue are good metrics.

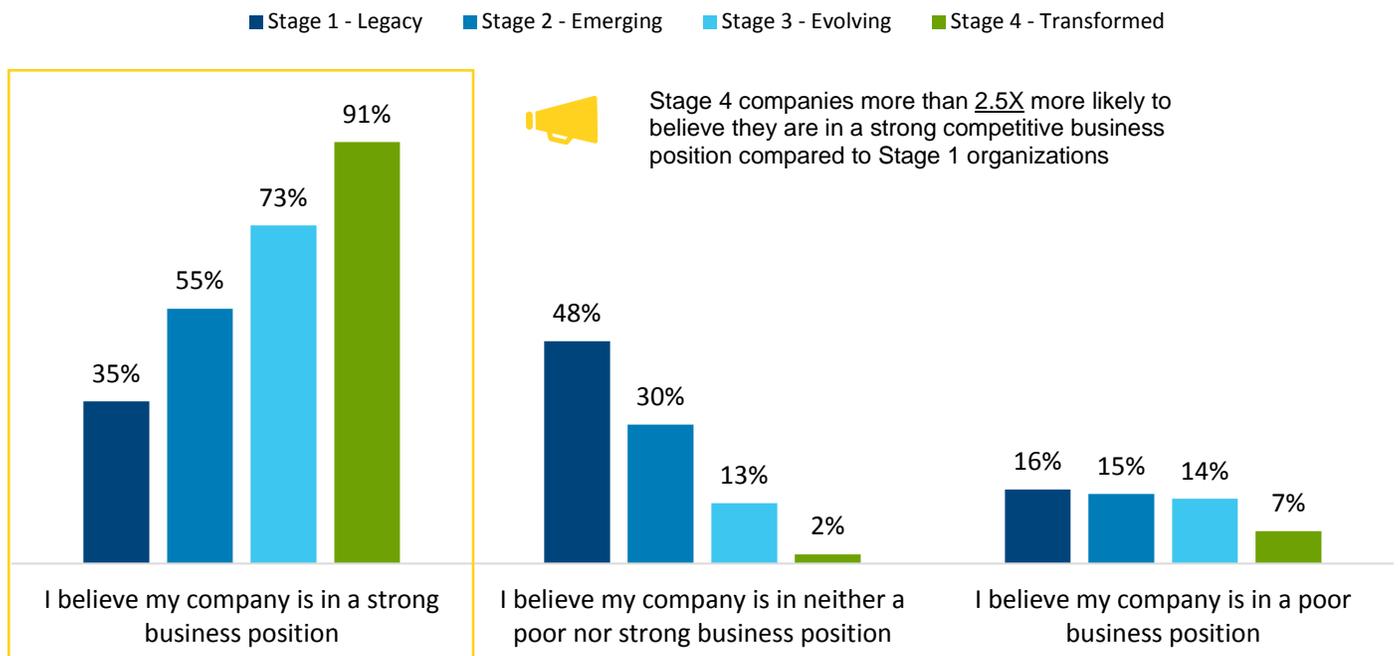
There is a link between IT Transformation and how well a company performs at a business level. *Transformed* organizations were more than twice as likely to have exceeded their revenue targets in the past year compared with *Legacy* organizations (94% versus 44%). Respondents from *Transformed* organizations were also 2.5 times more likely to believe their companies will be strongly competitive over the next few years compared with respondents from *Legacy* companies (see Figure 3). These findings represent more evidence that IT Transformation fuels digital transformation.

“IT Transformation has been a core philosophy in our company for a number of years, and we are starting to reap the benefits of increased efficiency.”

—IT Manager, 5,000-person manufacturing company, Stage 3 ITT Maturity

Figure 3. Business Competitiveness and Driving Growth

In general, how do you feel your company is positioned to perform over the next few years in terms of its ability to compete and succeed in your market(s)? (percent of respondents)



Source: Enterprise Strategy Group

Competing to Win: Speeding Time to Market Through Better IT Agility

At many companies, the time it takes for a product or service to go from concept to general availability depends a lot on how transformed the company’s IT organization is. The IT group is responsible for making sure the applications employees use are performing reliably. IT also is responsible for giving the developers the right tools and capabilities to enable them to meet all product release target dates.

When IT gives *internal* end-users and partners what they need, when they need it, IT is also helping the business as a whole to give *external* customers what they want, when they want it.

As mentioned, 88% of respondents reported feeling a need to move at an accelerating pace. Are they succeeding? ESG asked the respondents to characterize their companies’ timeliness in developing and launching products and services relative to competitors. *Transformed* companies were 22 times more likely to report being significantly ahead of the competition compared with *Legacy* organizations (see Figure 4).

That’s a noteworthy but logical finding. *Transformed* organizations are more apt to use technologies such as hyper-converged infrastructure, which is deployable in hours versus the weeks many legacy data center infrastructures have traditionally taken to deploy. *Transformed* organizations also leverage DevOps principles to release and iterate applications more frequently. And with automated IT operations, *Transformed* organizations can minimize man-made errors and delays. All these good outcomes are easily observable at the IT level. But significant downstream business-level impacts are also apparent (e.g., improved decision making, on-budget project completion, or faster task completion).

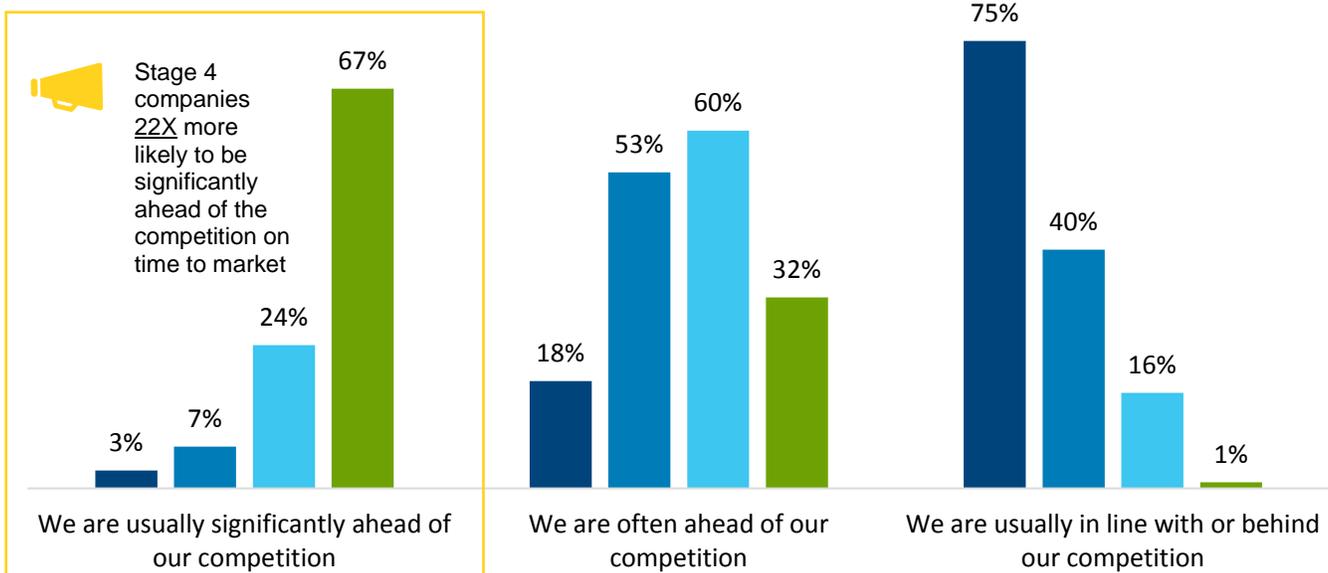
“IT Transformation has now become a very important part of any business, and those companies who lag will definitely be left behind.”

—Director of IT, retail organization with nearly US\$1B in annual revenue, Stage 2 ITT Maturity

Figure 4. Time to Market

How would you characterize your company’s timeliness developing and launching new products and services, relative to its competition? (percent of respondents)

■ Stage 1 - Legacy ■ Stage 2 - Emerging ■ Stage 3 - Evolving ■ Stage 4 - Transformed



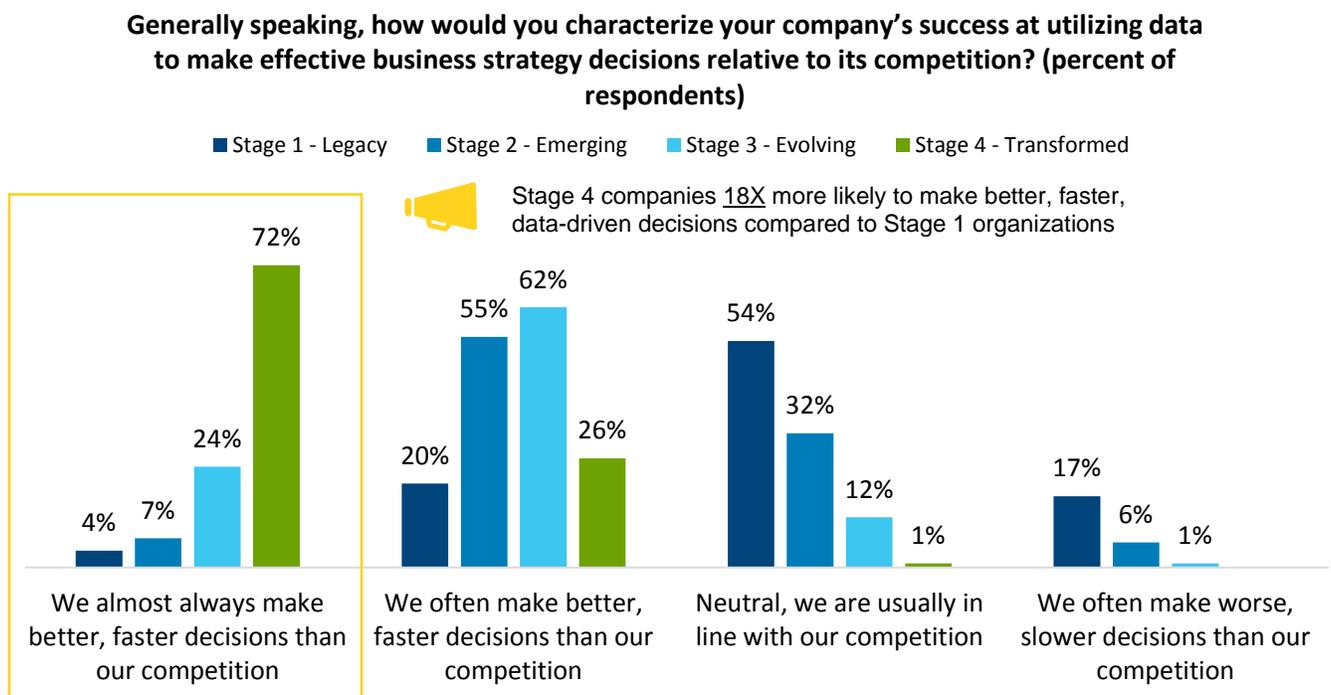
Source: Enterprise Strategy Group

Using Data to Drive Decision Making

Of course, companies can't get products to market with speed and agility if they aren't adept at making smart decisions. ESG asked respondents to identify how good they think their company is at *using data* to make better, faster business-strategy decisions versus the competition. Respondents at *Transformed* companies were 18 times more likely than *Legacy* organizations (72% versus 4%) to say their company almost always makes better and faster data-driven decisions.

That accomplishment centers on leveraging business and application data effectively. Notably, ESG found even *Evolving* companies lag considerably here, with only 24% of *Evolving* companies reporting the same level of success (see Figure 5). It appears that, in general, only companies that are the most *Transformed* feel really confident in their ability to process, analyze, and leverage data when plotting the course of their businesses.

Figure 5. Making Data-driven Decisions



Source: Enterprise Strategy Group

Timely Application Deployment

On a similar note, ESG looked into the timeframes organizations operate under when deploying applications to their internal end-users and customers, work that typically encompasses infrastructure installation, integration, provisioning, and configuration—and work that can be streamlined by automation. *Transformed* companies showed very strong performance here—they were nearly ten times more likely to report that most of their application deployments happen ahead of schedule than respondents at *Legacy* organizations (69% versus 7%).

Keeping IT Projects on Schedule

Revisiting a finding from last year, ESG asked respondents to assess how many of the IT projects and initiatives they undertook over the past few years were completed ahead of, on, or behind schedule.

The farther along a company is on its transformation journey, the larger the proportion of projects it has finished ahead of schedule, on average. Specifically, *Transformed* organizations reported completing, on average, more than three times as

many of their IT projects ahead of schedule in the past few years versus *Legacy* organizations (34% of projects on average versus 10%).

Time to Provision VMs

The time needed to provision virtual machines (VMs) is a tactical but relevant measurement tied to agility. It's certainly top-of-mind among IT practitioners, considering that the VM has become a core building block of the modern IT environment.

ESG asked respondents how long it takes them to spin up a VM, starting from the time they get the request. Respondents at *Transformed* companies were more than four times more likely to say that they fulfill VM provisioning requests in under four hours than *Legacy* organizations (33% compared with 8%).

Delivering Business Value: The Economics of IT

IT organizations have always had to operate effectively at the lowest possible cost. The research shows that organizations that have progressed farthest along the IT Transformation maturity curve are consistently achieving higher spending efficiency than less-mature organizations are.

This is an extremely promising finding; after all, reducing routine IT operational costs may allow organizations to fund new, business-critical digital transformation initiatives.

IT Projects Under, On, and Over Budget

ESG asked respondents what percentage of their IT projects over the last few years have been completed under, on, or over budget. Respondents at *Transformed* organizations said they are completing 14% more IT projects under budget than *Legacy* companies are (on average, 27% of projects versus 13%—more than twice as many projects).

Interestingly, it also looks like this trend is strengthening. Last year, the gap was just 10 percentage points, with *Transformed* companies reporting completing 25% of their IT projects under budget versus 14.9% for *Legacy* companies.

Innovation versus Keeping the Lights On

ESG asked respondents to split their IT budget into two categories: budget for new projects or initiatives, and budget for maintaining existing systems and services. On average, *Transformed* organizations are spending 47% of their annual IT budget on innovation. *Legacy* companies, on the other hand, are spending just 30% (see Figure 6).

Again, there is a clearer distinction this year between *Legacy* and *Transformed* organizations. In last year's study, *Transformed* companies were allocating, on average, an incremental 12 percentage points of their annual IT budget to innovation versus this year's 17 percentage point delta.

ESG views this finding to be yet more evidence of the increasing value associated with striving for *full* IT Transformation.

IT Staff Allocation

Transformed organizations don't need to spend as much time maintaining existing infrastructure. They can shift staff from classic IT operations such as infrastructure deployment, management, and monitoring to higher-value activities such as strategic planning, architecture, and application development. ESG research shows that, on average, ***Transformed* companies are able to shift an extra 12% of their IT staff to higher-value activities.**

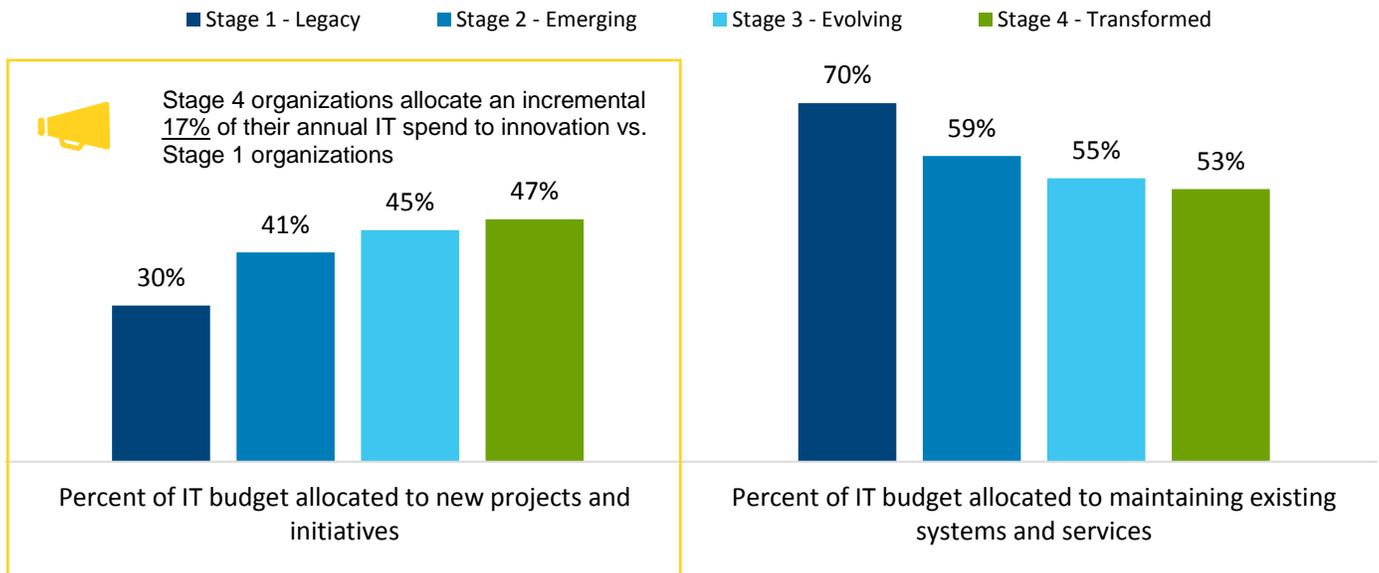
But what does that mean from a real-world standpoint?

Consider a 7,100-person company with a 355-person full-time IT staff. If it's a Stage 1 *Legacy* company, 178 of those staffers are there just to keep the lights on.

If it's a Stage 4 *Transformed* company, that number drops to 137—with 41 people instead dedicating themselves to strategic endeavors such as planning, application development, architecture enhancement, and digital transformation.

Figure 6. Budgeting for Innovation versus Ongoing Maintenance

Considering your company’s total IT budget for 2017, what percent was allocated for maintaining existing systems and services versus allocated to new projects and initiatives? (mean response)



Source: Enterprise Strategy Group

The effect of shifting IT spending from maintenance³ to innovation is significant. The *Transformed* organizations in this study have an average annual IT budget of US\$380 million. If they allocated that money the same way a *Legacy* organization does (i.e., spending 70% of it to maintain existing systems), then they’d have only US\$115 million left over annually to spend on new projects.

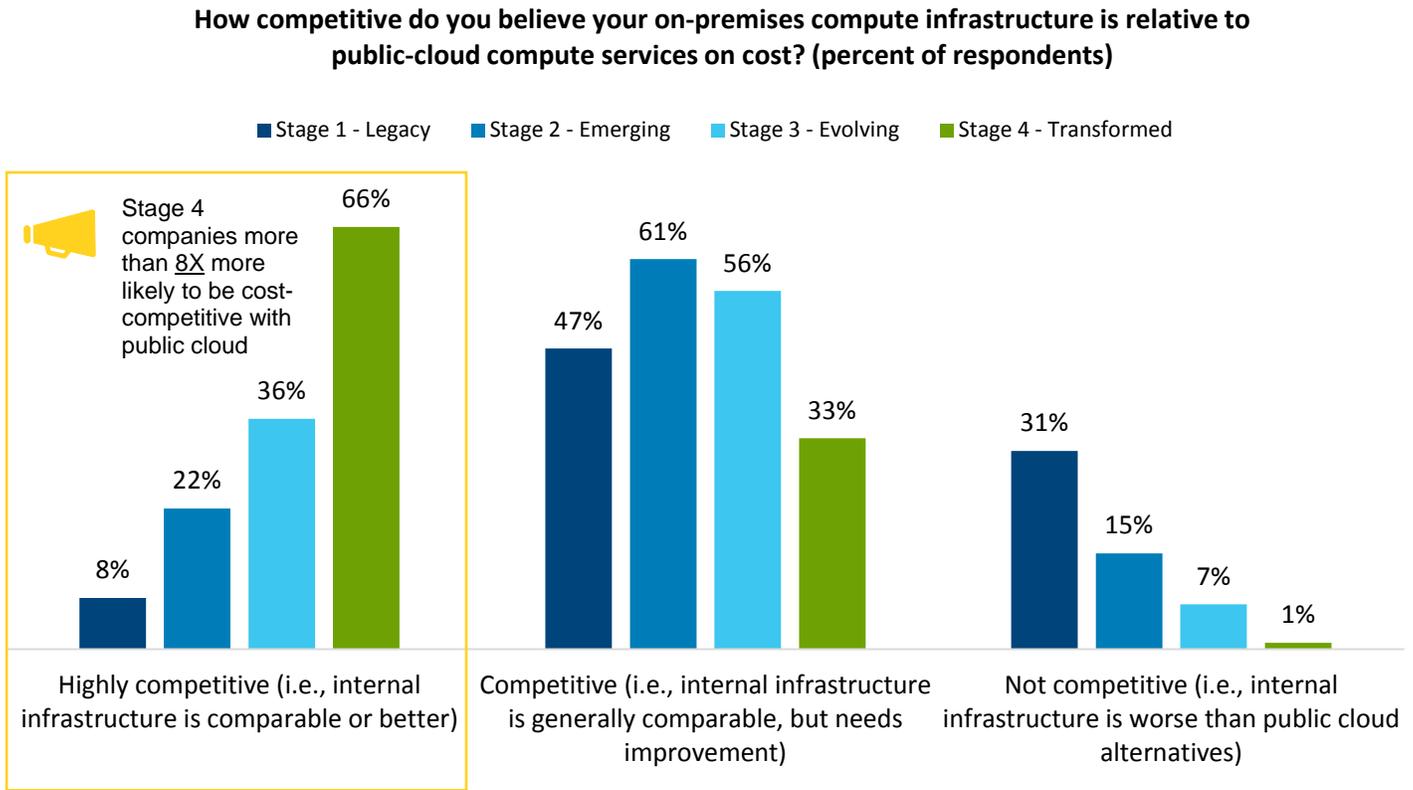
But thanks to their efficient operations, *Transformed* organizations have been able to create environments that are less expensive to maintain. The upshot of this improved cost structure is that the average *Transformed* organization is allocating US\$179 million to new projects. In other words, they’re funding an additional US\$64 million worth of innovation.

Cost Competitiveness versus the Public Cloud

ESG saw a big difference in respondents’ sentiments about how cost-competitive they think their on-premises compute infrastructure is compared with a public cloud service. Two-thirds of the respondents working at *Transformed* companies believe their IT infrastructure is highly competitive—in other words, it’s as good as or even better than a public cloud in terms of operating cost. In fact, those respondents were more than eight times more likely to report having cost-competitive onsite infrastructures compared with respondents at *Legacy* organizations (see Figure 7).

³ Maintenance includes system administration and other operational costs such as power, cooling, and software maintenance.

Figure 7. Cost Competitiveness versus Public Cloud



Source: Enterprise Strategy Group

Transformed companies were even twice as likely to have cost-competitive onsite infrastructures as *Evolving* companies were—proving again that making the effort to transform fully is worthwhile. Do it right, follow the recipe to the end, and benefits will follow.

By operating a cost-competitive on-premises environment, *Transformed* organizations give themselves more options to leverage the public cloud where it makes sense, while keeping other workloads on-premises if those workloads are better served by local control and performance—and they’re doing it without incurring incremental costs.

IT Spend per Business-critical Application

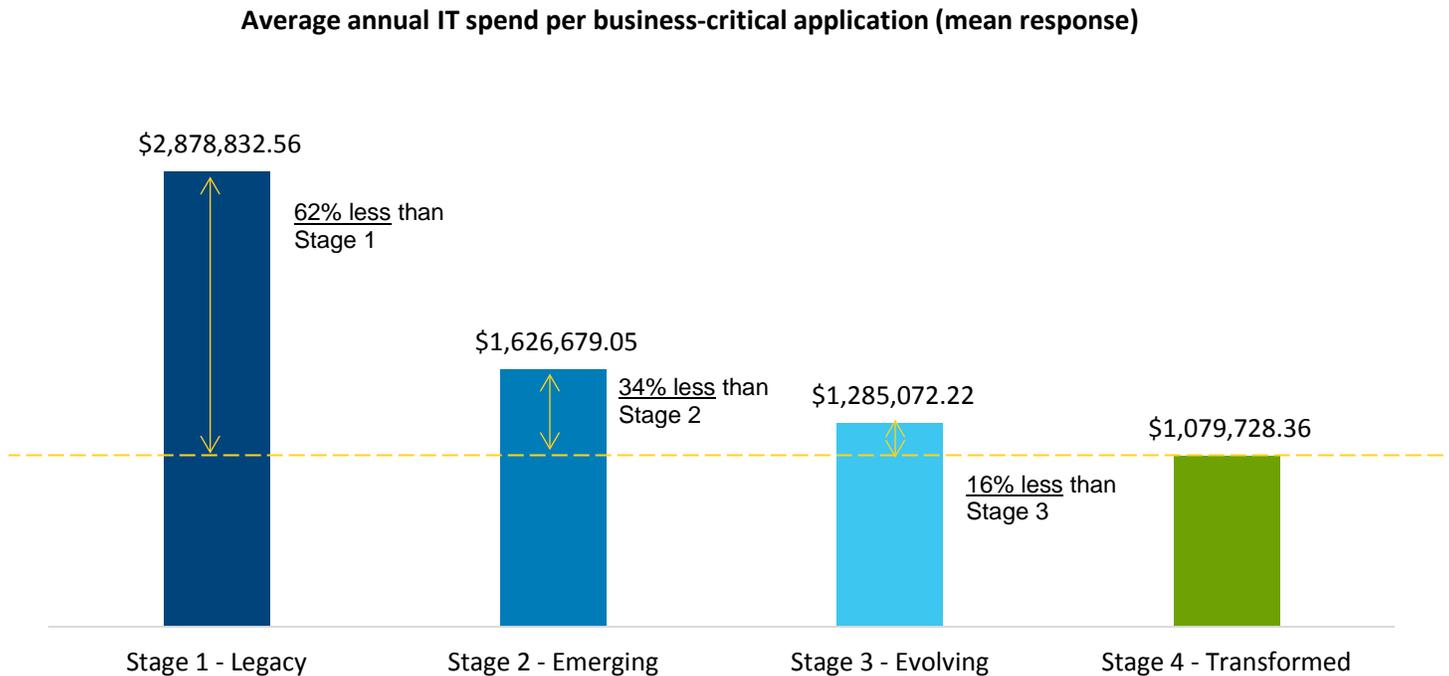
Transformed companies run a higher number of critical applications and generally have more sophisticated IT environments. However, they spend less than their counterparts on a per-application basis. ESG observed this trend in last year’s research, and this year, the spending differences look even more dramatic.

To normalize expenditures regardless of organization size, ESG divided respondents’ IT budgets by how many business-critical applications they manage (see Figure 8). *Transformed* organizations spend 62% less per application than *Legacy* companies, 34% less than *Emerging* companies, and 16% less than *Evolving* companies.

Overall, *Transformed* organizations are spending 31% less per application than companies in the other stages. Last year, *Transformed* companies spent 14% less.

“We see IT Transformation as being a profit driver for our company.”

—VP of IT, 500-employee business services firm, Stage 3 IT Maturity

Figure 8. IT Spend per Business-critical Application


Source: Enterprise Strategy Group

It appears that by making extensive use of automation and advanced IT solutions (as well as being smarter about organizational structure), *Transformed* companies have been uncovering major cost efficiencies and don't need to spend as much on the routine maintenance of their environments.

VMs per Server Administrator

Transformed companies enjoy a distinct advantage in terms of employee productivity.

ESG asked respondents both how many VMs they manage and how many server administrators they have on staff. Together, that information painted a clear picture—administrators at *Transformed* organizations are managing the most VMs by far. Specifically, administrators at *Legacy* organizations manage an average of 132.6 VMs each, but admins at *Transformed* companies manage 241.5 VMs each. This looks like another good proof point of how valuable high levels of automation and operational excellence can be.

Aligning IT with the Business

The day will come (it has already arrived in some industries and organizations) when IT becomes the prime mover of the business—i.e., it essentially *is* the business. For now, many IT departments are still transforming themselves to be better *partners* to the business. Effective partnering is something any strategic-minded IT leader thinks about and often is formally incentivized to achieve.

Examining the Measures of IT Effectiveness According to Respondents' IT Transformation Maturity Stage

Measures of IT success at *Transformed* organizations are different. These IT organizations are judged more frequently based on their business impact and less on their ability to cut costs. Cost reduction remains vital, but 38% of *Transformed* organizations report cost improvement as among their top measures of success compared with 49% for *Legacy* companies.

Business leaders at *Transformed* companies put more emphasis on measuring how the IT group supports new revenue streams. Thirty-one percent of *Transformed* IT organizations cite that as a top measurement metric compared with only 13% of *Legacy* companies.

As IT organizations progress in transforming themselves, the likelihood that they will be judged on how they enable and support revenue-generation efforts goes up, likely because they’ve already proven they understand budget optimization. For any IT executive hoping to be goaled on something more aspirational than “cost control,” the appeal of IT Transformation should be clear.

IT Involvement with Business Strategy

ESG tested the idea that IT leaders who work at forward-thinking *Transformed* companies are “invited to the table” earlier and more frequently to provide input to business-strategy decisions. The findings confirmed this concept definitively.

As Figure 9 shows, IT groups at *Transformed* companies are six times more likely to be involved in business-strategy development compared with their counterparts at *Legacy* companies (60% of respondents versus 9%). Conversely, IT shops at *Legacy* organizations are more apt to be brought in after the fact to confirm that an already-decided business strategy will be technically feasible.

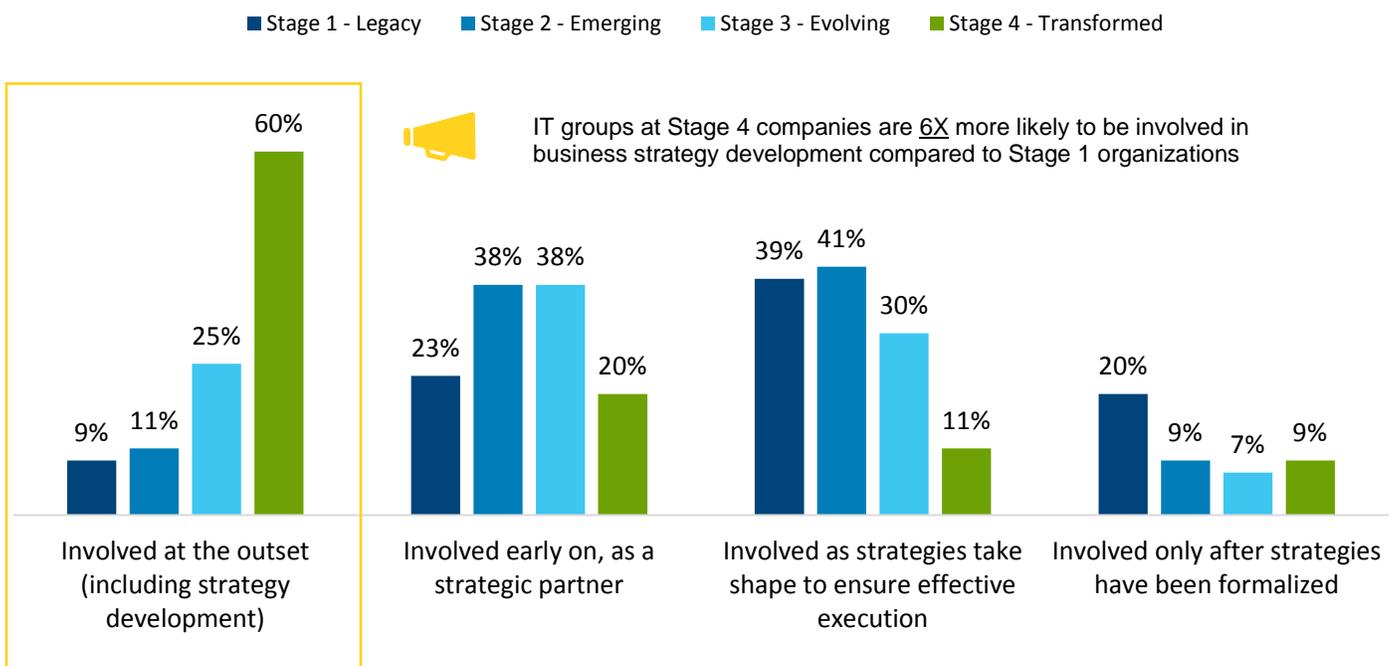
This finding should be great motivation for CIOs and other IT managers who want to become more deeply involved in the way their businesses run. IT Transformation is a way for a CIO to affect strategic direction.

“Organizations need to evolve to address the changing business landscape. Business leaders want IT to be focused on business results, innovation, and continuous improvement.”

— VP of IT, 5,000-person retail company, Stage 3 ITT Maturity

Figure 9. IT Involvement with Business Strategy

Thinking of major business strategy decisions your company has made in the past 12 months (markets to enter, product features to develop, etc.), how would you generally describe the IT department’s involvement? (percent of respondents)



Source: Enterprise Strategy Group

How Executive Leadership Evaluates the IT Organization’s Effectiveness

ESG asked all 4,000 respondents how their company measures the IT organization for success. Respondents across all the IT Transformation maturity levels reported cost reduction (42%) and on-budget/on-time project delivery (35%) were among the most frequently used measures. Other measurements included user satisfaction levels (34%), and IT’s ability to enable business process improvement (32%), ensure application uptime (29%), and enable new revenue streams (25%).

IT/Line of Business Cooperation

Respondents described the degree of cooperation and collaboration they believe exists between the IT department and lines of business. Decision makers at *Transformed* companies were more than 18 times more likely to report high levels of cooperation versus *Legacy* organizations (74% of respondents versus 4%). This is the second year ESG has asked that question, and the delta between *Legacy* and *Transformed* companies is widening. A year ago, it was 60 percentage points.

“IT is deeply ingrained in every aspect of our business, and unless IT is constantly transformed, our competitiveness cannot be maintained.”

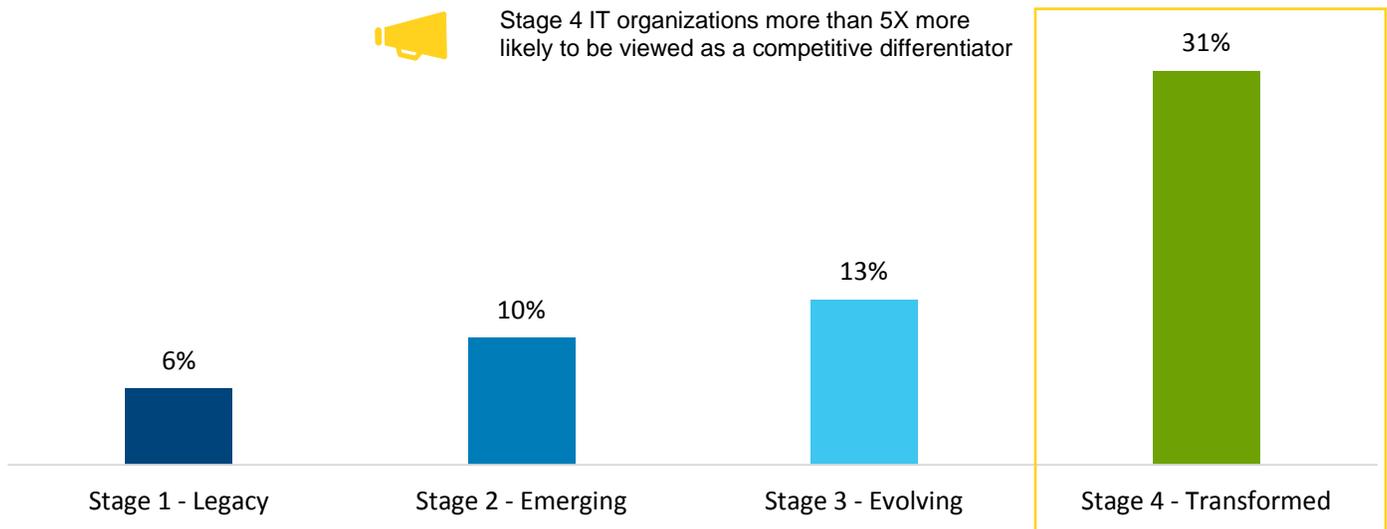
—IT manager, Media company with more than US\$1B in annual revenue, Stage 2 ITT Maturity

IT as a Competitive Differentiator

ESG also asked respondents how other business units in their companies view the IT organization. Only 6% of *Legacy* organizations said other lines of business view the IT function as a competitive differentiator. Among *Transformed* companies, 31% do. That’s a sharp contrast—*Transformed* IT organizations are more than five times more likely to be viewed by senior leadership and other important company stakeholders as a competitive differentiator for the business (see Figure 10).

Figure 10. How Other Business Units View the IT Organization

Percent of organizations that view IT as a competitive differentiator.



Source: Enterprise Strategy Group

The Bigger Truth

At this point, the business world has enthusiastically accepted that digital transformation is worthwhile for companies and for customers. ESG's research data supports that position.

Select IT organizations have employed infrastructure technologies and processes broadly to make them more agile, flexible, innovative, user-oriented, and customer-focused. To put it another way, they are engaging in IT Transformation, and, by doing so, they are moving the conceptual digital transformation conversation from "ideal" to "real."

These leaders implement high-performance all-flash arrays to support greater amounts of increasingly performance-sensitive, applications. They utilize scale-out architectures as scale-up solutions become depreciated, and roll out converged and hyper-converged platforms to speed deployment and lower the management burden. They incorporate software-defined networking and storage solutions to add flexibility to their environments while lowering costs. They deploy high-performance servers to run next-generation workloads and implement comprehensive data protection solutions to ensure always-on availability. They add automation for resource elasticity and enable self-service provisioning to provide users with public cloud-like experience. And they ensure that communication between IT and business stakeholders is meaningful to deliver results.

As this paper has shown, this is not transformation for transformation's sake. The factors that collectively establish a company's IT Transformation status, i.e., its place on ESG's IT Transformation maturity curve, are numerous and diverse. But they share one theme—when taken together, they are strongly correlated to operating economically, productively, and responsively. Those achievements can help any organization out-innovate and outperform its competition.

Assess Your Own IT Transformation Maturity

To enable greater IT Transformation maturity, you must first understand where you stand today. Dell EMC, Intel, and ESG have made available an interactive online assessment based on this research. This free-of-charge tool allows you to see where you stand in relation to your peers and helps you understand your strengths and weaknesses.

Start the journey toward transforming your IT organization, accelerating the pace of innovation, and fueling tomorrow's digital transformation initiatives today.

"IT Transformation means being able to transform a less flexible organization into a more proactive and agile team that can respond quickly to business needs."

— CIO, retail company with more than \$US5B in annual revenue, Stage 4 IT Maturity

[Launch Assessment Now!](#)

Appendices

Research Methodology

To gather data for this report, ESG conducted a comprehensive online survey of IT executives from private- and public-sector organizations in 16 countries: U.S. (13%), Canada (3%), U.K. (13%), France (10%), Germany (13%), Italy (2%), Netherlands (1%), Russia (1%), Australia/New Zealand (6%), Japan (12%), China (3%), India (10%), Hong Kong (3%), Brazil (5%), and Mexico (6%). The survey was fielded between September 19, 2017 and November 6, 2017.

To qualify for this survey, respondents were required to be familiar with their organizations’ current and future IT budget and spending plans and involved in their organizations’ infrastructure (e.g., storage, servers, networking, virtualization, and/or data protection) purchase processes.

After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on several criteria) for data integrity, a final sample of 4,000 respondents remained.

All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents. Note: Totals in figures and tables throughout this report may not add up to 100% due to rounding.

To calculate maturity levels, ESG asked each respondent questions about their IT environment and processes—allocating a corresponding number of maturity points to each question and answer. The sum of the points represented an organization’s total maturity score.

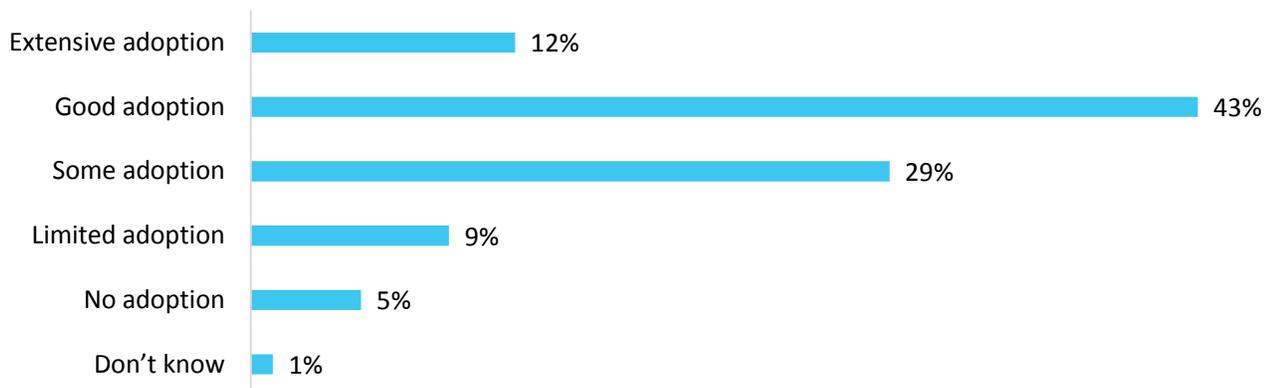
An organization could earn 0 to 100 points. Those with 0 to 25 points were classified as Stage 1 (or *Legacy*) organizations. Organizations earning 25.5 to 50 points were Stage 2 (or *Emerging*) organizations. If they earned 50.5 to 75 points, they were Stage 3 (or *Evolving*) organizations, and if they earned 75.5 to 100 points, they were Stage 4 (or *Transformed*).

Criteria for Evaluating Respondent Organizations’ IT Transformation Maturity

ESG’s maturity model determined organizations’ IT Transformation maturity based on respondents’ answers to a subset of questions included within the more than 60 questions in the survey. The figures that follow detail these questions.

Figure 11. Organizational Adoption of DevOps

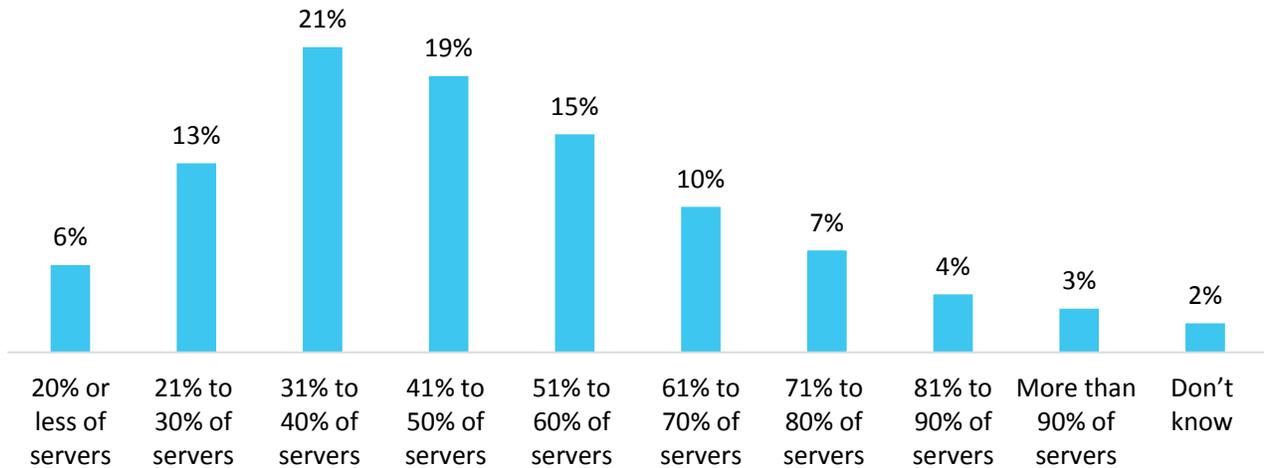
**To what extent has your organization adopted formal DevOps principles and best practices?
(percent of respondents, N=4,000)**



Source: Enterprise Strategy Group

Figure 12. Percentage of Production Servers Virtualized

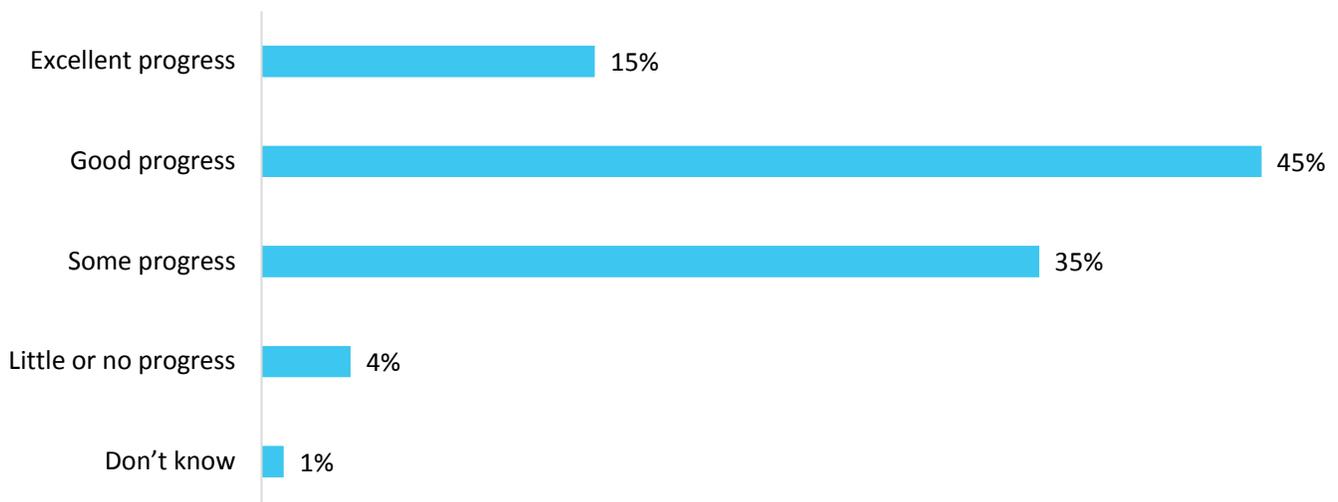
Of all on-premises production servers in your environment, approximately what percentage are virtual machines (VMs)? (percent of respondents, N=4,000)



Source: Enterprise Strategy Group

Figure 13. Assessment of Organization’s Infrastructure Administration Automation

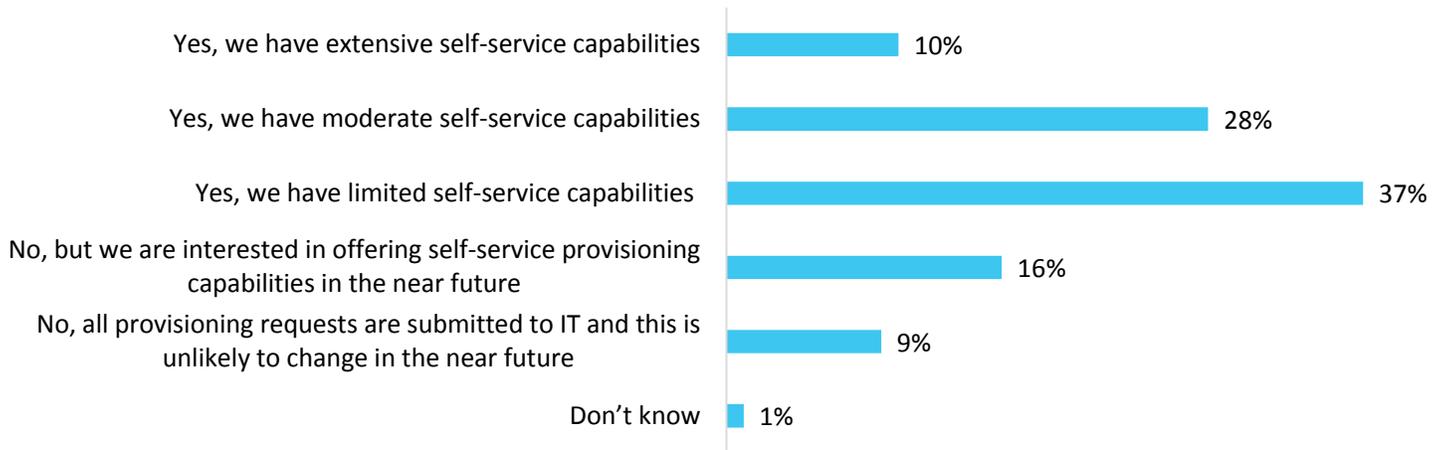
How would you describe your IT organization’s progress towards automating infrastructure provisioning, configuration, and change management tasks? (percent of respondents, N=4,000)



Source: Enterprise Strategy Group

Figure 14. Assessment of Organization’s Enablement of Self-service Infrastructure Provisioning

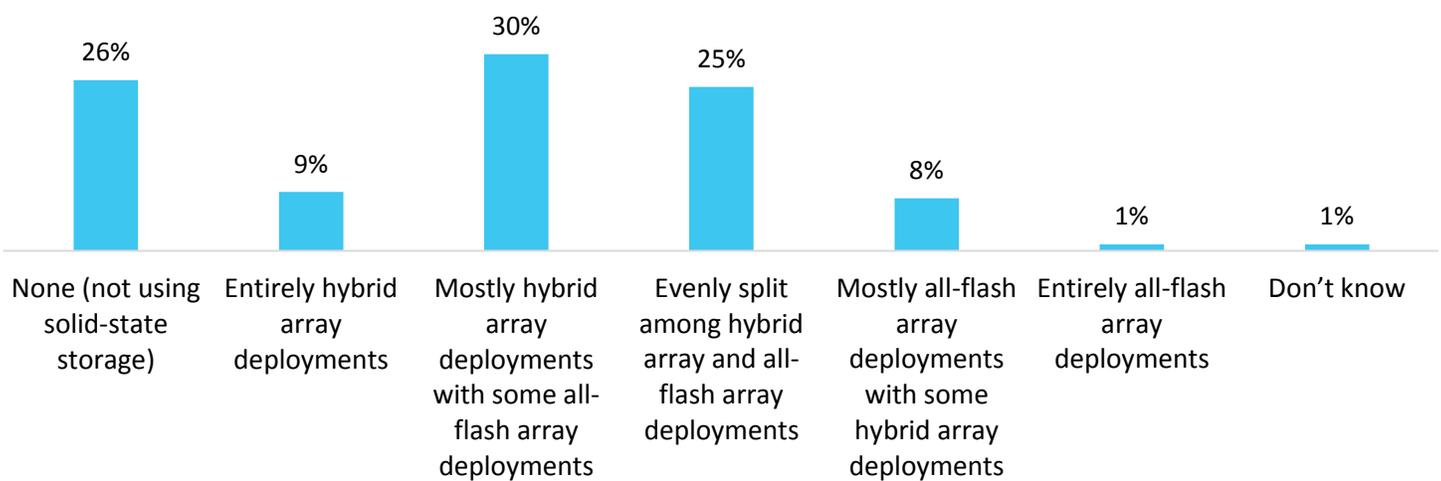
Does your IT organization enable developers and/or line-of-business end-users to provision on-premises IT resources (VMs, storage capacity, network connectivity, etc.) in a self-service fashion? (percent of respondents, N=4,000)



Source: Enterprise Strategy Group

Figure 15. Solid-state Storage Utilization

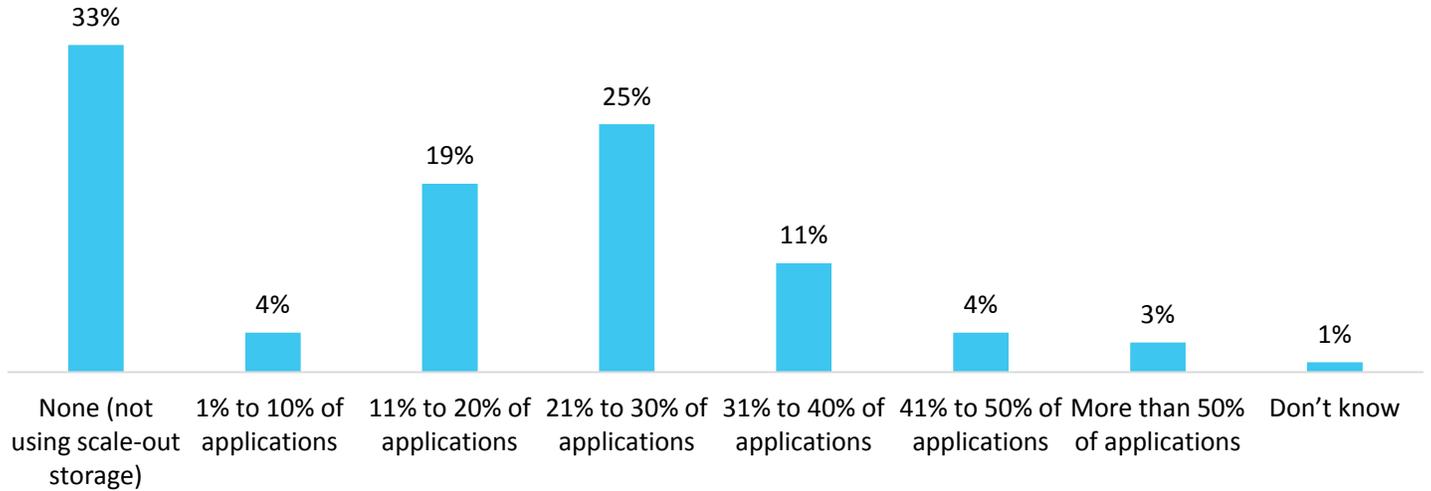
For workloads that utilize solid-state storage, what is the primary implementation type (i.e., the implementation that supports the largest number of workloads)? (percent of respondents, N=4,000)



Source: Enterprise Strategy Group

Figure 16. Utilization of Scale-out Storage

Approximately what percentage of your company's applications are currently supported by storage systems that utilize scale-out architectures? (percent of respondents, N=4,000)



Source: Enterprise Strategy Group

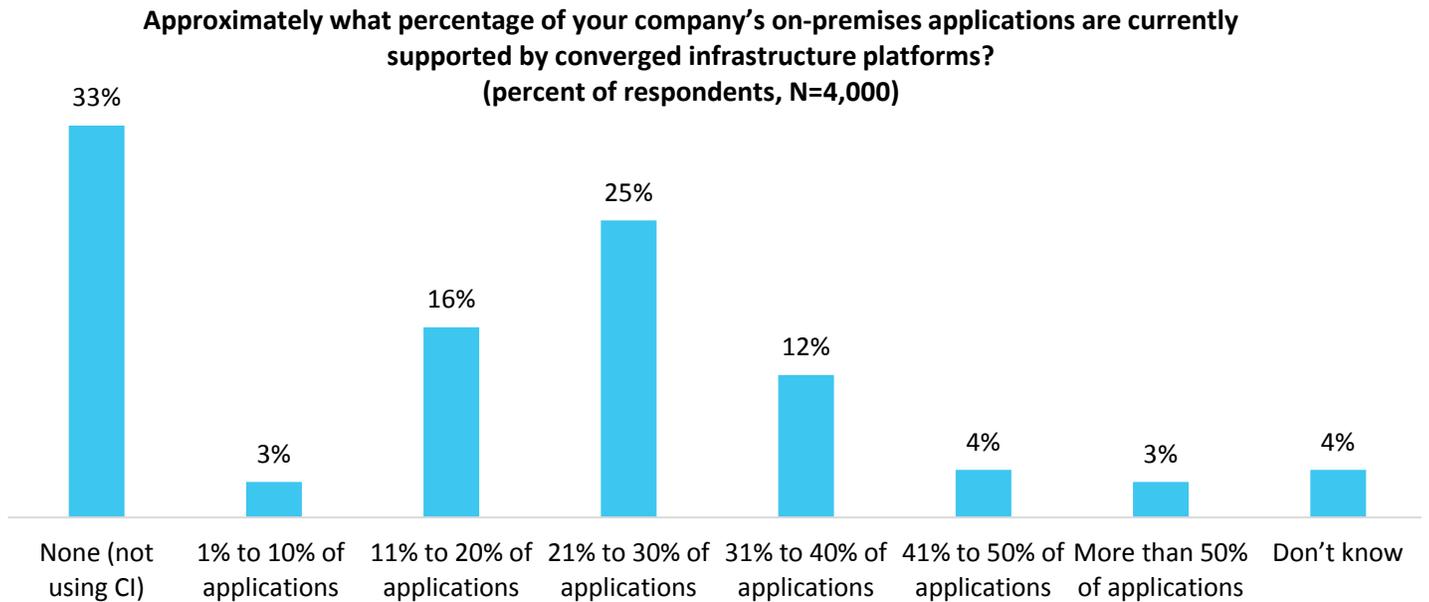
Figure 17. Organizational Perspective of Software-defined Networking and Storage

Which of the following best represents your company's perspective on software-defined data center technologies? (percent of respondents, N=4,000)



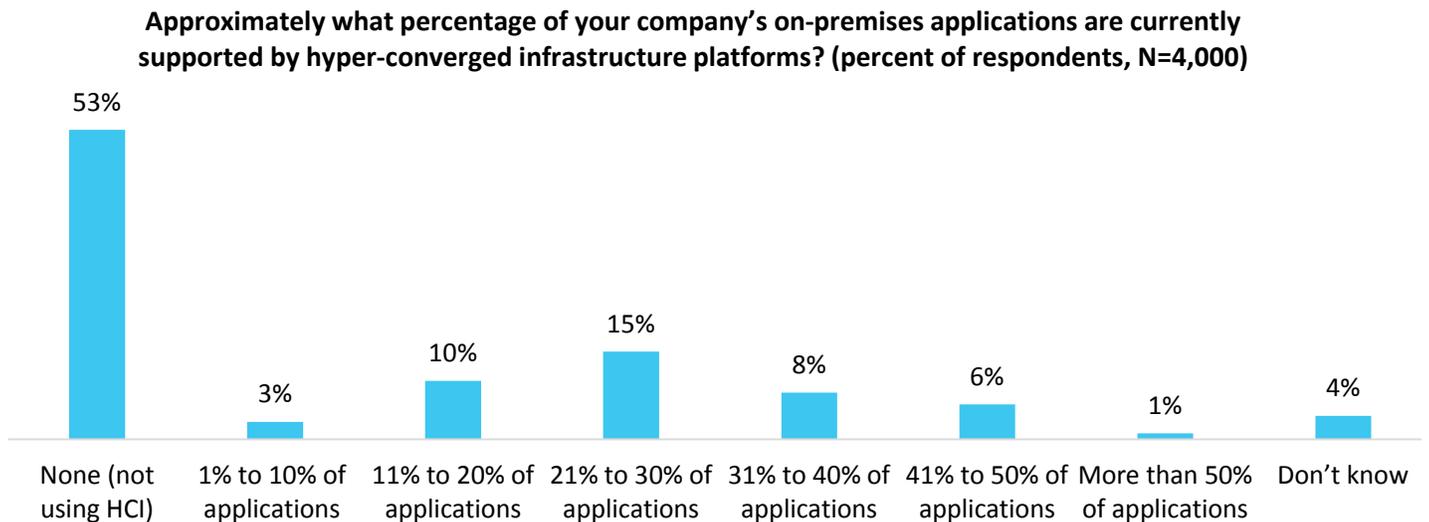
Source: Enterprise Strategy Group

Figure 18. Utilization of Converged Infrastructure



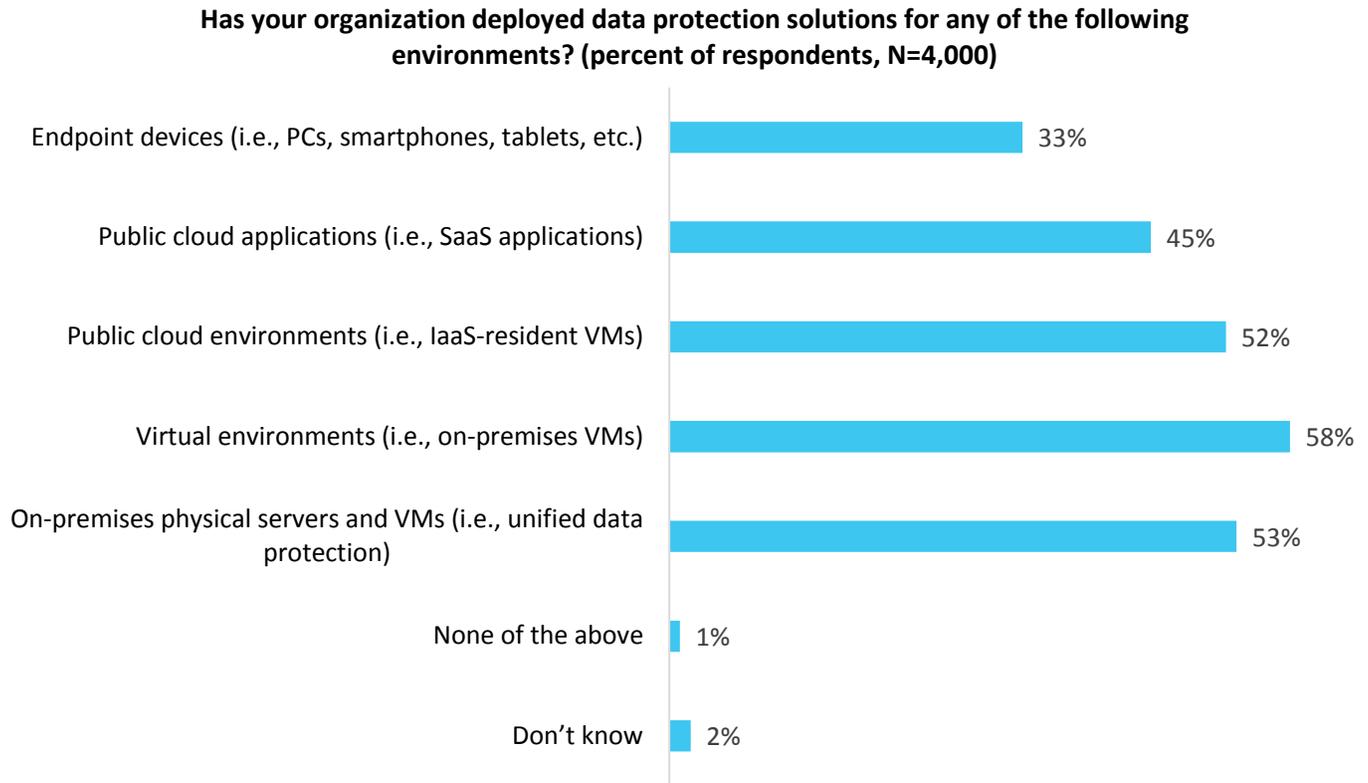
Source: Enterprise Strategy Group

Figure 19. Utilization of Hyper-converged Infrastructure



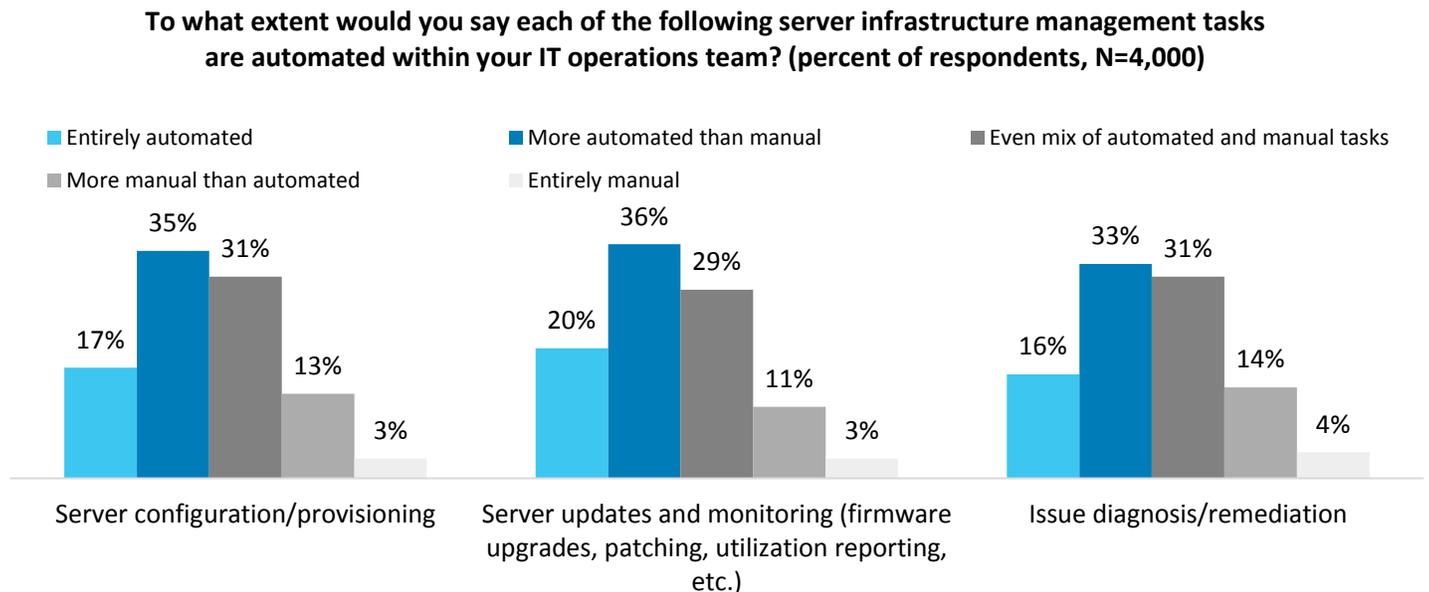
Source: Enterprise Strategy Group

Figure 20. Comprehensiveness of Deployed Data Protection Solutions



Source: Enterprise Strategy Group

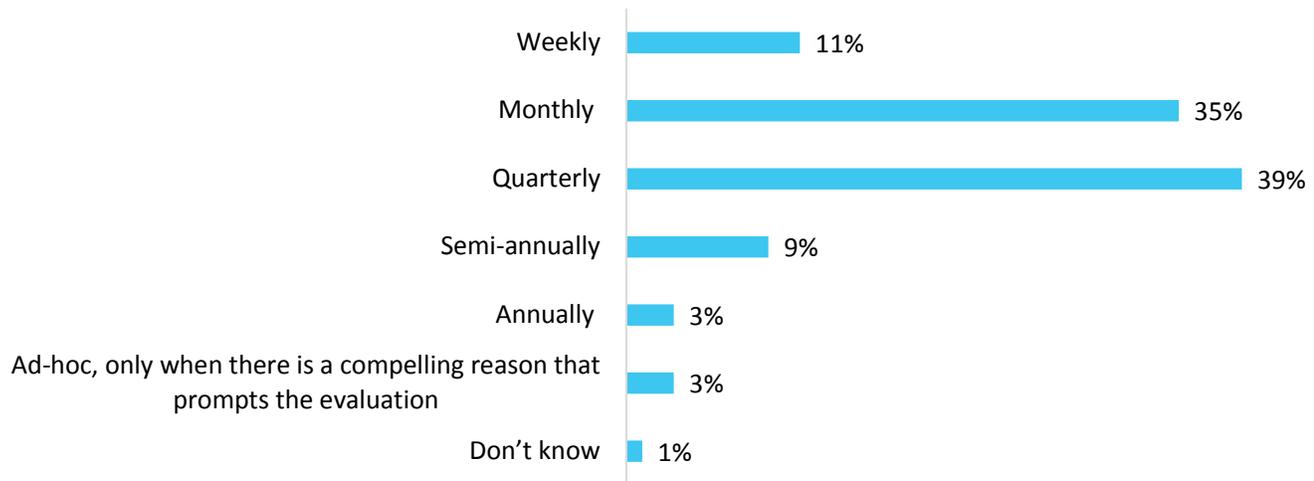
Figure 21. Assessment of Server Administration Automation



Source: Enterprise Strategy Group

Figure 22. Frequency of IT Organization Evaluation by Business Executives

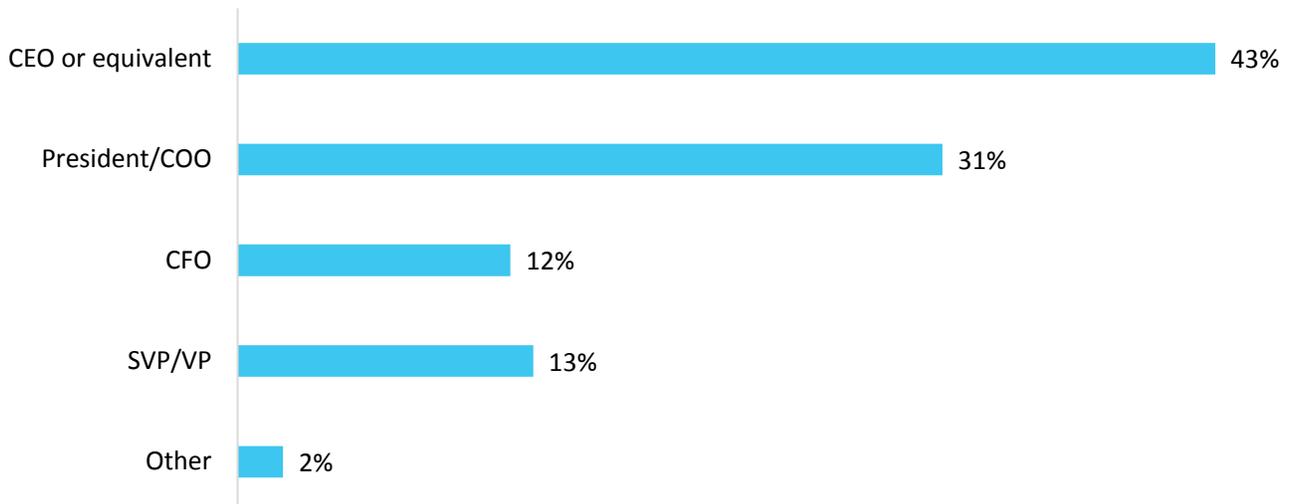
How frequently is the IT organization and the outcomes it delivers (e.g., availability, agility, cost) evaluated by C-suite business executives (CEO, CFO, COO) or the board of directors? (percent of respondents, N=4,000)



Source: Enterprise Strategy Group

Figure 23. CIO Reporting Structure

To whom does the most senior IT executive at your company report? (percent of respondents, N=4,000)



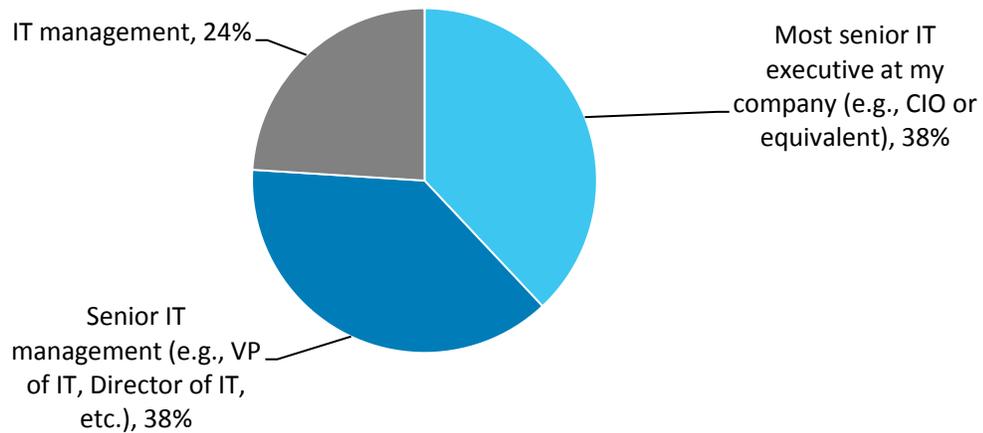
Source: Enterprise Strategy Group

Respondent Demographics

The data presented in this report is based on a survey of 4,000 qualified respondents. The figures below detail the demographics of the respondent base: individual respondents’ current job responsibilities, as well as respondent organizations’ total number of employees, primary industry, and annual revenue.

Figure 24. Survey Respondents, by Job Responsibility

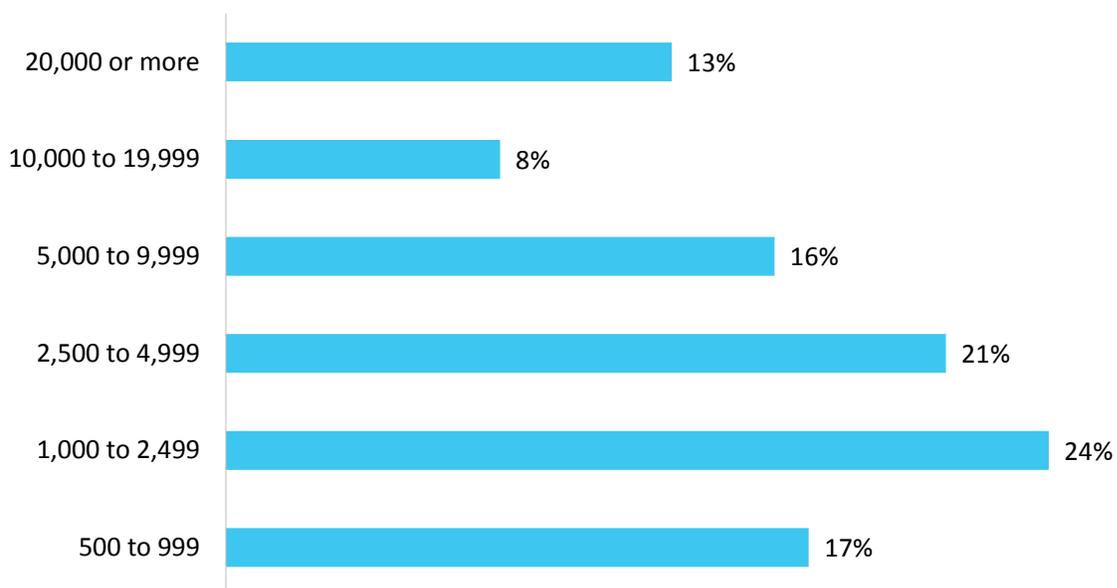
**Which of the following best describes your current responsibility within your company?
(Percent of respondents, N=4,000)**



Source: Enterprise Strategy Group

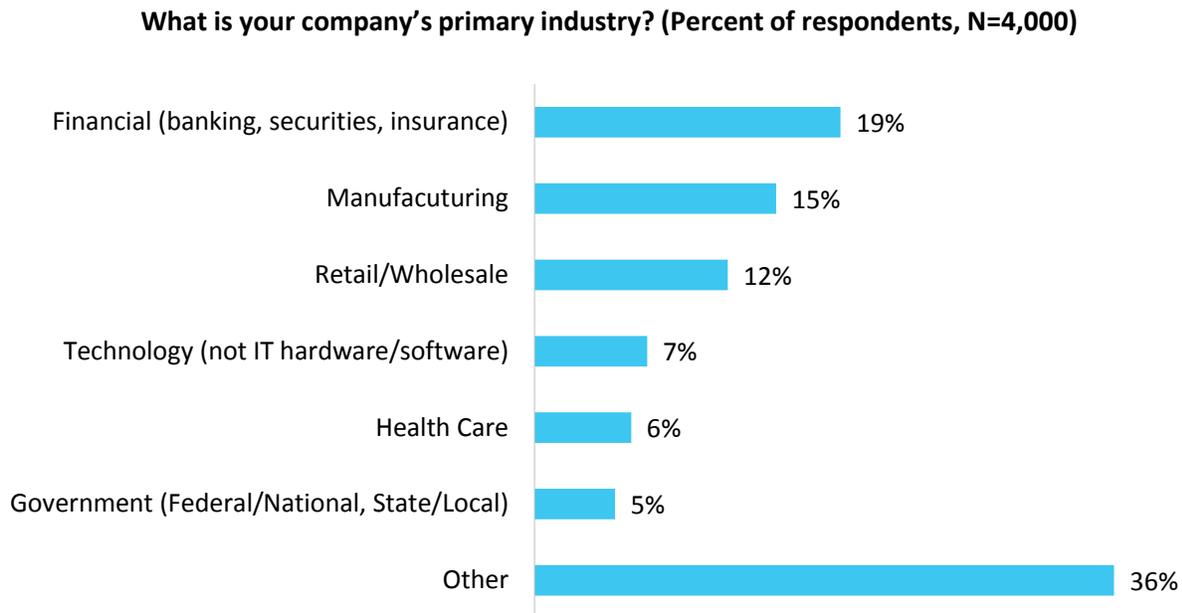
Figure 25. Survey Respondents, by Number of Employees

How many total employees does your company have worldwide? (Percent of respondents, N=4,000)



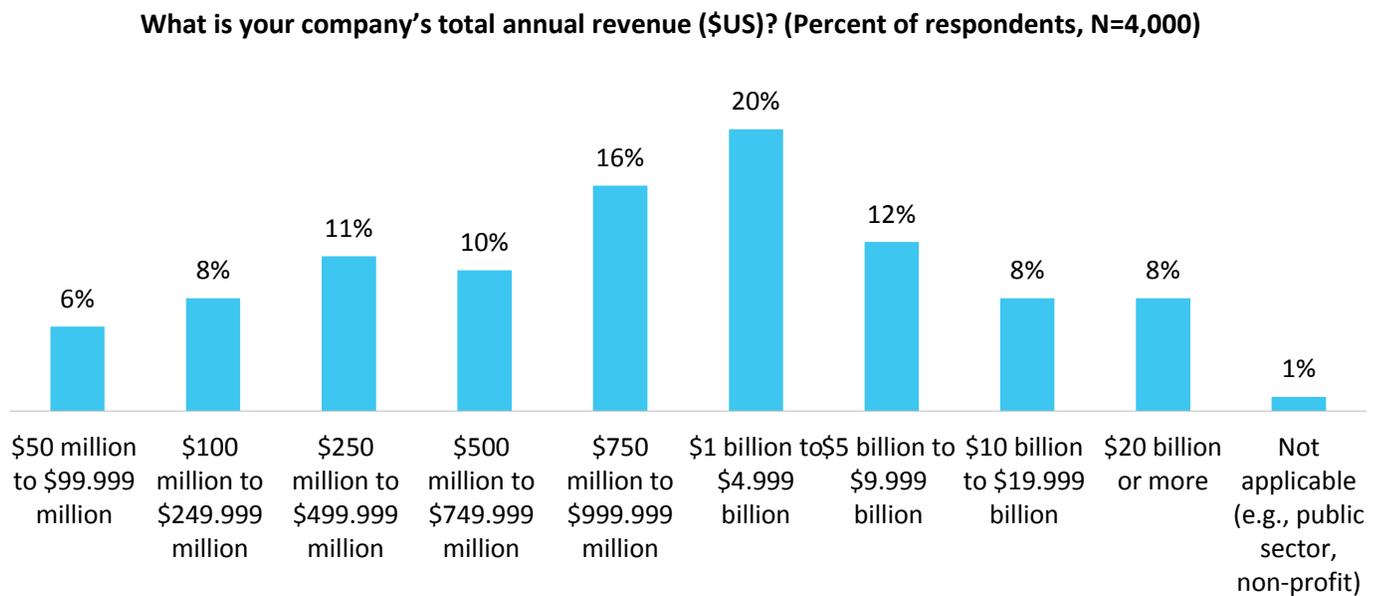
Source: Enterprise Strategy Group

Figure 26. Survey Respondents, by Industry



Source: Enterprise Strategy Group

Figure 27. Survey Respondents, by Annual Revenue



Source: Enterprise Strategy Group

All trademark names are property of their respective companies. Information contained in this publication has been obtained by sources The Enterprise Strategy Group (ESG) considers to be reliable but is not warranted by ESG. This publication may contain opinions of ESG, which are subject to change from time to time. This publication is copyrighted by The Enterprise Strategy Group, Inc. Any reproduction or redistribution of this publication, in whole or in part, whether in hard-copy format, electronically, or otherwise to persons not authorized to receive it, without the express consent of The Enterprise Strategy Group, Inc., is in violation of U.S. copyright law and will be subject to an action for civil damages and, if applicable, criminal prosecution. Should you have any questions, please contact ESG Client Relations at 508.482.0188.