Research Insights Paper

How IT Transformation Maturity Drives IT Agility, Innovation, and Improved Business Outcomes

A Data-driven Maturity Model for Modernized, Automated, and Transformed IT

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Market Overview

Businesses today are increasingly embracing what is often referred to as Digital Transformation—leveraging new technologies to rethink business processes and help them become more agile, flexible, innovative, user-oriented, and customer-focused. In many cases businesses are completely reinventing their offerings, business models, or both to better compete and thrive in the digital age. This reinvention often begins with process and procedural refinement or investments in human resources, but it is important for organizations to not overlook modernizing their underlying technology infrastructure, which can help drive greater human and operational efficiencies.

As they are fundamentally based on technology, Digital Transformation initiatives necessitate that the underlying technology infrastructure supporting associated business applications and IT services must evolve accordingly. However, legacy IT is largely unprepared to meet the requirements of the new digital business: application cycle times measured in months, if not years; siloed infrastructure that prohibits organizations from viewing their data holistically; performance bottlenecks that impact end-user experience in a world that demands constant availability and response times; rigid architectures that force organizations to make forklift upgrades as requirements change; and traditional provisioning processes in which IT is often seen as a barrier rather than an enabler for the business. Organizations must resolve this conflict between Digital Transformation goals and today's IT reality if the business is to meet its ultimate objectives.

There are multiple avenues available to organizations to mitigate the issues introduced by legacy IT solutions. New technology platforms can replace aging infrastructure and alleviate challenges associated with performance, scalability, agility, and flexibility. However, it is not always easy to budget for and execute major technology refreshes, and the sheer number of legacy applications and systems in place at many organizations can make the process daunting.

The public cloud also holds promise, allowing for rapid procurement of resources, the ability to flex requirements on the fly, and a pay-as-you go consumption model. However, for most organizations, a full commitment to the public cloud is simply not feasible. For example, many business-critical applications require latency performance only achieved on premises, some data is simply too valuable or sensitive to trust to a public cloud provider, and the potential economic benefits of the cloud are not universally applicable.

The result? The future of IT infrastructure is likely to remain hybrid in nature for the foreseeable future—organizations will use public cloud resources for certain workloads and/or use cases, but the balance will remain supported by on-premises IT resources. Since companies' Digital Transformation initiatives and aspirations are unlikely to dissipate, this dynamic only reinforces the need for those on-premises IT resources and processes to modernize and keep pace with the business.

Defining and Measuring IT Transformation Maturity

While there is a clear imperative for legacy IT to transform, many organizations are far from achieving that goal. Not only must organizations modernize infrastructure, but they must also ensure that internal processes and organizational relationships support the most effective utilization of that infrastructure.

To better understand these dynamics, Dell EMC commissioned ESG to create a research-based, data-driven maturity model with the goal of identifying different stages of IT Transformation progress and determining the degree to which global organizations have achieved those different stages. A critical objective of this research was also to understand the benefits—if any—that result from increasing degrees of IT Transformation. Consequently, the model uses demand-side survey data to objectively quantify the maturity of different organizations' IT capabilities, determines what percentage of organizations surveyed have achieved each level of IT Transformation, and identifies the correlations that exist between an organization's IT Transformation maturity and better (or worse) IT and business outcomes.

This maturity model is based on a global survey in which 1,000 qualified respondents from enterprise organizations, defined as those with at least 1,000 employees worldwide, answered over 50 questions about the current state of their IT

organization and the outcomes it provides to the business. Participants were senior IT executives and managers responsible for their company's current and future IT infrastructure strategies. The research was broad-based in terms of geographical coverage, including: the United States (34% of respondents), UK (12%), France (11%), Germany (12%), China (10%), Japan (6%), Australia (5%), and Brazil (10%). The survey also included a wide range of industry verticals, including: finance (17%), manufacturing (16%), retail (8%), technology (8%), healthcare (7%), and the public sector (7%), among others. Please see *Appendix I: Research Methodology* and *Appendix III: Respondent Demographics* for more details about the survey.

The maturity model segmented participants into four different levels of IT Transformation maturity based on their responses to questions about their organization's on-premises IT infrastructure, processes, and organizational alignment. These questions revolved around:

- *Modernized* data center technology utilization: such as the use of high performance All-Flash arrays, flexible scale-out architectures, converged and hyperconverged platforms that provide speed of deployment and ease of management, and flexible software-defined solutions across both networking and storage domains.

- *Automated* IT processes: measured by the progress the organization has made in terms of running IT more like a public cloud provider—e.g., enabling self-service infrastructure provisioning; rapid scalability; and usage-based tracking and chargeback. The maturity model also considers the degree to which firms have adopted DevOps methodologies and best practices, which help organizations shrink cycle times, improve software quality, and automate software development, testing, and deployment tasks.

- *Transformed* business and IT relationships: enabled by consistent communication between IT and business stakeholders and continuous inspection of IT outcomes by line of business (LOB) leadership. To emphasize the role that IT Transformation plays in supporting truly business-level Digital Transformation initiatives, the maturity model also scored organizations providing IT leadership with direct-line reporting to the CEO (or equivalent) higher than those that do not.

ESG's maturity model used a subset of ten questions relating to each of the areas above—from the 50 questions respondents answered in total—to generate a respondent's maturity score. Five questions in the scoring system related to modernized data center technology utilization, three questions assessed progress in automating key processes, and two questions measured the level of transformation achieved in aligning IT with the business.

Respondents could earn between 0 and 100 maturity points based on their responses to these questions. See Table 1 in *Appendix II: Criteria for Evaluating Respondent Organizations' IT Transformation Maturity* to review the full list of dimensions of IT Transformation maturity on which ESG evaluated respondents.
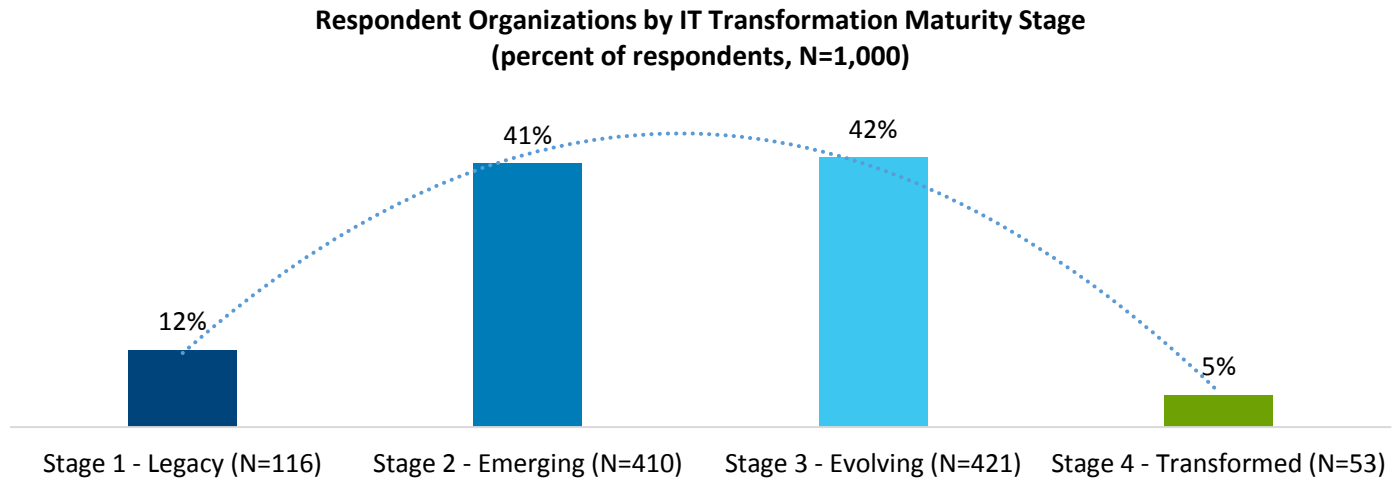
ESG rated respondents achieving a score in the bottom quartile (0-25 points) as Stage 1 or *Legacy*, respondents scoring in the second quartile (25.5-50 points) as Stage 2 or *Emerging*, respondents scoring in the third quartile (50.5-75 points) as Stage 3 or *Evolving*, and respondents scoring in the top quartile (75.5-100 points) as Stage 4 or *Transformed*.

The Current State of IT Transformation Maturity

ESG's analysis found that very few IT organizations have achieved a Transformed state, as defined by this maturity model. Just 5% of respondents participating in the benchmark wave of research scored highly enough across the entirety of questions used to segment responses to garner a score in the top quartile. The vast majority of respondents fell into either the Emerging (41%) or Evolving (42%) categorizations, showing progress in some transformational characteristics, but still with significant room for improvement. ESG rated just over one in ten respondent organizations (12%) as Legacy IT shops, falling short on many—if not all— of the dimensions of IT Transformation included in ESG's model (see Figure 1). A

breakdown of observed IT Transformation maturity by industry vertical can be found in Appendix III: Respondent Demographics (see Figure 12).

Figure 1. Distribution of Respondents by Maturity Stage Achieved

Respondent Organizations by IT Transformation Maturity Stage
(percent of respondents, N=1,000)

Stage 1 - Legacy (N=116)	Stage 2 - Emerging (N=410)	Stage 3 - Evolving (N=421)	Stage 4 - Transformed (N=53)
12%	41%	42%	5%

Source: Enterprise Strategy Group, 2017

The Importance of IT Transformation Maturity

Why should organizations undertake an IT Transformation initiative? Simply put, ESG found that organizations achieving a *Transformed* status reported the best results across many key performance indicators (KPIs), including: increased IT agility and responsiveness, enhanced IT spending efficiency, higher levels of funding for new projects and innovation, higher levels of internal stakeholder satisfaction, and improved business outcomes and optimism.

Moreover, the upward trend observed across maturity stages was extremely consistent across the broad spectrum of KPIs included in the research. While the differences noted in KPI performance are the greatest when comparing *Legacy* and *Transformed* organizations, ESG observed that KPIs incrementally improved across each stage in the spectrum from *Legacy*, through *Emerging*, to *Evolving*, and, ultimately, to *Transformed*.
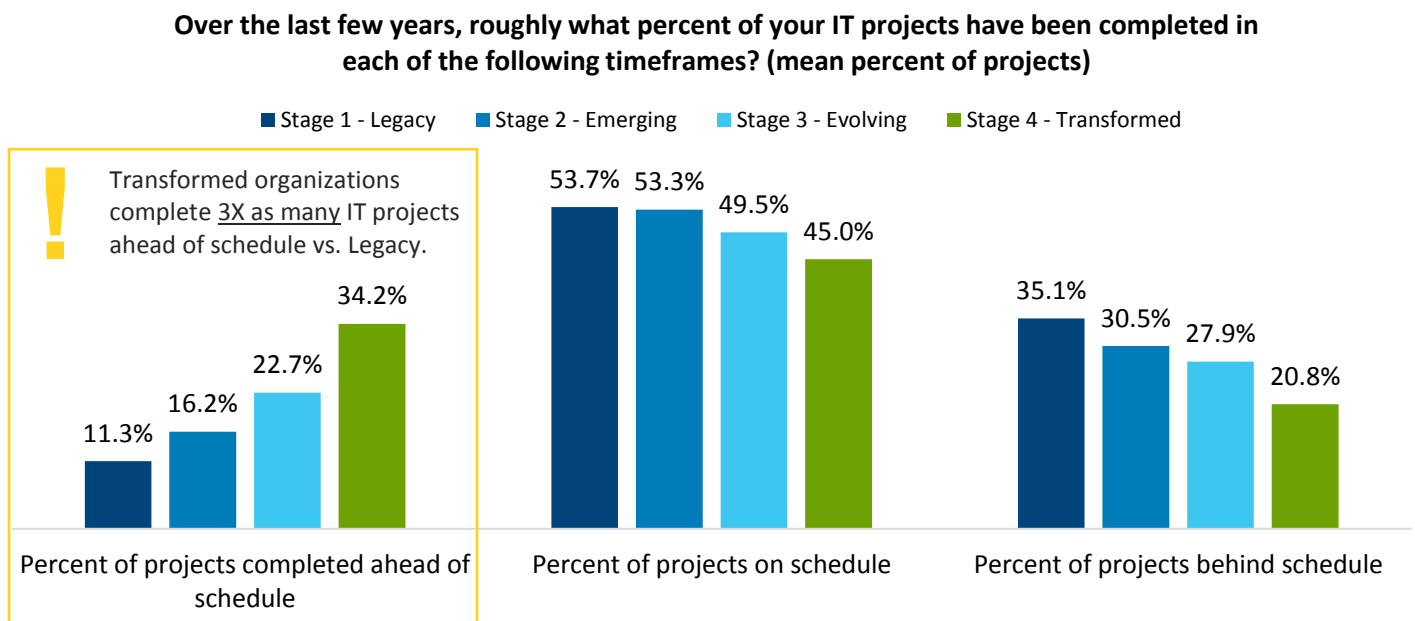
Increased IT Agility and Responsiveness

ESG's research revealed that organizations rated as *Transformed* outperform other organizations in their ability to quickly respond to business requests and complete projects in a timely fashion. For organizations with significant Digital Transformation initiatives, agility is a critical capability. These organizations must not only evolve processes, products, and even business models, but they must do so quickly to capitalize on changing customer requirements and new opportunities where getting to market first equates to a significant advantage over the competition.

First, ESG found that *Transformed* organizations outperform other firms in their ability to complete IT projects ahead of schedule. When asked to estimate what percent of IT projects over the past few years had been completed ahead, on, or behind schedule, respondents at *Transformed* organizations reported that an average of 34.2% of projects were completed faster than anticipated. This percentage compares favorably with the frequency of ahead-of-schedule projects reported by respondents at *Evolving* (22.7%), *Emerging* (16.2%), and *Legacy* (11.3%) organizations (see Figure 2). A *Transformed* enterprise with dozens, if not hundreds, of IT projects in a calendar year will complete three times as many of these projects ahead of schedule versus a *Legacy* organization with a comparable number of projects. The impact of this is significant whether evaluated in terms of efficiency, cost, or ability to capitalize on business opportunities.

The research data implies that automation is a key enabler of agility. When respondents were asked to evaluate their progress automating manual IT processes and tasks, *Transformed* organizations were more than four times as likely to report they had made excellent progress compared with *Legacy* organizations (51% versus 12%). The data also reinforces some of the benefits *Transformed* organizations reap as a consequence of increased agility. When respondents were asked to evaluate their progress toward running IT as a profit center, *Transformed* organizations were nearly seven times as likely to report they had made excellent progress compared with *Legacy* organizations (47% versus 7%). Similarly, when respondents were asked to evaluate their progress in leveraging IT resources to speed product innovation and time to market, *Transformed* organizations were nearly six times as likely to report they had made excellent progress compared with *Legacy* organizations (53% versus 9%).

Figure 2. Timeframes for IT Project Completion, by IT Transformation Maturity

Over the last few years, roughly what percent of your IT projects have been completed in each of the following timeframes? (mean percent of projects)

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

! Transformed organizations complete 3X as many IT projects ahead of schedule vs. Legacy.

Percent of projects completed ahead of schedule
- 11.3%
- 16.2%
- 22.7%
- 34.2%

Percent of projects on schedule
- 53.7%
- 53.3%
- 49.5%
- 45.0%

Percent of projects behind schedule
- 35.1%
- 30.5%
- 27.9%
- 20.8%

Source: Enterprise Strategy Group, 2017

ESG also found that *Transformed* organizations can respond to provisioning requests from the business more quickly than their less mature counterparts. For instance, when respondents were asked to estimate their typical virtual machine (VM) provisioning time, *Transformed* organizations were six times as likely to report they typically fulfilled requests in under four hours versus *Legacy* organizations; 32% of respondents at *Transformed* organizations met this level of service. By comparison, just 20% of *Evolving*, 19% of *Emerging*, and 5% of *Legacy* IT shops reported the same degree of responsiveness.

Finally, ESG found that development teams at *Transformed* organizations operate more efficiently than organizations in other maturity tiers. When asked to characterize the timeframe in which the majority of internally developed application releases and updates are completed, 34% of respondents at *Transformed* organizations reported the majority of code releases happen ahead of schedule. This percentage compares favorably with what was reported by respondents at *Evolving* (16%) and *Emerging* (9%) organizations, and is four times the frequency observed among *Legacy* (9%) organizations.

While correlations do not equate to causation, ESG posits that several dimensions of IT Transformation maturity directly impact an IT organization's ability to move quickly. For example, frequent communication with, and accountability to, business leadership helps ensure that IT clearly understands business requirements and IT's associated commitments. Usage of flexible infrastructure architectures like those leveraging scale-out and/or software-defined principles allows IT to

react to changing requirements more quickly and with less disruption. Allowing users more self-service authority enables them to spin resources up and down on demand, lessening the impression—or reality—of "IT as a bottleneck" to speed of deployment and time to market. These characteristics are more prevalent among *Transformed* IT organizations and their collective impact is likely at play in the positive IT outcomes observed among that segment of research participants.

Enhanced IT Spending Efficiency

Traditionally, organizations' lines of business have viewed the IT function as a cost center. One consequence of this mindset is the continuous pressure placed on IT to maximize capabilities at the lowest possible cost. This research uncovered that, while organizations that have progressed further along the IT Transformation curve are not typically viewed as a cost center, they nevertheless consistently achieve higher spending efficiency than their less mature counterparts. Multiple metrics support this finding.

For example, more transformed IT organizations complete a higher percentage of IT projects under budget. When asked to estimate what percent of IT projects over the past few years they had completed under, on, or over budget, respondents at *Transformed* organizations on average reported completing 25% of their projects under budget. This percentage compares favorably with the frequency reported by respondents at *Evolving* (23%), *Emerging* (17.5%), and *Legacy* (14.9%) organizations (see Figure 3). As any CIO will attest, the ability to complete an incremental 10% of IT projects under budget can have a dramatic impact on the total IT budget picture and ROI (return on investment) to the business.
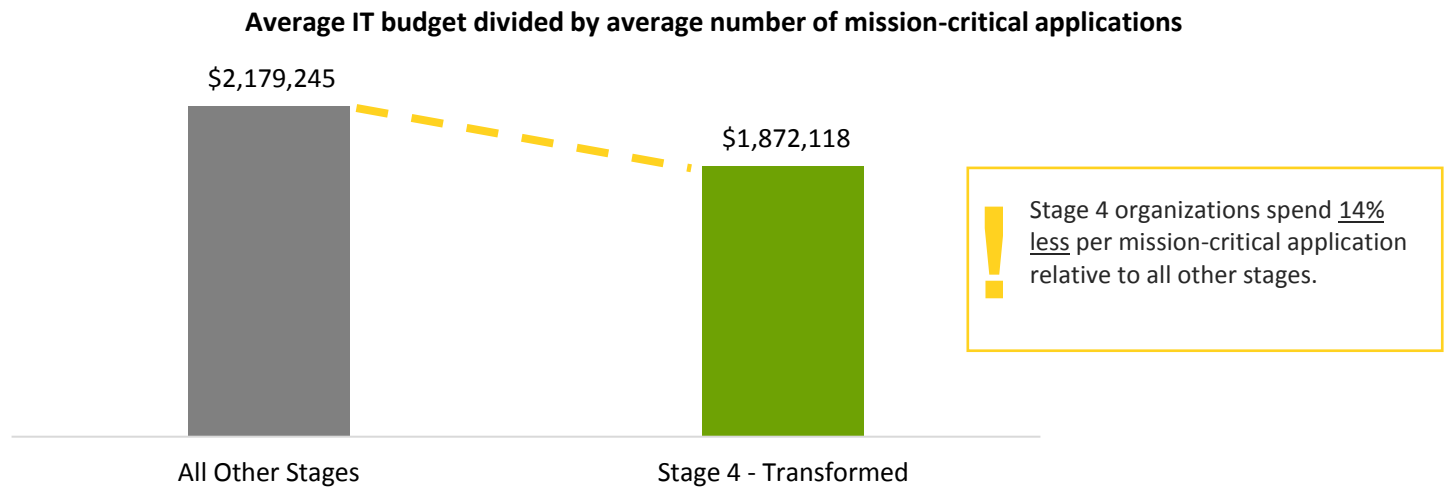
Figure 3. Budget Trends for Completed IT Projects, by IT Transformation Maturity

Over the last few years, roughly what percent of your IT projects have been completed under, on, or over budget? (mean percent of projects)
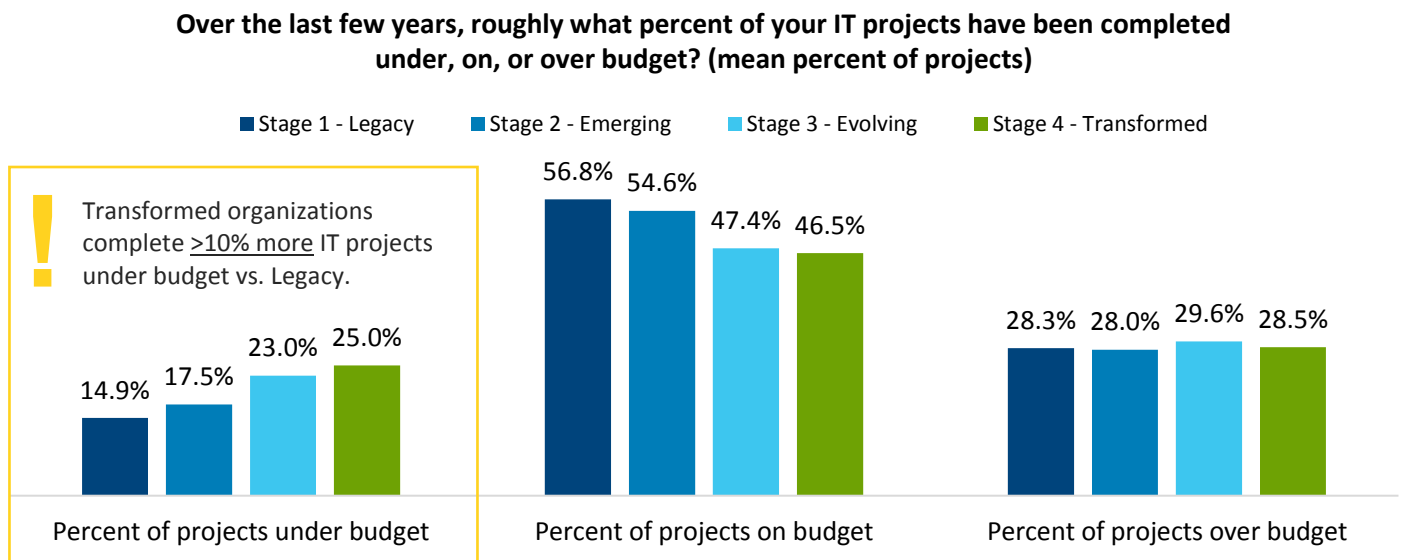
Source: Enterprise Strategy Group, 2017

Additional data analysis finds that *Transformed* organizations tend to be able to stretch their IT funds further than other segments within the maturity model. As part of this research, ESG asked respondents to report both their organization's total IT budget as well as the total number of mission-critical applications supported. Using the latter as a proxy for IT environment complexity, ESG analyzed the average cost per mission-critical application supported to determine if *Transformed* organizations spend less annually to operate their environments. As shown in Figure 4, *Transformed* organizations spend 14% less per mission-critical application in their environments.

Figure 4. Ratio of Total IT Budget Divided by Number of Mission-critical Applications Supported, by IT Transformation Maturity

Average IT budget divided by average number of mission-critical applications

$2,179,245

$1,872,118

! Stage 4 organizations spend 14% less per mission-critical application relative to all other stages.

All Other Stages   Stage 4 - Transformed

Source: Enterprise Strategy Group, 2017

One could argue that many of the motivations organizations have in mind when considering IT Transformation in the context of broader strategic initiatives are top-line focused (e.g., personalizing customer service, speeding time to market, innovating offerings), but this data also shows that *Transformed* organizations achieve greater bottom-line efficiency in their IT environments.
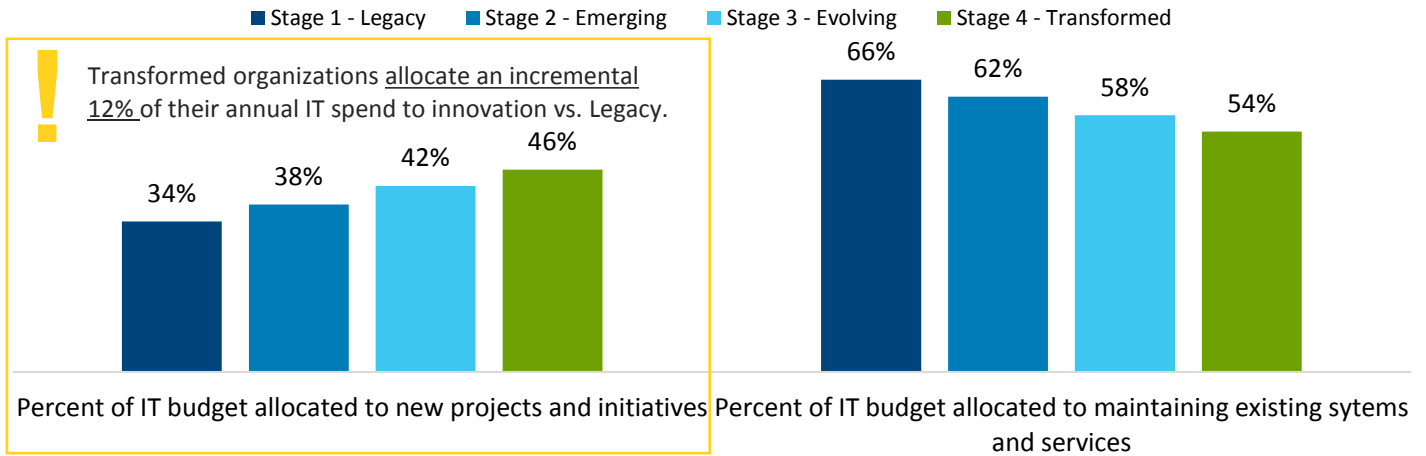
Higher Levels of Funding for New Projects and Innovation

Broadly speaking, organizations can think of their total IT budget in two main categories: maintaining existing systems and investing in new projects. As previously noted, *Transformed* organizations operate their environments at a lower per-application cost than all other segments in ESG's maturity model, a reasonable proxy for the cost of keeping IT operations up and running. It follows that these organizations should therefore have a larger percentage of their IT budget available to invest in new initiatives.

ESG's research data validates this hypothesis. When respondents were asked to estimate the percentage of their organization's IT spend on ongoing maintenance of existing system versus new projects or initiatives, respondents at *Transformed* organizations reported that an average of 46% of their budget is expended on innovation, outstripping the percentage observed among *Evolving* (42%), *Emerging* (38%), and *Legacy* (34%) organizations (see Figure 5). Conversely, *Legacy* organizations spend an average of two-thirds (66%) of their IT budget on maintaining existing systems, compared with just more than half (54%) for fully *Transformed* IT groups.

Figure 5. Percentage of IT Budget Spent on New Projects and Initiatives versus Ongoing Maintenance, by IT Transformation Maturity

Considering your company's total IT budget for 2016, what percent was allocated for maintaining existing systems and services versus allocated to new projects and initiatives? (mean percent of budget)

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

! Transformed organizations allocate an incremental 12% of their annual IT spend to innovation vs. Legacy.

Source: Enterprise Strategy Group, 2017

How does this behavior manifest itself in financial terms? On average, *Transformed* organizations surveyed by ESG reported spending $378M on IT annually. If these organizations allocated IT budgets the same way that *Legacy* organizations do, they would spend 66% on maintenance of existing systems and just 34% on new projects. This would amount to $128.6M available for new projects annually. However, *Transformed* organizations report spending just 54% of their budget on maintenance of existing systems and can spend 46% on new projects. This amounts to $172.6M available for new projects annually, an increase of $44M compared with a *Legacy* organization operating with the same budget resources (see Figure 6). While the absolute dollar increase is dependent on the size of a given organization's IT budget, the percentage difference applies to IT budgets of all sizes.

Figure 6. Average Spend on New Projects/Innovation, by IT Transformation Maturity

Average IT spending allocated to new projects and initiatives, Transformed organizations versus Legacy organizations with equal total IT budget size
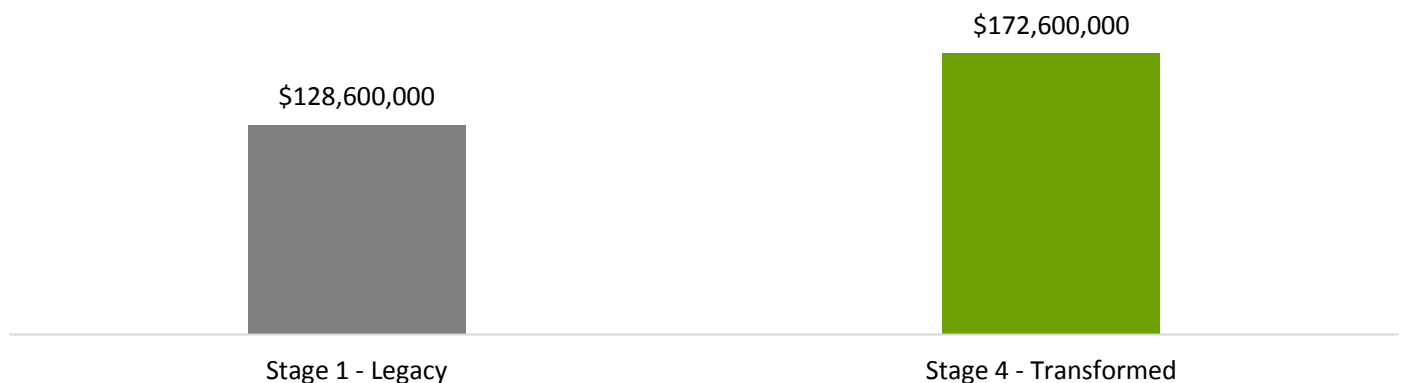
Source: Enterprise Strategy Group, 2017

This example illustrates a significant difference assuming budget parity between *Transformed* and *Legacy* organizations. However, ESG also found differences in IT funding trends between organizations achieving different levels of IT Transformation. When respondents were asked if their IT budget would increase, stay flat, or decrease in 2017 relative 2016, respondents employed at *Transformed* organizations were twice as likely compared with *Legacy* organizations to expect an increase: 92% of respondents at *Transformed* organizations reported an increase was expected compared with 85% of respondents at *Evolving* organizations, 66% of respondents at *Emerging* organizations, and 47% of respondents at *Legacy* organizations. Given the improved outcomes delivered by *Transformed* IT organizations, it is not surprising to note they are the most likely to receive increased investment from the business.
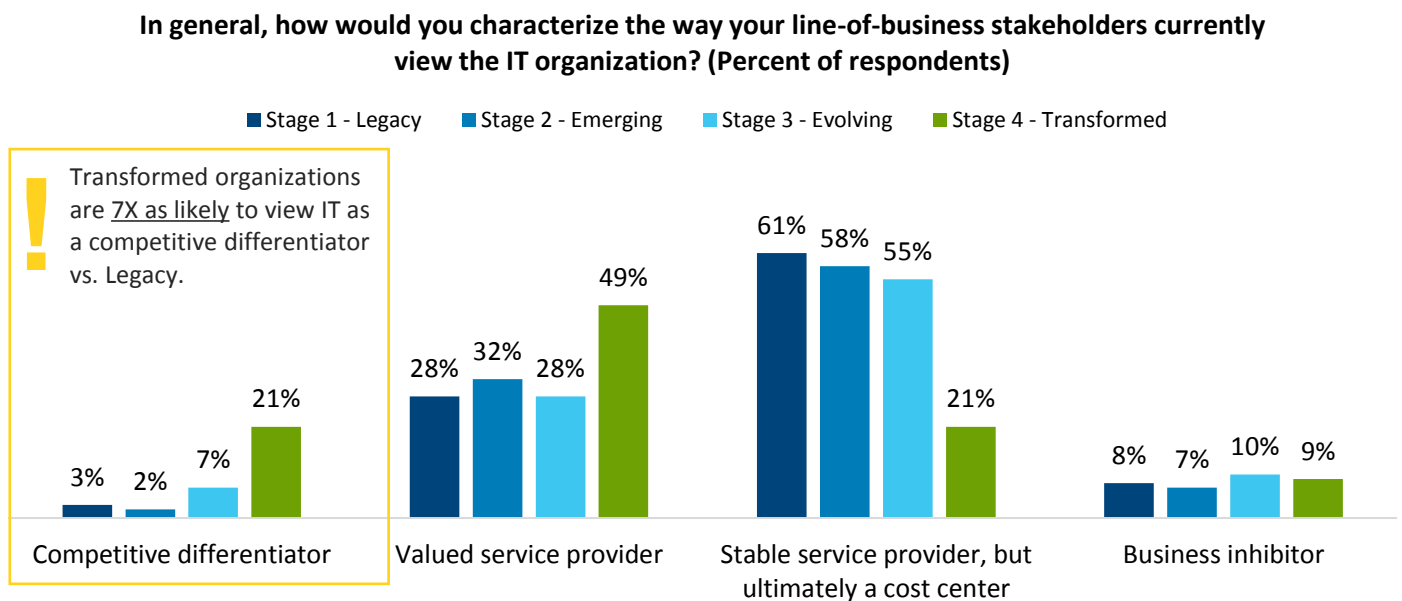
These dynamics create a business advantage for *Transformed* organizations. In the digital economy, technology is central to the products and services organizations sell, and organizations' ability to invest in new technology initiatives drives competitive differentiation.

Higher Levels of Internal Stakeholder Satisfaction

In this paper, we have presented a diverse set of outcomes that correlate to an organization's level of IT Transformation, showing that *Transformed* organizations tend to respond to a dynamic business landscape more quickly, operate their environments at a lower cost, and allocate greater resources to new and innovative initiatives compared with their less mature counterparts. While these tendencies benefit the businesses these IT organizations support, does the research show empirically that IT's business constituents have taken notice?

The answer is an unqualified "Yes." When respondents working at *Transformed* IT organizations were asked to categorize how their line of business stakeholders feel about the IT organization, 21% (seven times the rate observed among *Legacy* organizations) reported that they are seen as a competitive differentiator and 49% reported they were seen as a valued service provider (see Figure 7). Combined, this 70% favorable view is much higher than the comparable incidence among *Evolving* (35%), *Emerging* (34%), and *Legacy* (31%) organizations. The rare *Transformed* IT organization is clearly the example for others to follow—being viewed as an indispensable part of the business and a clear driver of business value at twice the rate (or more) of their less mature counterparts.

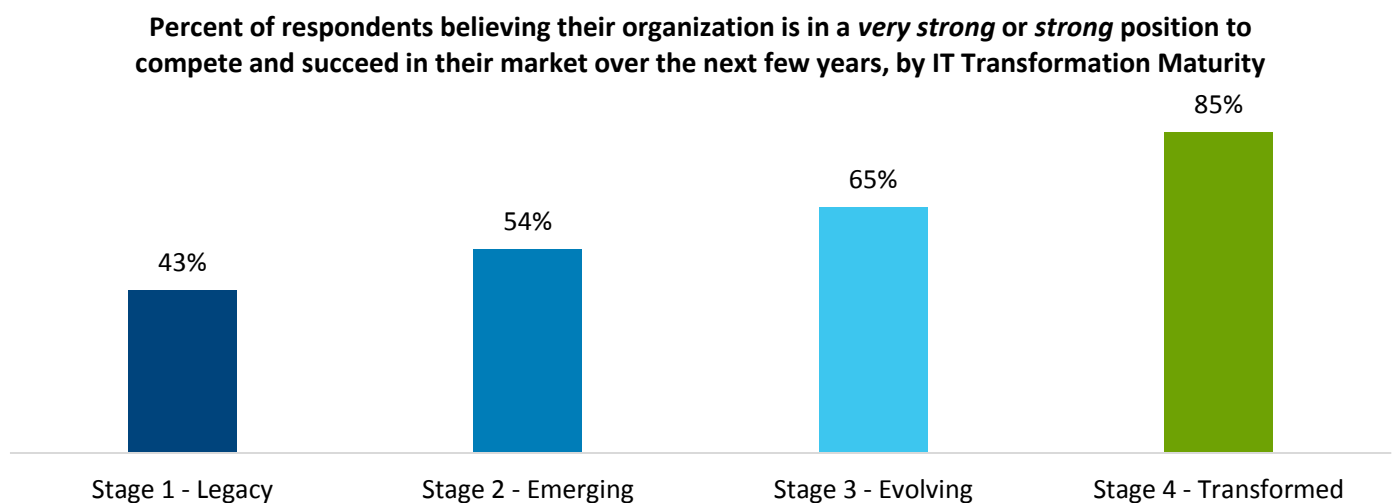**Figure 7. LOB Perception of IT, by IT Transformation Maturity**

In general, how would you characterize the way your line-of-business stakeholders currently view the IT organization? (Percent of respondents)

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

! Transformed organizations are 7X as likely to view IT as a competitive differentiator vs. Legacy.

Competitive differentiator: 3%, 2%, 7%, 21%
Valued service provider: 28%, 32%, 28%, 49%
Stable service provider, but ultimately a cost center: 61%, 58%, 55%, 21%
Business inhibitor: 8%, 7%, 10%, 9%

Source: Enterprise Strategy Group, 2017

Improved Business Outcomes and Optimism

One could use any of the correlations discussed in this paper in isolation to effectively argue that investments in IT Transformation are worthwhile for organizations. However, companies operate in a world driven by business results. For investments in IT Transformation to build, sustain, and grow momentum over time, it is important to draw a link between those investments and the overall success of the business. This link is also validated by the survey data. For example, ESG asked respondents about both their organizations' recent business success, as well as the level of optimism they felt for their organizations' future-facing business outlook. The differences in how respondents working at *Transformed* organizations answered these questions, compared with those lower on the IT Transformation curve, were striking:

- Ninety-six percent of respondents working at organizations that had achieved the highest level of IT Transformation reported their organization had *exceeded* its annual revenue goals for FY2016. By contrast, only 44% of respondents working at organizations segmented in the lowest tier of IT Transformation maturity reported the same success. In short, organizations achieving the *Transformed* IT status report exceeding their FY2016 revenue goals at more than twice the rate of organizations receiving a *Legacy* IT grade.

- Furthermore, 85% of respondents working at *Transformed* organizations reported they felt their organization was in a *very strong* or *strong* position to compete in its market over the next few years. Just 43% of respondents working at organizations with legacy-based IT technologies felt the same level of confidence (see Figure 8).

Figure 8. Respondents' Optimism for Business Success, by IT Transformation Maturity

Percent of respondents believing their organization is in a *very strong* or *strong* position to compete and succeed in their market over the next few years, by IT Transformation Maturity

Stage 1 - Legacy	Stage 2 - Emerging	Stage 3 - Evolving	Stage 4 - Transformed
43%	54%	65%	85%

Source: Enterprise Strategy Group, 2017

As this data shows, there is a clear correlation between the level of IT Transformation maturity within organizations, and both their current and forward-looking business success.

Behaviors That Organizations Should Adopt to Enable IT Transformation

Based on ESG's research, fully *Transformed* IT organizations are admittedly rare at this time, but as this research shows, there are incremental benefits to be had by making any progress along the maturity curve—in other words, by moving from a Stage 1 to a Stage 2, or Stage 2 to Stage 3, organizations can also yield significantly improved business and IT outcomes. There are several behaviors that other organizations can emulate—and corresponding questions that these organizations should ask themselves—as they look for ways to optimize their level of maturity over time:

1. *Transformed* IT organizations empower end-users to self-provision IT resources and have incorporated other capabilities typically associated with public cloud services such as enabling rapid resource scaling and charging back business units based on resource usage. If your IT organization placed more cloud-like capabilities in the hands of its users, would they benefit, and/or be less likely to "source around" internal IT?

2. *Transformed* IT organizations ensure alignment with the business by meeting frequently with business leadership to discuss how IT outcomes track against expectations. *Transformed* organizations reinforce this alignment with formal reporting structures that give CIOs direct access to their CEOs and other executive leadership positions. Is your IT organization, and the outcomes it provides to the business, evaluated consistently enough and with enough depth at the highest levels of the organization to ensure alignment with business priorities?

3. *Transformed* IT organizations place strategic bets on a broad array of modern data center technologies, from high-performance, easy-to-scale storage systems, through prepackaged, easy-to-integrate converged and hyperconverged systems, to flexible, software-defined architectures. Has your IT organization conducted a detailed inventory and assessment of its infrastructure to identify legacy technologies that may be creating performance bottlenecks, cost overruns, slower time-to-market, and capability shortfalls?

4. *Transformed* IT organizations embrace "agile" and DevOps principles and best practices to optimize development innovation, timeliness, and quality. Are your organization's development and operations teams tightly aligned or hindered by legacy technologies, processes, and organizational structures? Is the core IT group struggling to keep up with the number of development projects and rapidly evolving user requirements?

5. Finally, *Transformed* IT organizations realize that as legacy IT evolves, new skills, abilities, and ways of thinking about how IT serves the business will be essential to success. Has your organization conducted a thorough analysis of its most important resource—its people—to identify and eliminate skill gaps which hamper IT's ability to execute its strategic initiatives? Conversely, is your organization developing new hiring priorities, training programs, and career path options that will ensure both IT and Digital Transformation success?

The Bigger Truth

Companies today increasingly rely on technology to grow and improve all aspects of their business, from improving employee productivity, through accelerating new product development, to increasing customer engagement and satisfaction. IT Transformation—the use of modernized data center technologies, automation of IT processes, and transformation of organizational relationships—should play a role in increasing the ability of organizations to capitalize on technology in the digital economy. ESG's research validates this expectation. Organizations seeking to increase IT agility and responsiveness, enhance IT spending efficiency, secure higher levels of funding for new projects, rate more highly with their internal stakeholders, and optimize business outcomes should study the habits and characteristics of those organizations that have achieved higher levels of IT Transformation, and should look to affect change wherever possible to align with the principles and success factors identified in this research.

Assess Your Own IT Transformation Maturity

To enable greater IT Transformation maturity, you must first understand where you stand today. Dell EMC and ESG have made available an interactive online assessment based on this research. It will allow you to see where you stand in relation to your peers and help you understand your strengths and weaknesses. Start the journey toward transforming your IT organization into a competitive differentiator today.

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Launch Assessment Now!

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Appendix I: Research Methodology

To gather data for this report, ESG conducted a comprehensive online survey of IT managers from private- and public-sector organizations in the Americas (United States and Brazil), Western Europe (United Kingdom, France, and Germany), and Asia (China, Japan, and Australia) between December 9, 2016 and January 5, 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. All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on several criteria) for data integrity, a final sample of 1,000 respondents remained.

Note: Totals in figures and tables throughout this report may not add up to 100% due to rounding.

Appendix II: 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 over 50 questions in the survey. These questions are listed in Table 1.

Table 1. Dimensions of IT Transformation Maturity on which ESG Evaluated Respondents

|	Questions Used to Score Organizations' IT Transformation Maturity
Modernized Data Center Technology	Does your IT organization utilize Flash storage to support on-premises applications and in which form factor is Flash storage typically deployed?
	Does your IT organization utilize systems with scale-out architectures and what percent of on-premises applications does your organization support with this type of infrastructure?
	Does your IT organization utilize Converged Infrastructure/Hyperconverged Infrastructure and what percent of on-premises applications does your organization support with this type of infrastructure?
	Is your IT organization committed to, interested in, or not interested in the utilization of software-defined storage technologies?
	Is your IT organization committed to, interested in, or not interested in the utilization of software-defined networking technologies?
Automated IT Processes	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?
	How much progress has your IT organization made towards running on-premises applications with the same abilities as a public cloud provider?
	How broadly has your IT operations/development organization adopted formal DevOps principles and practices?
Transformed IT-Business Relationships	How frequently are 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?
	To whom does the most senior IT executive at your company report?

Source: Enterprise Strategy Group, 2017

Appendix III: Respondent Demographics

The data presented in this report is based on a survey of 1,000 qualified respondents. The figures below detail the demographics of the respondent base, including individual respondents' current job responsibilities, as well as respondent organizations' total number of employees, primary industry, and annual revenue.

Respondents by Job Responsibility

Figure 9. Survey Respondents, by Job Responsibility

Which of the following best describes your current responsibility within your organization? (Percent of respondents, N=1,000)

- IT staff 3%
- IT management 35%
- Senior IT management (e.g., CIO, VP of IT, Director of IT, etc.) 62%
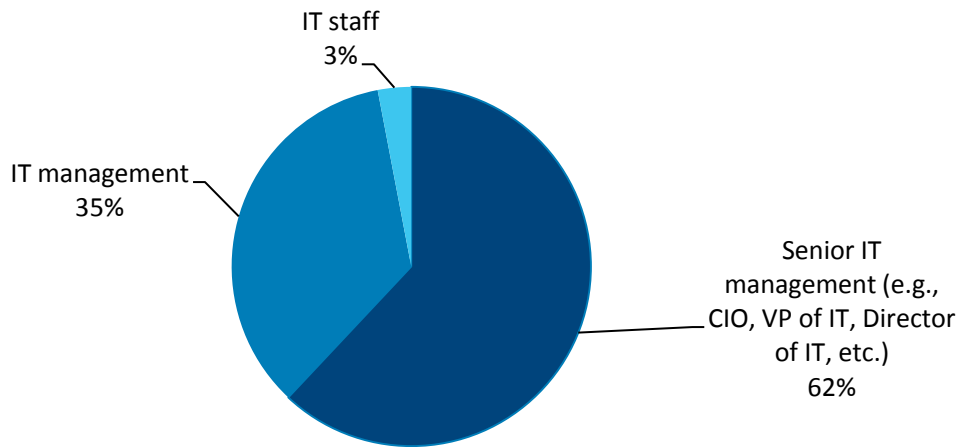
Source: Enterprise Strategy Group, 2017

Respondents by Number of Employees

Figure 10. Survey Respondents, by Number of Employees

How many total employees does your organization have worldwide? (Percent of respondents, N=1,000)
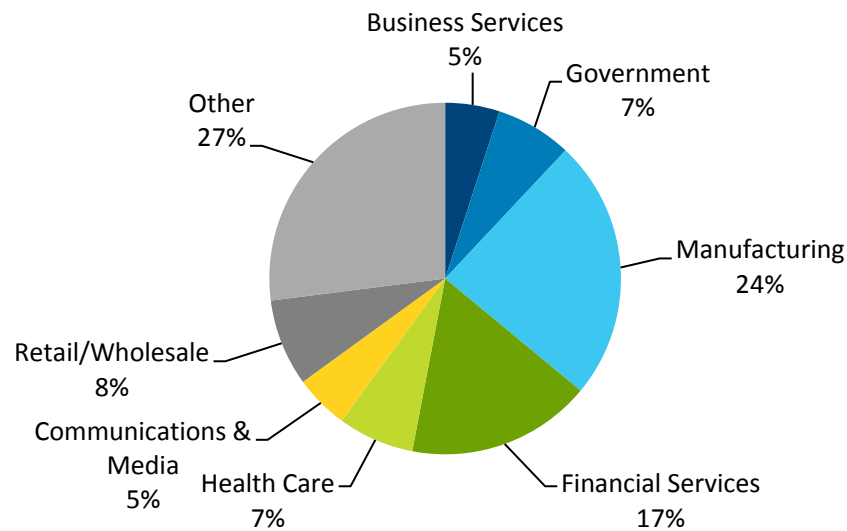
- 20,000 or more 21%
- 1,000 to 2,499 20%
- 2,500 to 4,999 23%
- 5,000 to 9,999 24%
- 10,000 to 19,999 12%
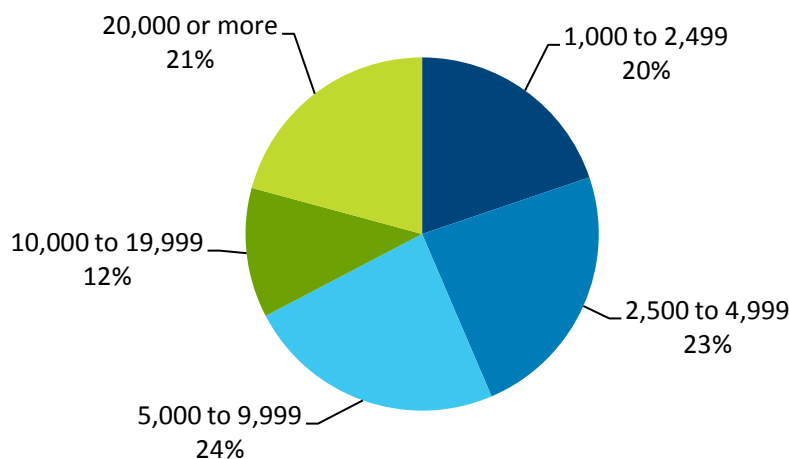
Source: Enterprise Strategy Group, 2017

Respondents by Industry

Respondents were asked to identify their organization's primary industry. In total, ESG received completed, qualified responses from individuals in 21 distinct vertical industries, plus an "Other" category. Respondents were then grouped into the broader categories shown in Figure 11. Additionally, Figure 12 shows the distribution of respondents' organizations by the Transformation stage ascribed by the maturity model.
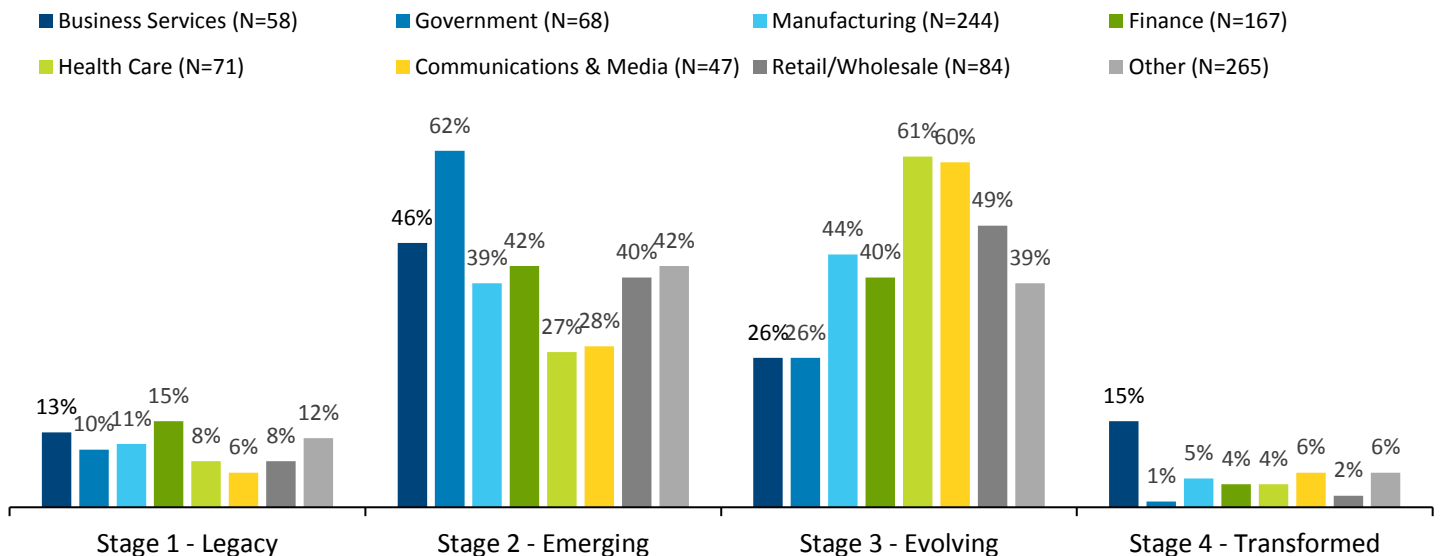
Figure 11. Survey Respondents, by Industry

What is your organization's primary industry? (Percent of respondents, N=1,000)

Business Services 5%
Government 7%
Manufacturing 24%
Financial Services 17%
Health Care 7%
Communications & Media 5%
Retail/Wholesale 8%
Other 27%

Source: Enterprise Strategy Group, 2017

Figure 12. Industry, by IT Transformation Maturity Stage

Organization Industry, by IT Transformation Maturity Stage (percent of respondents)

Business Services (N=58) Government (N=68) Manufacturing (N=244) Finance (N=167)
Health Care (N=71) Communications & Media (N=47) Retail/Wholesale (N=84) Other (N=265)

Stage 1 - Legacy: 13%, 10%, 11%, 15%, 8%, 6%, 8%, 12%
Stage 2 - Emerging: 46%, 62%, 39%, 42%, 27%, 28%, 40%, 42%
Stage 3 - Evolving: 26%, 26%, 44%, 40%, 61%, 60%, 49%, 39%
Stage 4 - Transformed: 15%, 1%, 5%, 4%, 4%, 6%, 2%, 6%

Source: Enterprise Strategy Group, 2017

Respondents by Annual Revenue

Figure 13. Survey Respondents, by Annual Revenue

What is your organization's total annual revenue ($US)? (Percent of respondents, N=1,000)

Source: Enterprise Strategy Group, 2017

Enterprise Strategy Group is an IT analyst, research, validation, and strategy firm that provides actionable insight and intelligence to the global IT community.