RESEARCH INSIGHTS

Evaluating the ROI of Major Tech Investments

Perspectives Spanning IT and LOB Leaders

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Introduction

In today's digital landscape, organizations that neglect to appropriately invest in technology will quickly become bogged down in IT inefficiencies that compromise their cyber resilience, hamper employee productivity, and limit the agility needed to seize emerging market opportunities. Customers expect frictionless, always-on, personalized, and secure experiences, while employees seek a digital work environment that prioritizes flexibility, efficiency, and productivity. Companies that do not invest in innovation risk being outpaced by more agile competitors who can better meet these demands, resulting in market share loss and employee churn.

At the same time, high interest rates, persistent inflation, and a volatile geopolitical backdrop all create pressure to adopt a cautious approach to spending, including investments in tech. This push and pull between financial caution and the necessity for technological innovation creates a strategic dilemma for IT and business leaders responsible for the organization's IT investment roadmap.

In light of this dynamic, the focus of this report is to provide IT strategists with data and insights to help inform future investment decisions. To do this, Amazon Web Services (AWS) partnered with TechTarget's Enterprise Strategy Group to survey 1,000 senior IT and line-of-business (LOB) managers involved in the tech purchase process at their organizations who are knowledgeable about the assessed ROI that tech projects and initiatives have delivered (see "Research methodology and respondent demographics" for more details). The survey sought to uncover LOB and IT leader sentiments around which investments have delivered the highest returns, which have underperformed, and why.

Highlighted findings

- **The mandate to modernize is winning out over fiscal conservatism:** The average organization has made sizable IT investments in 10.5 different solution areas in the past 12-24 months.
- **Boards of directors are engaged:** 73% of respondents reported members of their C-suites are having discussions with the board about major technology project statuses on at least a quarterly cadence.
- **Generative AI, other forms of AI, cybersecurity technologies, and public cloud IaaS and PaaS:** These are the technology areas respondents most often reported are delivering the greatest ROI.
- **Payback periods for major IT investments are unrealistic for many:** 52% of respondents said their organization targets a 7-12-month payback period for major IT investments, which, for many projects, simply might not be feasible.
- **Key ROI drivers are challenging for many organizations to quantify:** Some of these, including improvements to customer goodwill (67%), improvements in CX (66%), and reductions in enterprise risk (67%), might be overlooked.

Where are organizations investing most?

Organizations are placing numerous big bets on tech

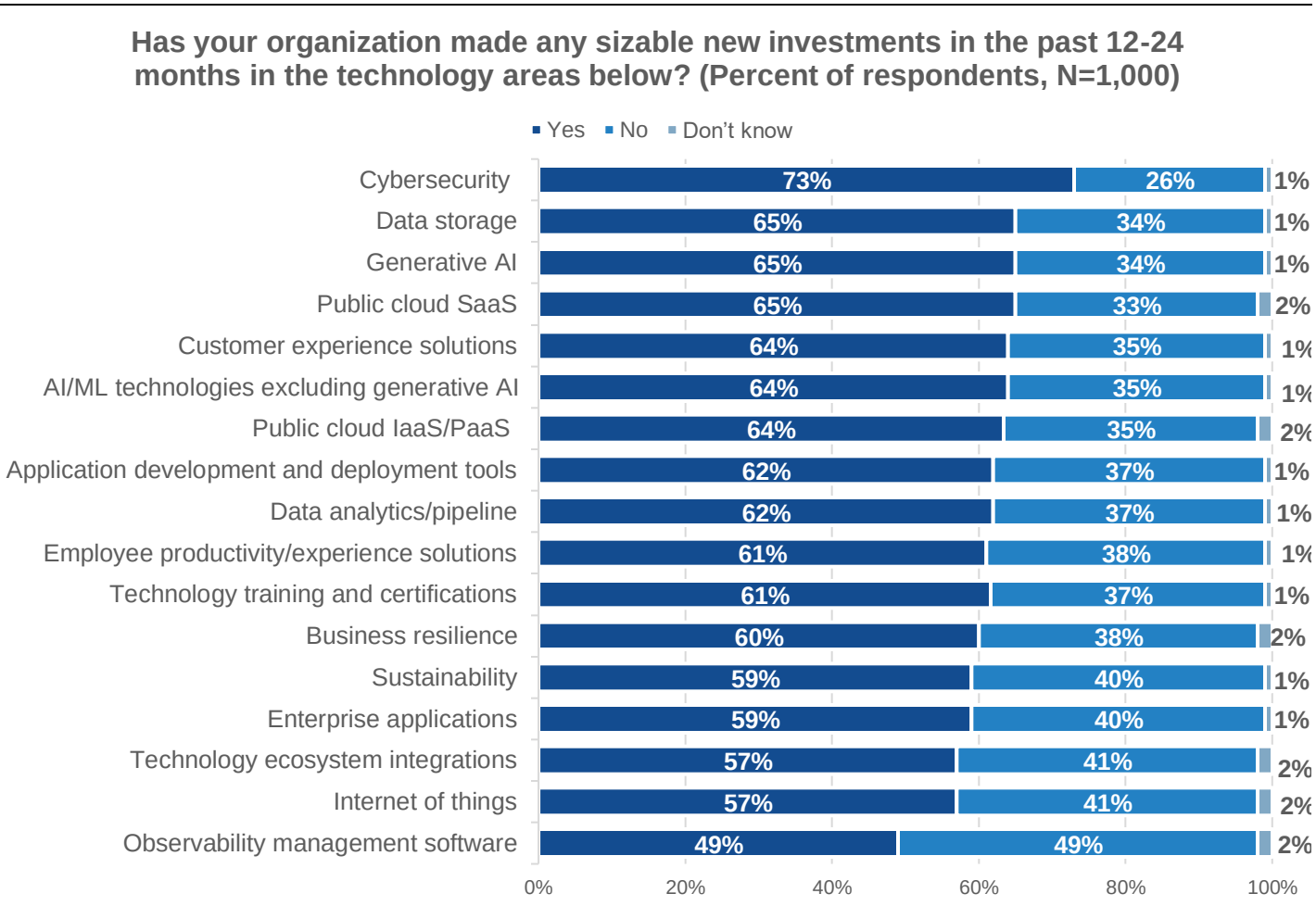
Before understanding which investments are perceived as delivering the highest ROI and which appear to lag in business impact, we must first gauge where investments are being made. Respondents were asked to report if their organization had made any sizable investments in the past 12-24 months across 17 major technology categories. Reviewing the data (see Figure 1) yields three key findings:

1. **Cybersecurity is the area where organizations are most often making major investments.** This is noteworthy but not surprising, given the scale of cybercrime activity, the growing sophistication of threats bad actors can employ, and the negative business impact of security incidents (e.g., interruptions in business operations, lost customer goodwill, compliance penalties, etc.).

2. **Significant investments in generative AI and data infrastructure are also noteworthy.** Generative AI has quickly gone from a technology with few well-understood enterprise applications to being on par with data storage and SaaS as a technology area worth investing in. Since the models that underpin generative AI are fueled by large amounts of data, it's not surprising that data infrastructure is, likewise, ranked as a top investment area.
3. **Organizations are making significant investments across multiple technologies, rather than prioritizing a few key areas.** The average respondent reported their organization had made sizable investments in 10.5 different technology areas over the last 12 to 24 months.

This final data point is particularly important. In today's world, every company is, to some extent, a technology company. Whether through digital customer engagement channels, custom application development, e-commerce, or data analytics, technology is at the core of many business processes across all industries. This reliance on digital tools to reach customers, create operational efficiencies, and stay competitive in the market means that tech investment strategies are no longer just the concern of the IT department but of the business at large as well.

Figure 1. Most Significant Tech Investments, by Technology Area, Over the Past 12-24 Months



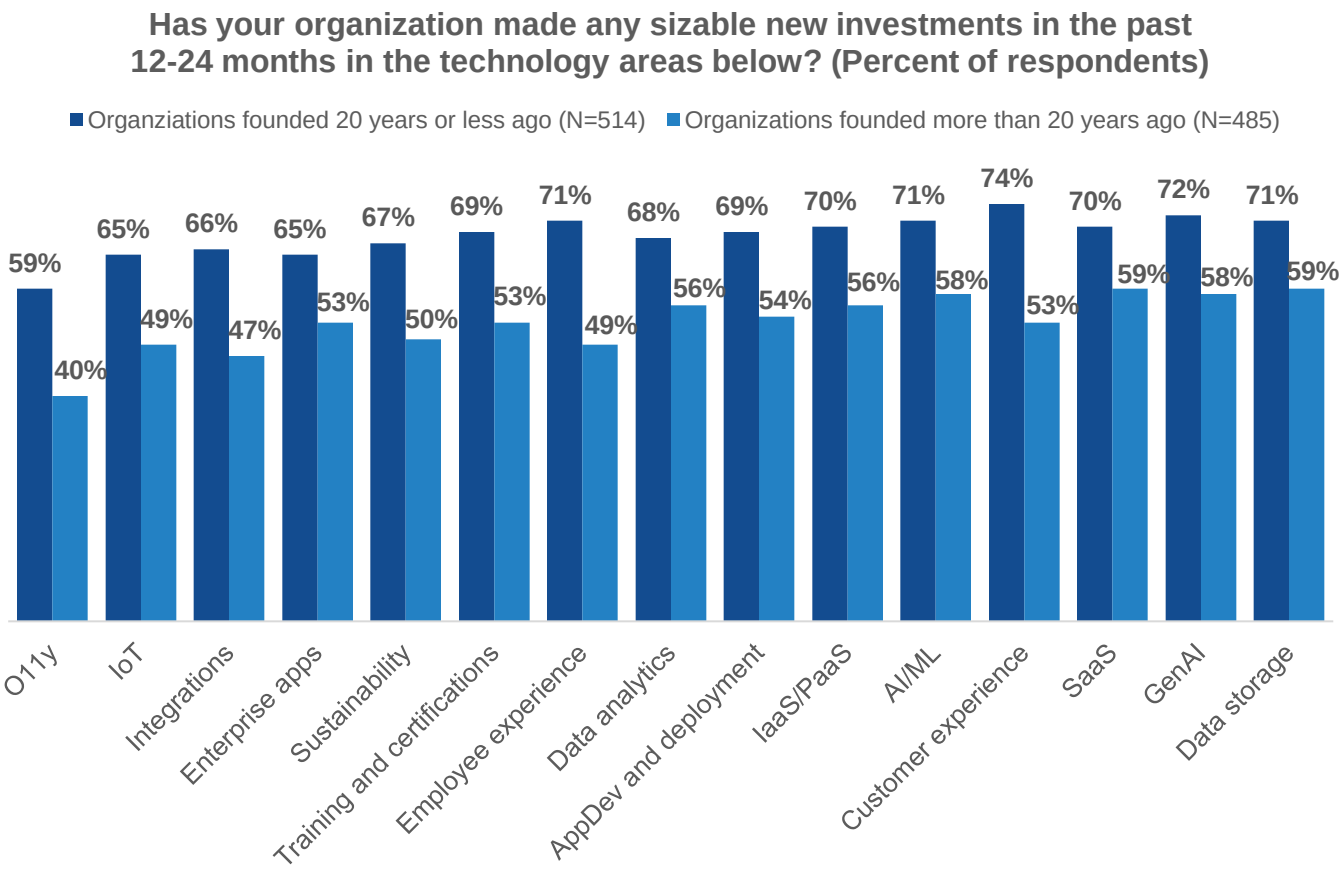
Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Investment strategies differ for digital natives vs. established enterprises

One consistent firmographic trend in the data is that younger organizations (i.e., those founded within the last 20 years) were much more likely to report they had made significant, recent investments across all technology areas, compared with organizations that were founded more than 20 years ago (see Figure 2). The implication is that these "digital native" organizations are even more likely to be reliant on technology for their core business processes and, thus, invest more aggressively than their older counterparts. Additionally, these younger companies often have more agile business philosophies and less bureaucratic red tape when it comes to internal selling and getting approval for major tech investments.

Finally, younger organizations cited several technologies as delivering a high ROI more often than their more established peers—namely, AI/ML technologies separate from generative AI (32% vs. 26%), public cloud IaaS/PaaS (28% vs. 21%), and public cloud SaaS (25% vs. 19%). These gaps might have arisen because digital natives tend to be more proficient in leveraging their data assets and are more likely to prioritize flexibility and scalability in their digital infrastructure. These firmographic differences position them better than their older peers to capitalize on the value of AI, ML, and the cloud.

Figure 2. Younger Organizations Prioritize Several Tech Investment Areas More Than Their Peers



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Which technologies deliver the greatest return?

AI, security, and cloud are perceived as the highest-performing tech investments

Our goal with this research is to help technology buyers make better resource allocations based on the ROI their peers report. To do this, we asked which technology investments are delivering the best ROI and which are delivering the lowest ROI. When assessing the former, three categories of technology rose to the top: AI, cybersecurity, and cloud computing, with each of the top five responses falling under one of these three categories (see Figure 3).

The technology most frequently cited as delivering the greatest ROI in the last 12-24 months is generative AI. This finding is impressive, given that generative AI's mainstream enterprise use cases have all emerged within this window of time. It's rare that such a nascent technology is able to generate such impact for so many organizations.

One reason generative AI is perceived so highly compared with other technologies might be related to the difficulty of accurately quantifying ROI (a finding discussed at length later in this paper). Generative AI solutions offer an immediate and easily recognized lift to employee productivity. But just because a benefit is easy to see and easy to quantify doesn't necessarily mean it's more valuable than the nuanced business benefits delivered by other technologies. As generative AI technologies continue to mature and as investments scale beyond initial use cases, it will be interesting to track how ROI perceptions evolve.

Industry highlights:

Which tech investments most often drive the highest ROI:

Generative AI:

FinServ | Discrete mfg. | Public Sector | Media/gaming | Tech

Cybersecurity:

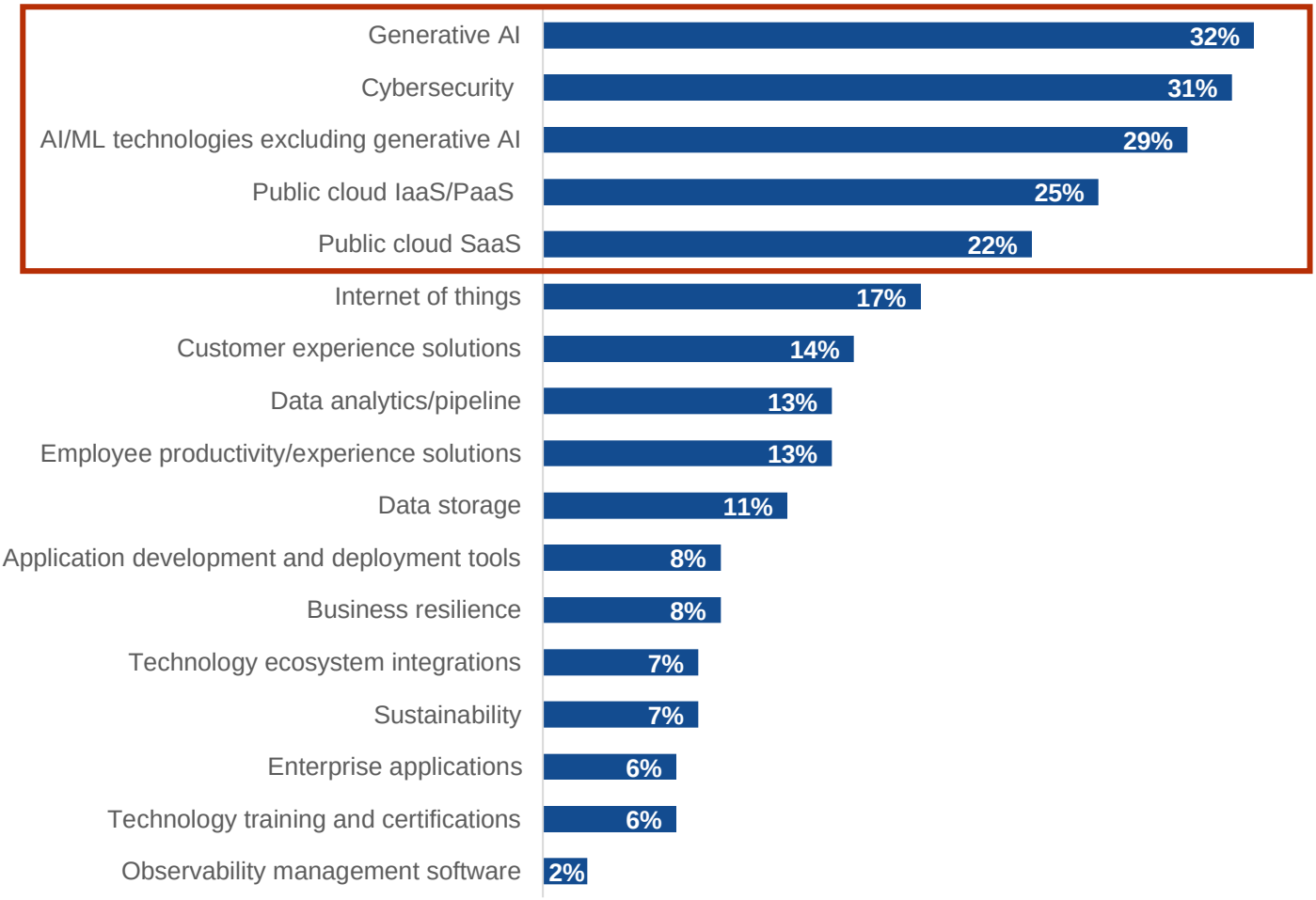
Life sciences/ healthcare | Hospitality/leisure | Retail/eTail

AI/ML (excluding generative AI):

Process mfg. | Energy and utilities

Figure 3. Technologies That Most Often Deliver the Greatest ROI

When you consider the sizable new IT investments your organization has made in the past 12-24 months, which would you say have delivered the greatest ROI for your organization? (Percent of respondents, N=1,000, three responses accepted)



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Another data insight worth mentioning is that large enterprises (i.e., those with 5,000 or more employees) were more likely than their midmarket counterparts to cite generative AI technology as delivering high ROI. This might be the result of those organizations being more apt to have both the data assets needed to power custom generative AI solutions and the staff expertise on hand to manage, govern, consolidate, and analyze those data assets.

Enterprise-scale organizations were also most likely (37%) to report that cybersecurity investments were delivering a high ROI (vs. 30% of those with 1,000-4,999 employees and 23% of those with 500-999 employees). Larger enterprises might see a higher ROI from cybersecurity investments due to the significant scale of data and assets they need to protect, which, if compromised, could result in substantial financial losses, reputational damage, and more severe regulatory penalties.

One final correlation to note is that, when asked which technologies have the greatest impact on how customers engage with an organization and view its brand, the top five responses matched the list of technologies delivering

the highest ROI—in virtually the same rank order. The implication is clear: The key to a high-performing technology investment lies in the technology's potential to transform customer experiences. While IT decision-makers must weigh an array of considerations in their budgeting process—from regulatory compliance, to business continuity, to employee enablement, and more—this research advocates for organizations to adopt a customer-centric mindset when evaluating budgets and spending.

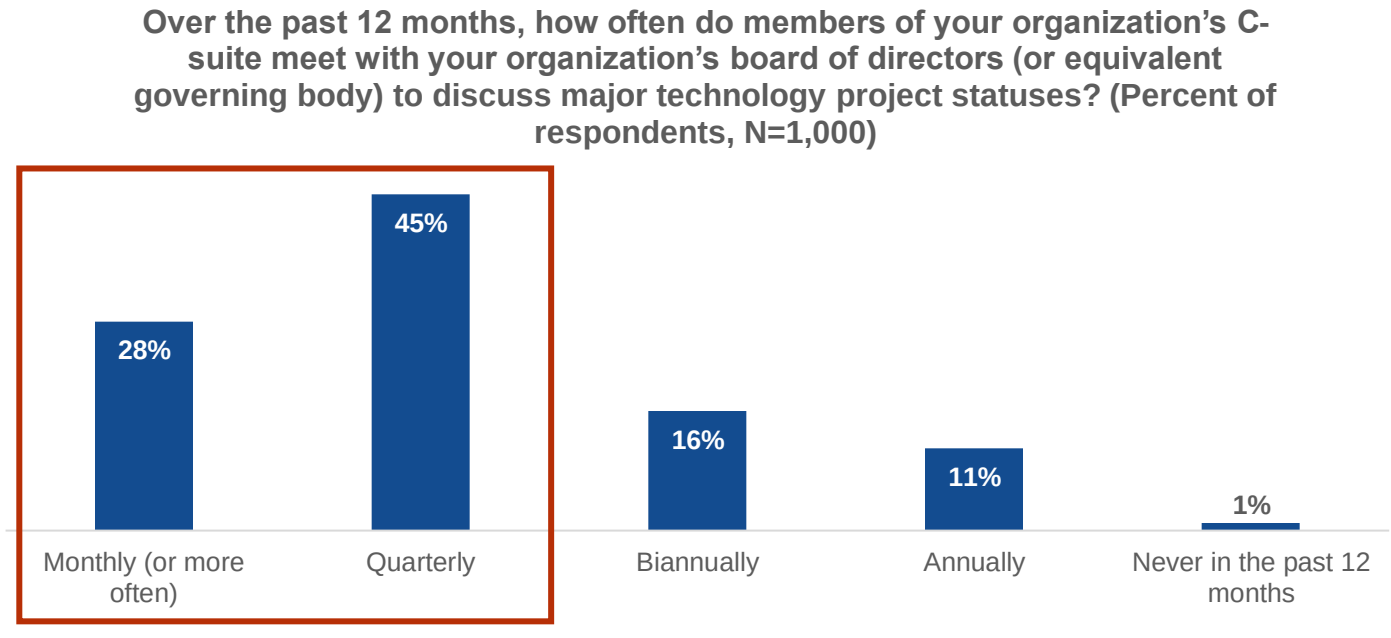
Board-level engagement on tech investments is high

At most organizations, the C-suite is having frequent meetings with boards of directors with the express purpose of discussing project updates, requesting additional resources, and reporting on initiative outcomes. More than 7 out of 10 respondents (73%) report members of their C-suites are having these discussions with the board on at least a quarterly cadence (see Figure 4).

This is a positive finding, as frequent meetings between the C-suite and the board of directors provide a platform for addressing concerns and aligning on long-term organizational goals. Additionally, regular communication fosters transparency and trust, which are essential for gaining the necessary support and funding for critical tech initiatives. The data further supports this hypothesis. More frequent board engagement is correlated with an organization being on the leading edge of tech adoption: 56% of those whose C-suite meets with the board monthly are leading edge, vs. 39% of those who do so quarterly, vs. 20% of those who only meet annually.

Additionally, when respondents were asked to describe the relationship between the IT organization and other LOBs, respondents at organizations with more frequent board engagement were significantly more likely to use words like "trusting" (53% among those with monthly board engagement, vs. 47% among those with quarterly board engagement, vs. 32% among those with annual engagement) and "engaged" (43% vs. 40% vs. 19%).

Figure 4. C-suite Meetings With the Board of Directors to Discuss Technology Projects Are Frequent



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Which technologies deliver the lowest return?

Where tech investments most often fall short

Understanding and advising the market about what tech investments deliver a high ROI is only half of the equation. The research also questioned respondents about the major investments they've made that delivered the lowest ROI (see Figure 5).

Looking at the top few responses (i.e., data storage, business resilience, and, somewhat divisively, cybersecurity), there is a common theme that these technologies tend to run "behind the scenes" and that business users only notice them when things go wrong. This may be part of why their ROI is assessed as being so low. For example, while business resilience investments like data protection or business continuity and disaster recovery (BCDR) services reduce enterprise risk, these investments will only reflect a quantifiably high ROI if the organization faces a catastrophic event.

This research shows that cybersecurity, in particular, is viewed divisively, as it is the only technology area in both the top five technologies delivering the highest ROI and the top five technologies delivering the lowest ROI. While cybersecurity is an area where organizations invest heavily, the value received might be viewed as low in cases where the organization suffers from one or more successful attacks. In such cases, organizations might feel that their investment was a waste. However, cybersecurity spending might also be seen as delivering low value if the organization *doesn't* suffer a successful attack and can't quantify whether the investment was necessary or if a smaller investment would have been sufficient.

Industry highlights:

Which tech investments most often drive the lowest ROI:

CX solutions:

Process mfg.

Energy and utilities

Media/gaming

Business resilience (backup,BC/DR):

FinServ

Hospitality/leisure

Storage:

Public Sector

Retail/eTail

Generative AI:

Life sciences/ healthcare

Cybersecurity:

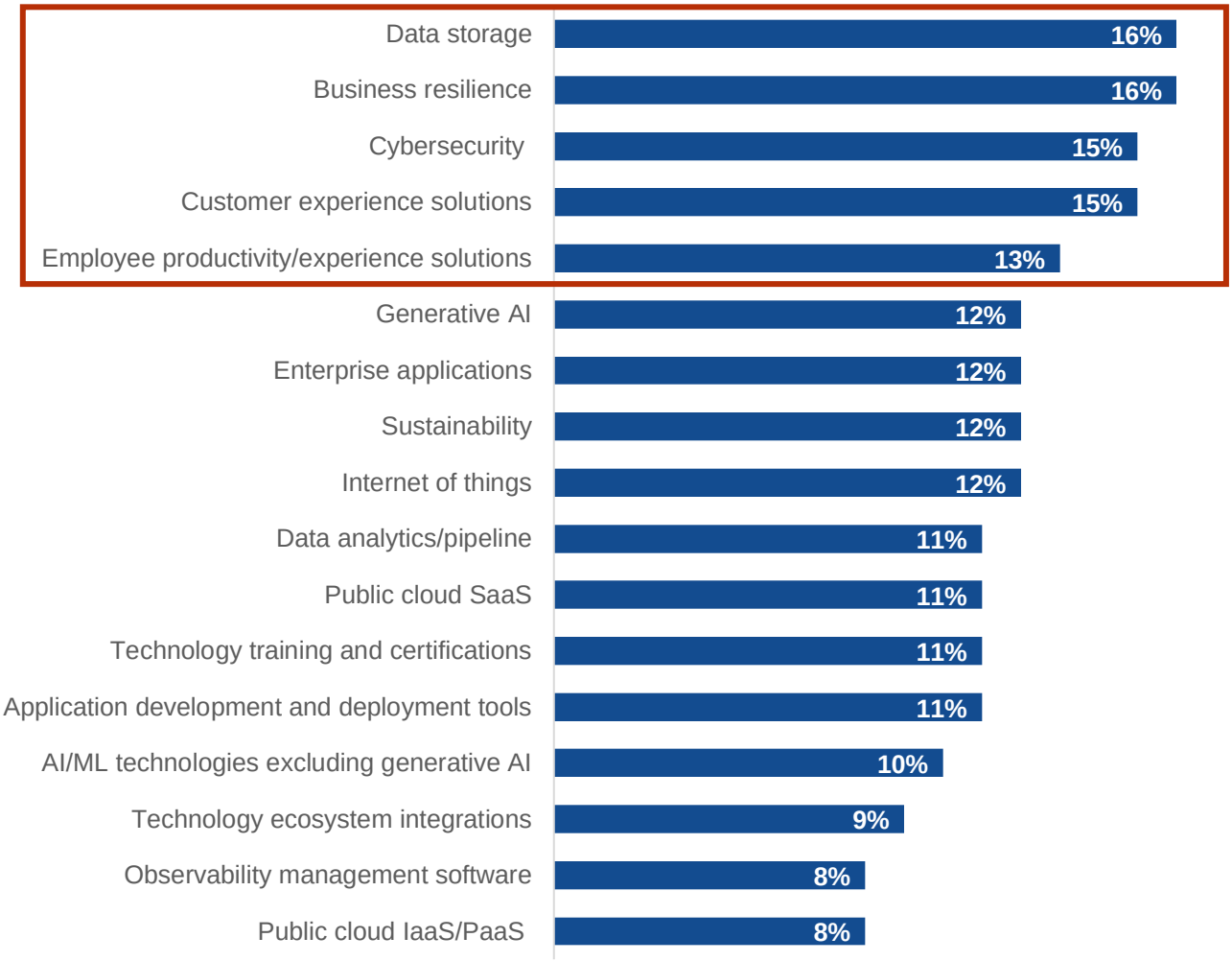
Discrete mfg.

SaaS:

Tech

Figure 5. Technologies That Most Often Deliver the Lowest ROI

When you consider the sizable new IT investments your organization has made in the past 12-24 months, which would you say have delivered the lowest ROI for your organization? (Percent of respondents, N=1,000, three responses accepted)



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

What factors cause a tech investment to underperform?

Friction between LOB and IT leader perceptions could lead to low ROI

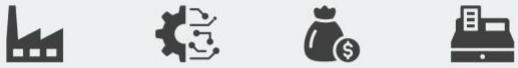
Looking further down the list of technologies driving the lowest ROI, customer experience (CX) and employee experience (EX) solutions round out the top five responses. These two items differ from the prior three in that they are less easy to categorize as related to IT cost center spending. However, when viewing the data by function, we see a trend that can help explain the data.

There are several technology areas where IT respondents view their organization's investments differently than their LOB peers (see Figure 6). We see two broad categories of technologies where this trend occurs. In the first category are technologies that tend to affect the day-to-day lives of knowledge workers (i.e., CX solutions, EX solutions, and SaaS). Since these solutions don't affect IT workers directly as much, IT might underestimate the ROI they deliver relative to their LOB counterparts.

The second category of technologies can broadly be considered more nascent (i.e., generative AI, other types of AI/ML, IoT, and data analytics and pipeline solutions). These technologies are subject to vendor hype, and many in IT who work closely on their implementation and management might underdeliver relative to their promise. Of course, this is not universally true, given that we've seen technologies like AI/ML and generative AI also perform well in terms of ROI for many organizations, both in the aggregate and as reported by IT respondents specifically.

Industry highlights:

Industries where board engagement is most often monthly or more frequent:



45% Discrete manufacturing

40% Tech

38% FinServ

37% Retail/eTail

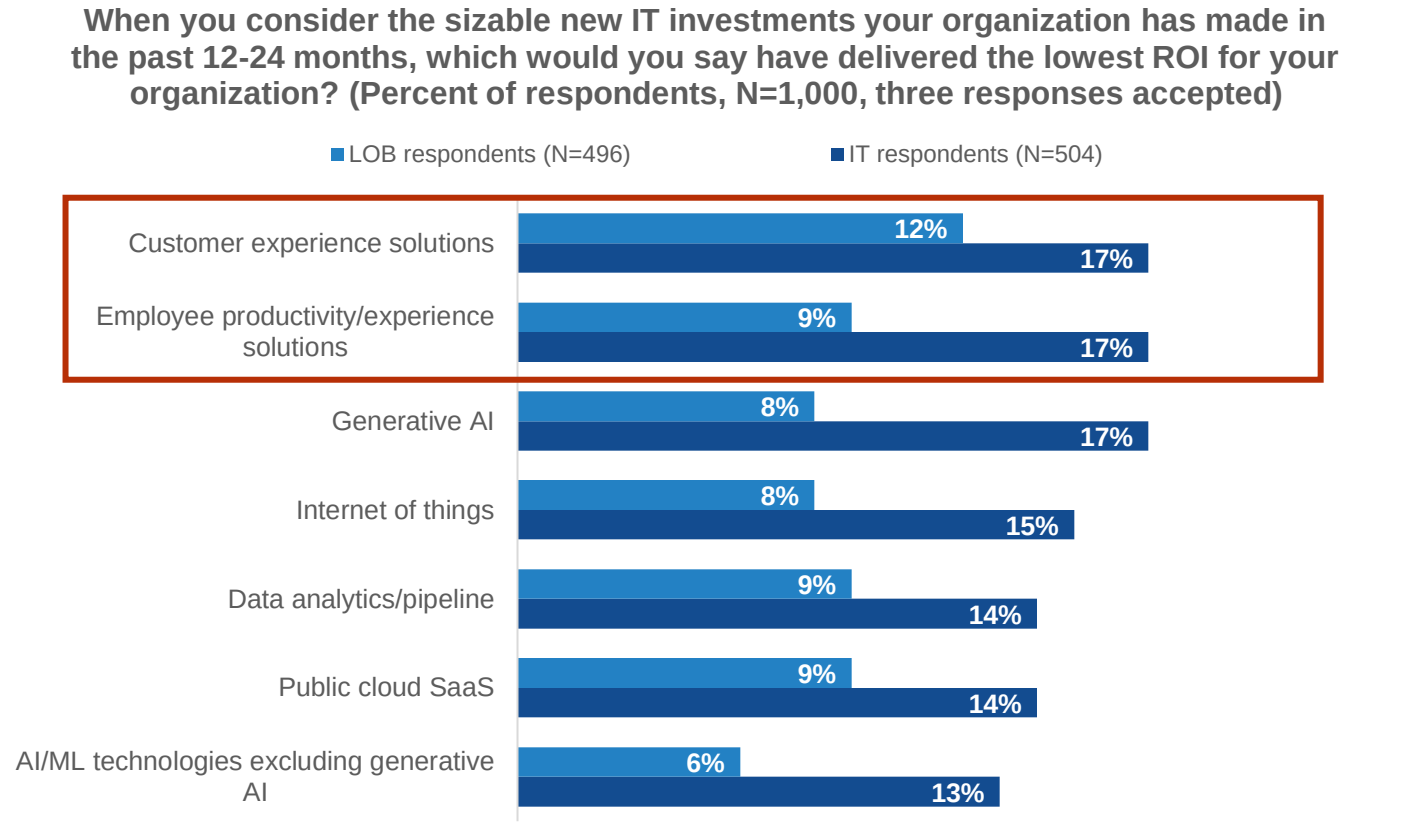
Industries where board engagement is most often annual or less frequent:

34% Hospitality and leisure

29% Public sector

28% Media, sports, and gaming

Figure 6. The Low-ROI Perception Gap Across Functions



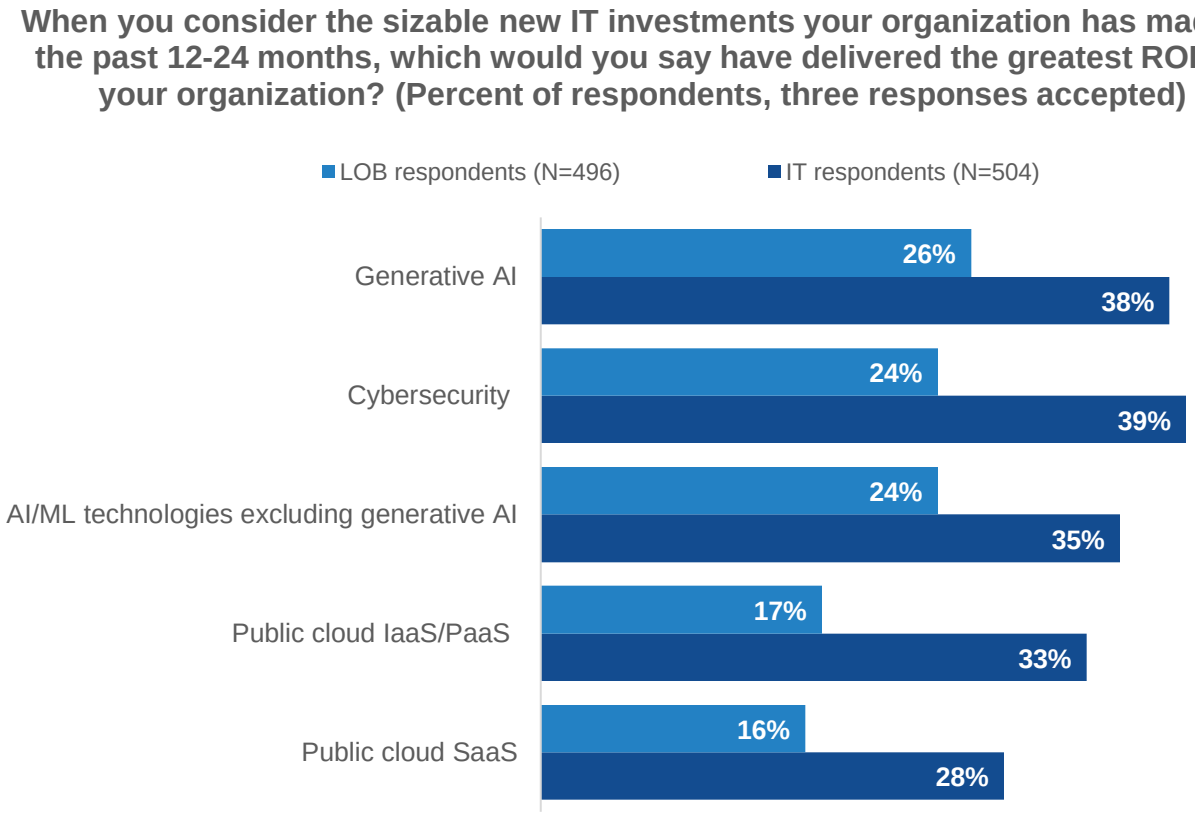
Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Similarly, when we compare the top-performing technologies, the survey data reveals a high degree of cross-functional friction when it comes to evaluating the ROI of a technology investment (see Figure 7). IT respondents were more likely to report six different technology areas as delivering a high ROI as compared with their LOB counterparts (i.e., these differences were statistically significant at a 95% confidence level). Conversely, there were no technology areas viewed more favorably by LOB as compared with IT respondents. Clearly, organizations need to be doing more to drive consensus. If teams are not on the same page regarding the value of technology investments, the resulting conflict often makes it impossible to allocate resources appropriately.

One approach to drive agreement is to employ objective frameworks to help ensure the value of any given investment is accurately measured. The AWS Cloud Value Framework[1] is one such example: It aims to holistically quantify the full range of benefits—from the tactical (e.g., cost savings, productivity) to the strategic (e.g., agility, resiliency, and sustainability)—an organization could achieve from the use of cloud services. These types of frameworks make it easier for teams to get an accurate read on the total business value of projects and make more informed strategic decisions.

[1] For more information visit https://aws.amazon.com/economics/.

Figure 7. The High-ROI Perception Gap Across Functions



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Misalignment abounds when it comes to assessing tech adoption maturity

One of the most easily apparent insights from the data is that it's hard to objectively evaluate where your organization stands on technology adoption and innovation. When asked to assess their organization's general technology adoption approach, 78% of respondents claimed that their organization was either on the leading edge (39%) or tended to be in the early majority (39%). Conversely, just 8% of respondents said their organization tended to be in the late majority (4%) or very conservative (4%).

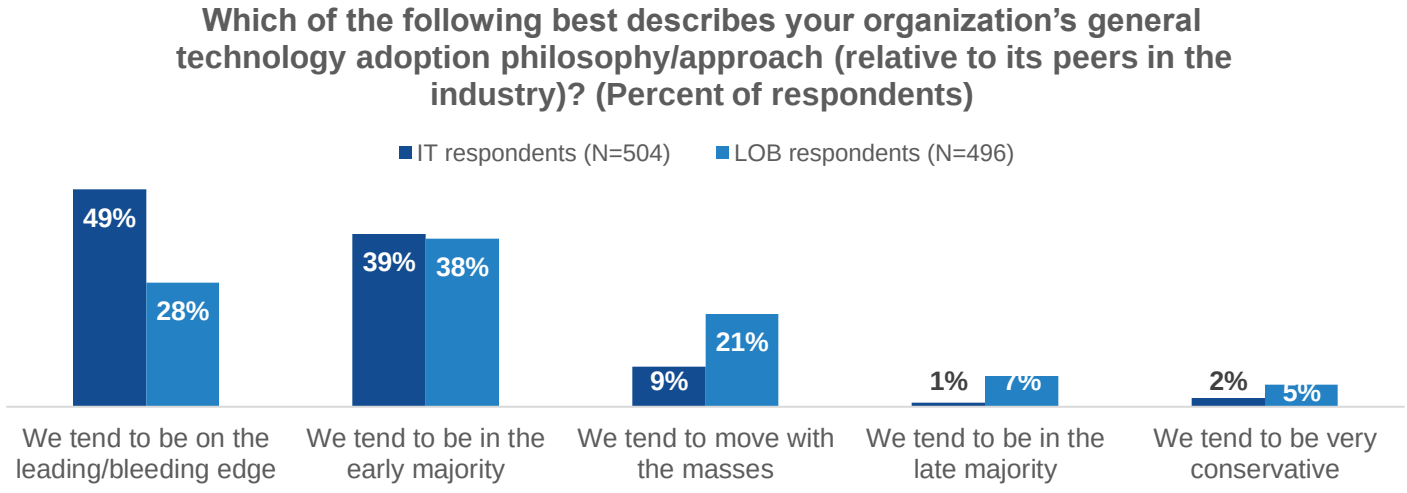
Inspecting the data through the lens of job function uncovers another learning: IT and LOB leaders are not on the same page with respect to their organizations' tech adoption maturity. While nearly half (49%) of respondents employed in an IT role saw their organization as being on the leading edge, just 28% of those on the business side of the house felt the same (see Figure 8). Conversely, LOB respondents were nearly three times more likely than their IT counterparts to see their organization as moving with the masses or slower (33% vs. 12%).

Ensuring that IT and LOB leaders are on the same page when evaluating tech adoption is critical, especially when it comes to collaborative processes like assigning funding levels, determining which projects to pursue, and determining how teams work together on new deployments and projects. When there's a lack of alignment, it usually means there aren't clear benchmarks or objectives that everyone agrees on. This can lead to confusion, misaligned priorities, and poor investment choices, negatively affecting business outcomes in the long run.

Throughout this report, vertical variations in the data show how much perceptions can shift based on industry. For example, when looking at underperforming technologies, it's surprising that media and gaming companies would report subpar ROI for their CX investments, given how central user satisfaction is to their business models. This

counterintuitive result raises questions about whether these companies are implementing CX initiatives effectively or are facing unique challenges in quantifying CX returns. It's similarly unexpected to see financial services firms viewing investments in BCDR negatively, considering the critical importance of operational resilience in this highly regulated sector, where minutes of downtime can equate to millions in lost revenue. This unexpected attitude may be indicative of just how hard it is to measure and assign value to reduced enterprise risk.

Figure 8. IT and LOB Do Not Share a Common View of Their Organization's Technology Adoption



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

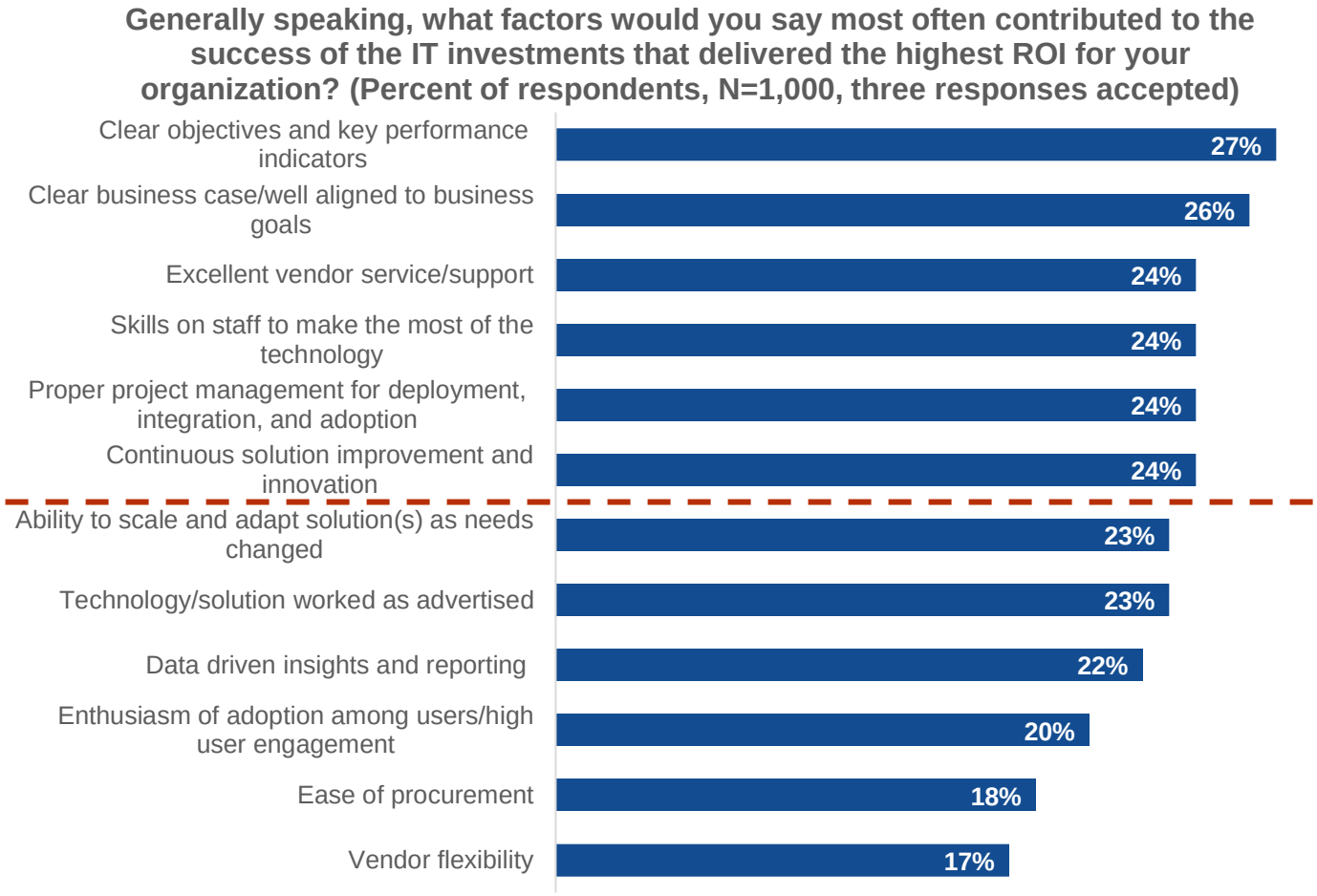
How do you increase the ROI of a tech investment?

Examining the 'why' of high-performing tech investments

While peer-based insights about which technologies deliver and which don't is instructive to future decision-making processes, the research went further. We sought to understand the "why" of high ROI perceptions. Specifically, we asked respondents what they felt most contributed to the success of IT investments that delivered a high ROI (see Figure 9). While the answers are multifaceted, with no single determining factor, looking at the top half of the reported drivers reveals a belief that the organization itself is often in control of its success rate: Three of the six top responses are governed entirely by internal people and processes. Specifically, respondents most often indicated that the development of clear objectives, ensuring investments align to business priorities, and having the human capital to take advantage of investments are key reasons their investments have delivered a strong ROI.

As for what organizations should prioritize from their vendors, excellent support, continuous solution innovation, and, depending on the interpretation of the data, solution deployment and integration services were all frequently cited as reasons why investments had been successful and should be elevated in vendor evaluations.

Figure 9. The 'Why' of High-ROI Investments



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

When comparing high-performing ROI perceptions against organization founding date, we see that more established organizations more often reported a strong business case as the root of their investment's success (29% vs. 23% of digital natives). This could be because older organizations are more likely to have redundant solutions already deployed. More established organizations are well-served by building a robust business case, anchored by a definitive need, to ensure they don't exacerbate any complexity in their existing IT environment.

Conversely, the data shows that digital native organizations more often credited both ease of procurement (21% vs. 15%) and solutions that work as advertised (26% vs. 20%) as determining factors in high-ROI technologies. The implication is that younger organizations should prioritize ease of procurement to ensure they don't erode the agility advantage they are likely to enjoy in their markets. Similarly, placing an emphasis on ensuring solutions deliver on their promise is critical for younger organizations, which tend to be smaller and less well funded, making the success of their big tech bets even more important.

Unrealistic expectations are the biggest obstacle to success

When respondents were asked about the issues that caused their low-ROI projects to underdeliver, the number one reason was that business objectives were not met within the expected timeline, with skill gaps and investments not being aligned to business goals rounding out the top three responses.

Given this response, it's critical to understand how much calendar time organizations are allowing for investments to pay off. When asked to quantify their organization's typical targeted payoff period for sizable, new IT investments, the majority of respondents (52%) indicated 7-12 months (see Figure 10). In this regard, tech companies are the outlier, with 37% targeting a payback period of less than 6 months (vs. the 23% of respondents across all industries).

Given that the reason many tech investments underperform is an issue with delivering business outcomes in the time expected, it's clear that IT leaders need to carefully set expectations with their LOB counterparts and encourage realistic forecasting as to when a positive return will be achieved.

Industry highlights:

What most often contributes to investments' delivery of a high ROI in each industry:

Excellent vendor service and support:

- Life sciences/ healthcare
- Tech

Well-aligned to a clear business case:

- Discrete mfg.
- Media/gaming

Solutions' ability to scale and adapt:

- Finserv

Data-driven insights and reporting:

- Process mfg.

Solution worked as advertised:

- Retail/eTail

Skills on staff:

- Energy and utilities

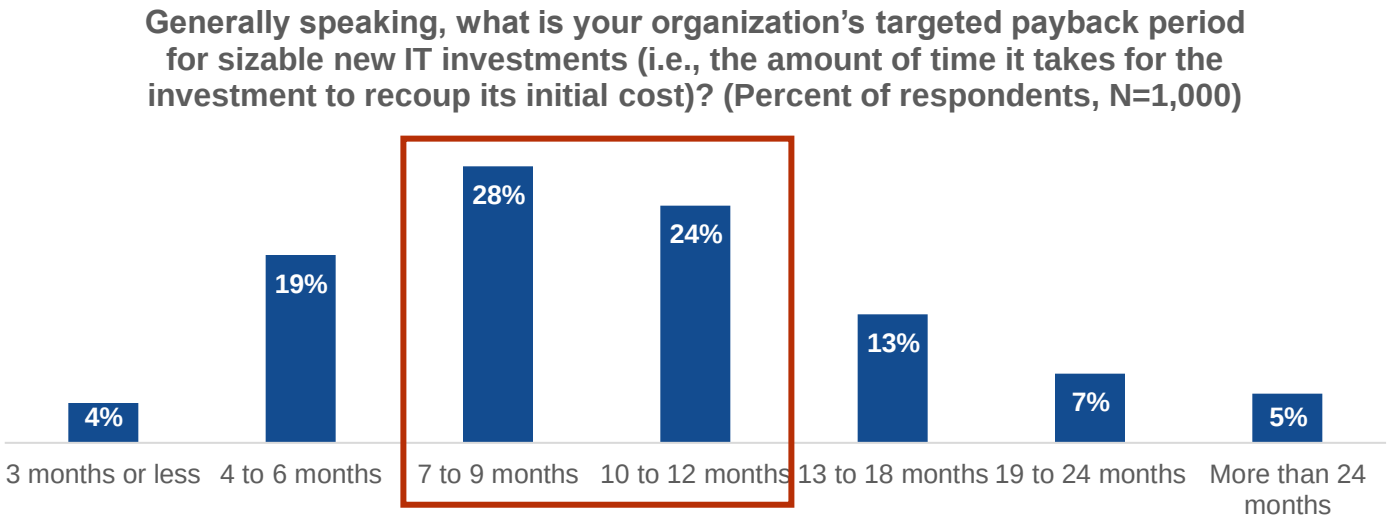
Clear objectives/KPIs:

- Hospitality/leisure

Project management for deployment/ integration:

- Public Sector

Figure 10. Expected Payback Period for IT Investments



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

How to measure ROI (and how hard it is!)

The final piece of the puzzle is to understand what organizations prioritize in their ROI calculations. Not surprisingly, when asked this question, respondents leaned into more straightforward value drivers such as increased revenue, increased employee output, improvements in product quality, and reductions in cost (see Figure 11). Conversely, softer benefits like brand goodwill, improvements in customer experience, and reduced enterprise risk were cited less often.

While these value drivers are seen as challenging to quantify, they are important factors in understanding the full scope and scale of a technology investment. Specifically, measuring improvements to goodwill was reported to be challenging by 67% of respondents, improvements in CX by 66%, and reductions in enterprise risk by 67%. However, the value an organization can reap from being seen as the leader in their market or by preventing a breach of sensitive data is tremendous, and individuals responsible for quantifying the ROI of tech investments should take an inclusive approach to that quantification.

Industry highlights:

Which ROI driver is most closely inspected:

Increases in revenue/reductions in cost:

- Hospitality/ leisure
- Life sciences/ healthcare
- Discrete mfg.
- Retail/eTail
- Public Sector

Increases in employee productivity or efficiency:

- FinServ
- Energy and utilities
- Media/gaming

Improvements in CS/satisfaction:

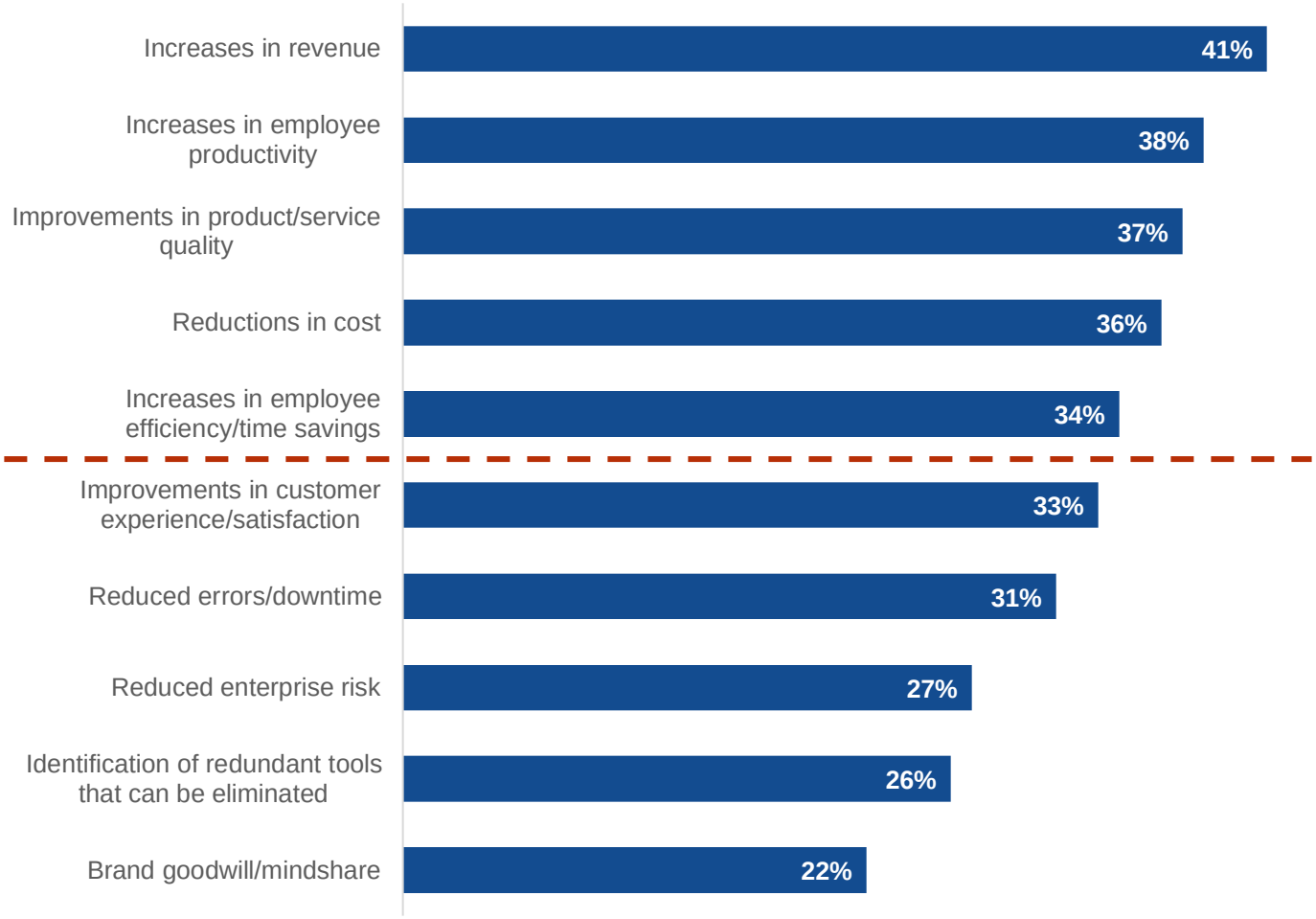
- Process mfg.

Improvements in product quality:

- Tech

Figure 11. How Organizations Measure ROI

Earlier you mentioned your organization calculates specific, quantified measures of ROI for major IT investments it makes. What factors does your organization most closely inspect when measuring the ROI of an IT investment? (Percent of respondents, N=1,000, three responses accepted)



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Recommendations

To summarize the findings of this research, several recommendations are clear:

- **Align with stakeholders early.** Make sure all parties understand and agree on the purpose of the investment, which KPIs will be used to measure ROI, and when the expected payback period will be. Vendor partnerships, professional services engagements, and industry frameworks can often be a great tool to help achieve consensus.
- **Set realistic expectations about tech payback periods.** At many organizations, a brief 7-12-month payback period is expected for major tech projects. But when tech investments underdeliver, it is most often because the business impact wasn't delivered in the expected timeframe. A careful, realistic estimate of when the tech investment will begin to affect key measurables, like revenue increases and cost reductions, is essential to ensure expectations are appropriately set.
- **Prioritize investments that transform customer engagement.** The five areas of investment most often reported as delivering the highest ROI were the same five most often cited as having the biggest positive impact on customer engagement. Ensuring these areas (i.e., generative AI, cybersecurity, AI/ML outside of generative AI, public cloud IaaS, and SaaS) get more than their fair share of funding should pay off for your organization.
- **Don't overlook the differences that exist between industries.** Throughout this report, we've documented how perceptions shift across industries. These insights can serve as a useful benchmark for readers who might be wondering how their organization compares to the broader market. Decision-makers would do well to review these industry insights when thinking about which technology investments to prioritize and which to defer.

How AWS can help

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For more information, please visit: https://aws.amazon.com.

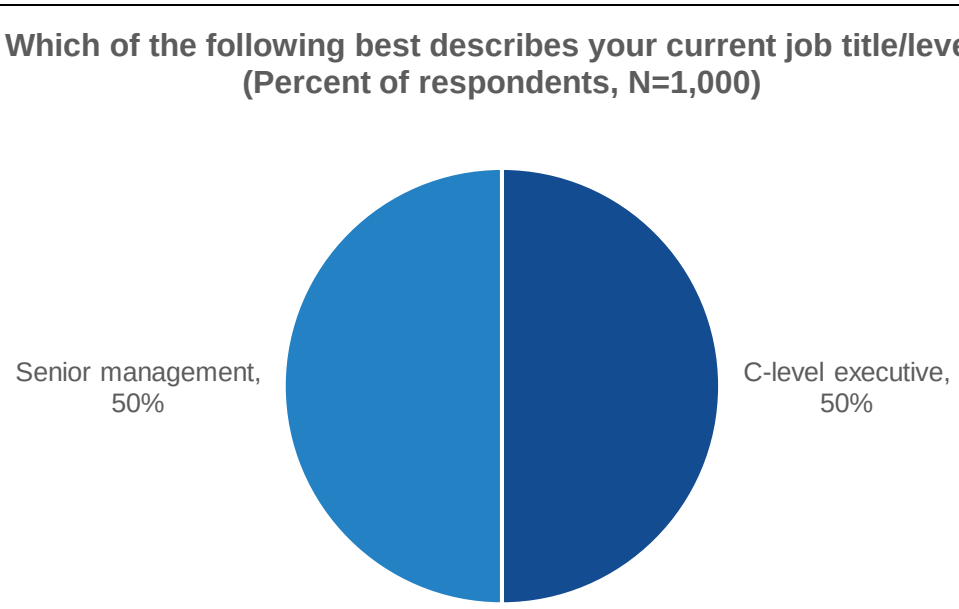
Research methodology and respondent demographics

To gather data for this report, Enterprise Strategy Group conducted a comprehensive online survey of 1,000 LOB (50%) and IT (50%) leaders involved in the tech purchase process who are knowledgeable about assessed ROI tech projects and initiatives at their organization. Organizations represented span 10 verticals in equal weight (see Figure 14), with respondents across the globe, including North America (U.S., Canada, 25%), Western Europe (France, Germany, U.K., 25%), APJ (Australia, India, Japan, New Zealand, Singapore, 25%), and LATAM (Argentina, Brazil, Mexico, 25%). The survey was fielded between January 17, 2024, and February 28, 2024. The margin of error for this sample size is + or -3 percentage points at the 95 percent confidence level.

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.

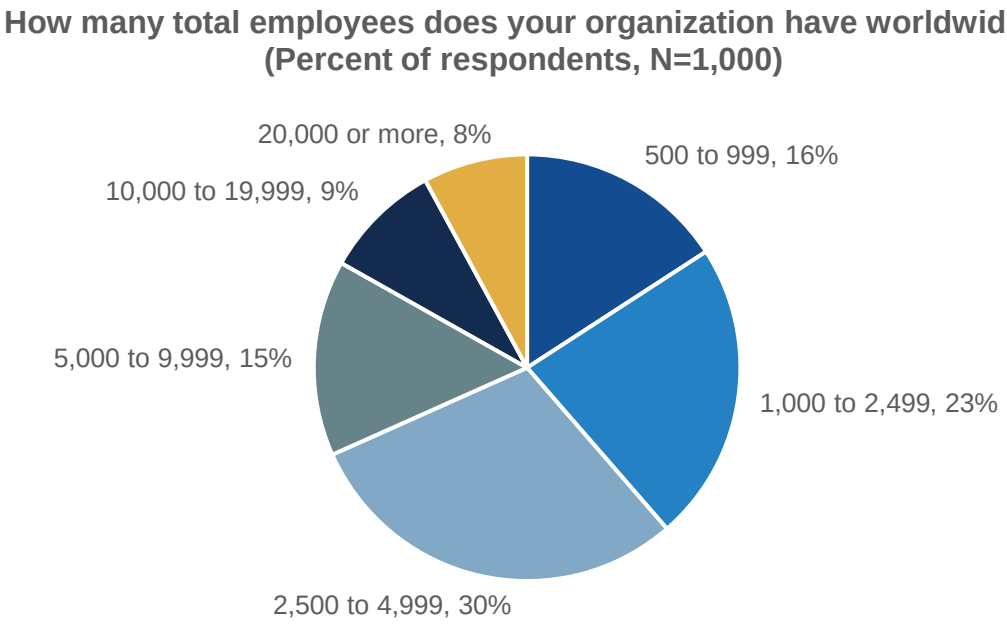
The following figures detail the demographics and firmographics of the respondent base.

Figure 12. Respondents by Seniority



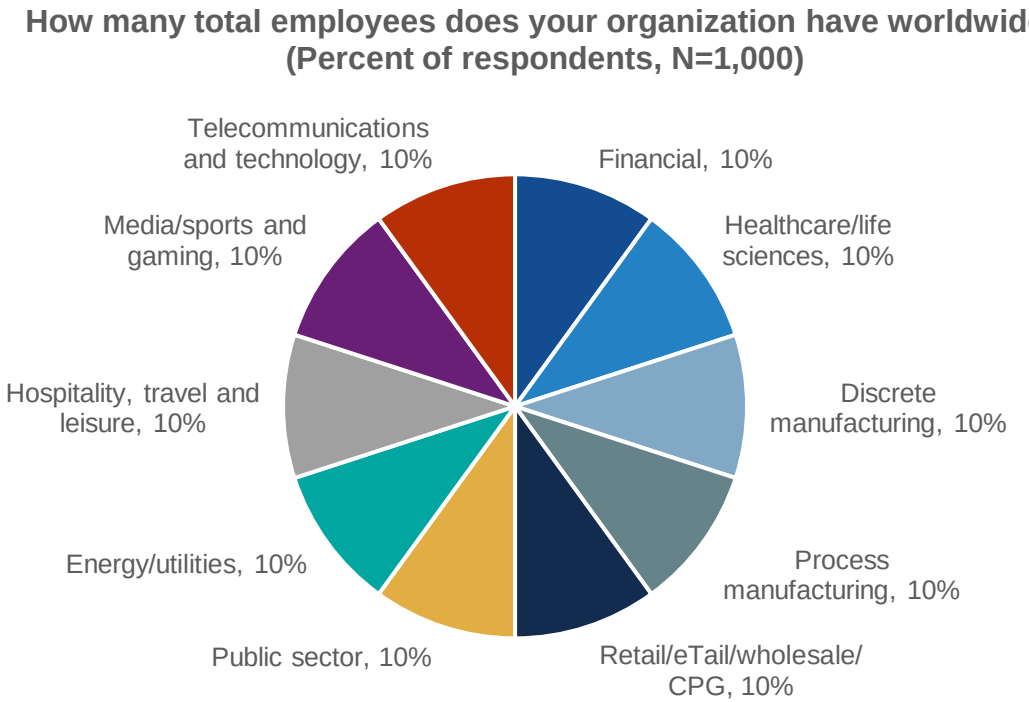
Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Figure 13. Respondents by Company Size



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Figure 14. Respondents by Industry



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

About Enterprise Strategy Group
TechTarget's Enterprise Strategy Group provides focused and actionable market intelligence, demand-side research, analyst advisory services, GTM strategy guidance, solution validations, and custom content supporting enterprise technology buying and selling.

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