



IT Industry Outlook 2024

Introduction

Strategy and tactics. As we enter 2024, those two main ingredients to success will feature heavily on the minds of business owners, tech workers and the industry at large. On the strategy side, you have the enormity of cybersecurity issues and the meteoric rise of generative artificial intelligence (AI) to consider with almost every decision. Tactically speaking, it's more about the little things: The refinements, new takes on old initiatives and other decisions aimed at running a better business or fostering a fruitful career in technology.

CompTIA's IT Industry Outlook 2024 explores various aspects of the strategic and tactical sides of the technology industry, workplace and society today. No doubt, it's been a challenging time globally. World events in Ukraine and the Middle East, in addition to economic and social challenges at home, are undoubtedly influencing decisions being made at the organizational level in the United States and abroad. Fears about cyberattacks, the business struggles wrought by tech skills gaps and talent shortages, and uncertainty about where something as explosive as AI technology will lead us will continue to weigh on minds in the year ahead.

But as this report details, there is much to be optimistic about, in spite and because of these challenges. Cybersecurity planning and AI deciphering might seem headache-inducing, but both promise tremendous opportunities across areas ranging from new and updated job roles to productivity and innovation gains for individuals and organizations. Companies and professionals that jump to the front on both these vectors will set themselves up for growth and a successful future path. Other opportunities are coming from attention to details: Businesses in the IT channel embracing marketing sophistication, employers doubling down on a multigenerational workforce or IT departments finally cracking the code for digital transformation's real promise—productivity.

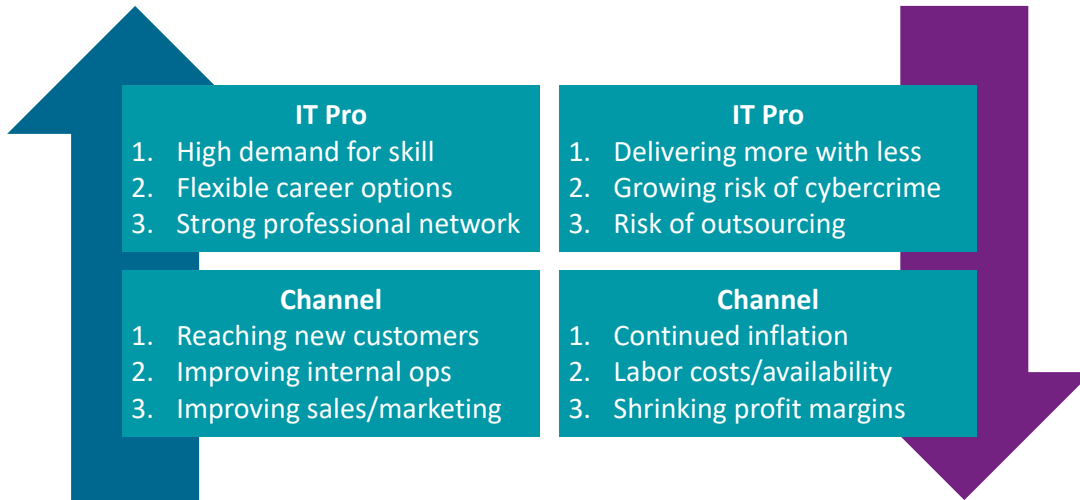
As we enter 2024, matters both big and small will take center stage. Companies and individuals in the technology arena will have to decide for themselves which focus areas make most sense for the goals they are trying to accomplish, whether that's revenue growth, professional development, product innovation or more. The tools and the knowledge, however, are there for the taking.

Before diving into the top trends for 2024, it's always good to get a read on how respondents are feeling generally about the year ahead. For the most part, both channel and IT professionals share a glass-half-full attitude. In fact, there's noteworthy optimism from the majority of respondents across several fronts, including their own career paths, business' prospects and the tech industry in general.

IT professionals report a mainly rosy outlook. A third of them say they are very optimistic about their career paths, their company's trajectory and the broader technology industry, while 4 in 10 take a slightly more tempered view and report being fairly optimistic about all three. Another 19% have mixed feelings, while just 7% acknowledge more negative concerns about the upcoming year's prospects. There's reason for tech pros to be optimistic about the future. Across every conceivable industry, well-compensated tech jobs and skills are in high demand. The options in terms of tech disciplines and job roles are voluminous, ranging from entry-level help desk and network techs to data scientists, cybersecurity experts and those tackling today's new AI projects.

If there's a downside to the IT pro work environment, it's stress. The need to continually deliver more services and skills across a tech environment that has only grown in complexity—especially when dealing with the constant threat of cybersecurity attacks and mitigation—can be overwhelming. Additionally, for some there are job security worries tied to the outsourcing of certain tech roles.

Wide Range of Issues Driving Sentiment




Source: CompTIA IT Industry Outlook 2024 survey | n=513 U.S. tech professionals
N= 513 U.S. tech industry professionals

On the IT channel side, the main consideration when it comes to gauging sentiment is how their business is going to fare in the year ahead. Will it grow? Meet profitability goals? Acquire new customers? Most take a positive view of their prospects, with a net 68% saying they feel very good or pretty good about business in 2024. About a quarter (23%) have mixed feelings, while just 8% say they are uneasy. Most of the positive sentiment is predicated on the channel making improvements to their business and delivering on sales goals in 2024. Pessimism about the year ahead falls squarely on external factors such as stubborn inflation and the ongoing labor crunch. That said, 44% of channel firms expect to eclipse 2023 revenue and profit numbers in 2024, and another 43% at least expect stability on those fronts year-over-year.

Trends to Watch 2024





AI Hype Fades, but Workflows Continue Evolving

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It's hard to believe CompTIA's IT Industry Outlook 2023 didn't mention generative AI—that report

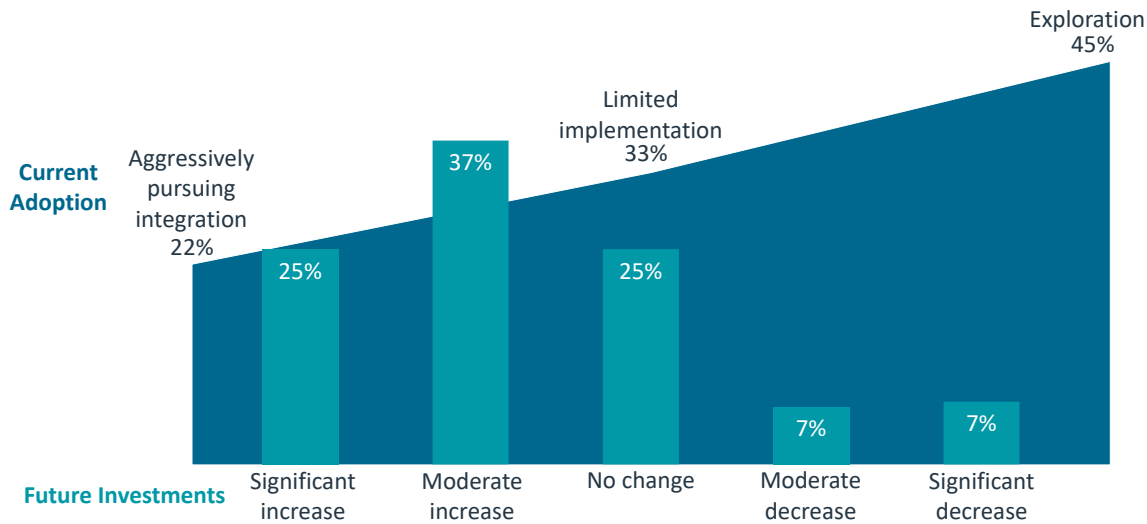
was released the week before ChatGPT launched.

In the time since then, hardly a day has passed without a news story speculating on the changes AI will bring or announcing even more capable products and features. The hype cycle has been as intense as any trend in recent memory, and for good reason; large language model (LLM) algorithms are producing output that would have been in the realm of science fiction just a few years ago and raising questions about the future of work. As with all technology trends, the initial hype around generative AI will likely wane in 2024 for a variety of reasons. The first products, while amazing, are not standalone business solutions outside a few select cases. The data needed to properly train an LLM is in short supply at most organizations. The challenges in dealing with probabilistic output are just beginning

to surface. Most companies will have to take a step back to build the proper prerequisites for modern AI operations, but that doesn't mean that exploration and pilot programs will grind to a halt. Along with new standalone products, a wide range of business applications will begin to incorporate AI as a feature. As this happens, companies will address AI skill gaps among the workers using these applications. The end result will be workflow evolution, using AI to handle routine tasks or accelerate automation while reimagining the roles and responsibilities of employees. This early stage of workflow evolution may not make as many headlines as the introduction of generative AI, but it will likely set the stage for a full workplace revolution in the years and decades to come. History shows that new technology can have far-reaching effects, and the potential of AI layered on top of modern digital operations is likely to drive significant economic disruption.

A view of the current adoption patterns and future investment plans around AI suggests a disconnect between hype and reality. Just over 20% of firms surveyed are aggressively pursuing integration of AI across a wide variety of technology products and business workflows. It is reasonable to assume that those cutting-edge organizations represent the bulk of the group that expects to significantly increase AI investment next year, so while overall investment is scheduled for an increase, that may not dramatically change the adoption curve.

Current AI Efforts and Future Investment



Source: CompTIA IT Industry Outlook 2024 survey | n=513 U.S. tech professionals

Hesitation in adoption may stem from the challenges being encountered by early adopters. The top challenge for AI, whether that challenge comes from early experience or simply expectations around implementation, is around cost. There are two costs to consider—the cost of upgrading applications (cited by 39%) and the cost of building out infrastructure (37%). It may be difficult for those holding the budget to understand the investment needed to produce tools available on websites that are free (for now).

It also may be difficult to fully understand the data needed to properly train AI. Over one third (36%) of firms surveyed say that collecting and preparing the datasets needed for input into AI algorithms is a major challenge. This echoes the experience of companies that aggressively pursued data analytics over the past five years—a solid foundation in data management and data classification is a prerequisite for advanced data activities.

Even with all the challenges, the benefits companies hope to realize will make the AI effort worthwhile in the long run. Many companies expect to unlock a higher degree of automation, whether in IT operations (52% of firms) or business workflow (46%). Reducing the time spent on routine tasks is another top benefit, with 49% of companies expecting AI to improve efficiency in this area. Finally, AI is expected to help accelerate data operations, with 44% of businesses anticipating deeper analysis of data and 33% hoping for novel insights to be suggested by AI tools.



Tech Providers Use AI to Run Better Businesses

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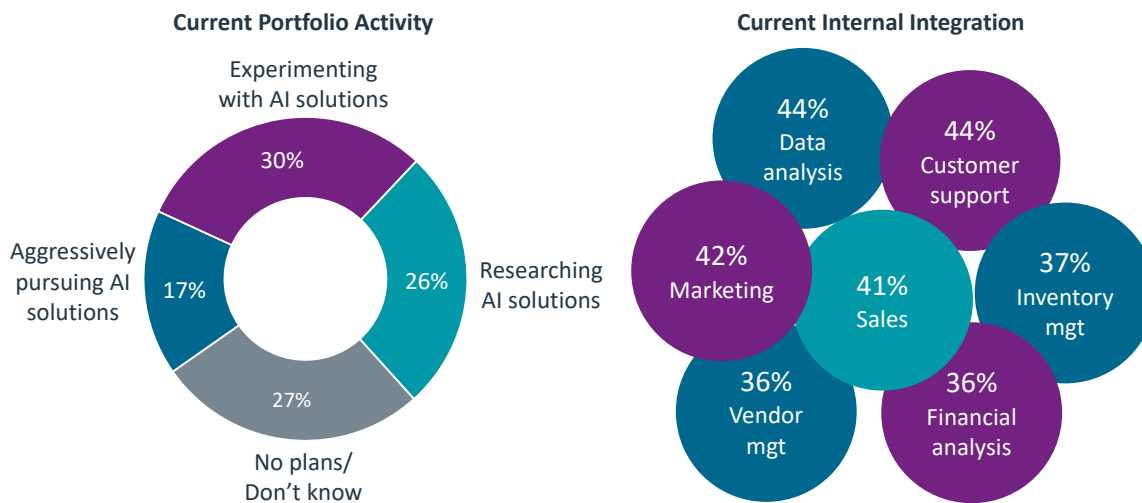
While the AI market is indeed one huge hype-a-palooza today, there is almost certainly going to be ripe revenue opportunity for MSPs and other tech channel providers to cash in. That said, most would agree that, today, the average channel firm is still in the tinkering and discovery phase with generative AI—at least when it comes to actively selling solutions to customers, making vendor selections, assessing skills, etc. While that work is revving up, the more immediate benefits will come from applying new AI capabilities internally to enable a better-run, more efficient business. Automation aims have always been a part of an MSP's quest, to be sure, but today's AI will only accelerate and improve those efforts. Consider some of the use cases: AI-powered chatbots and virtual assistants to speed and bolster

customer service; AI algorithms to analyze customer data and predict buying patterns for more effective sales and marketing campaigns; AI tools to automate repetitive tasks and optimize workflows and, as a result, free up human resources to pursue more strategic goals. These are all benefits that companies are starting to see today that hold great potential for the future. Even those channel firms that choose not to sell AI solutions as part of their business can nonetheless boost profitability and reap positives by deploying AI functionality across their internal operations. And lastly, the fear that AI's automation capabilities will replace humans might not be as scary as is projected. In a workforce study this year by CompTIA, two thirds of MSP respondents said that use of AI by their company would either result in no change to their staffing levels or a net gain.

When it comes to the channel's adoption of AI, a predictable behavior pattern has emerged across the channel, one that ranges from ambivalence (19% of respondents) to a full-throated embrace (17%).

Between those two poles lies the majority of channel firms. A net 56% of respondents said they are either experimenting with today's AI solutions in some way (most likely internally) or they have begun researching and evaluating the tools for potential future adoption. This deliberate and iterative pattern mirrors in many ways how channel companies initially handled the cloud computing wave when it hit shore a little more than a decade ago. Many of the same questions channel firms had about cloud at the time are being pondered about AI today: What is it? How can we monetize it? Is it an enabling technology or a product? How can we use it in-house to better our business?

Channel Firms Explore AI Externally and Internally



Source: CompTIA IT Industry Outlook 2024 survey | n=513 U.S. tech industry professionals

For the companies forging ahead with AI internally, the use cases are many. Some of the known sweet spots for AI such as customer support or marketing activities make the top of the list, but close behind are some less obvious applications such as vendor management or financial analysis. One example of the former is using an AI tool to execute a competitive pricing analysis in real time across multi-vendor product sets. Or in the case of financial analysis, conducting a return on investment (ROI) assessment before launching a new product or service. In both cases, AI technology allows small channel firms to look and act bigger via easier access to such large-company capabilities as analytics.

With these types of internal activities as the main thrust of the channel's initial AI exploration, it's not surprising that the first major benefits are tied to them. Roughly half of channel respondents cited increased efficiencies (53%) and cost savings (48%) as their top returns from AI in the last year. A close third group (45%) report faster/better decision-making. Note that none of these results is about a boost in sales. The early days with AI and the channel are clearly about operational business efficiencies.

As for the challenges? Issues with data quality and acquisition top the list. As has been copiously reported, generative AI outputs are only as good as the data the tool has at its disposal, which holds true in all uses.



Governance Becomes a Focal Point for Cybersecurity and Data Operations

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There are four primary disciplines involved in IT operations. Infrastructure and software development are the most well-established, with cybersecurity and data as the newer kids on the block. Across all four disciplines, the primary focus tends to be on implementation details. As technology becomes more strategic, though, there is a growing demand for governance to ensure that implementation is following best practices. The more mature IT disciplines have governance frameworks that have been defined, such as the Information Technology Infrastructure Library (ITIL) standard for IT services and support, the enterprise architecture framework set by The Open Group Architectural Framework (TOGAF) for infrastructure, and DevOps practices for software development. The fields of cybersecurity and data operations have some examples of governance frameworks that target specific areas or offer early outlines, such as Service Organization Control Type 2 (SOC 2), Health Insurance Portability and Accountability Act (HIPAA) regulations or the Data Governance Institute (DGI)

framework. The next stages of progress will be to develop standards that are more comprehensive, then drive widespread adoption. Proper governance serves several purposes. First, it establishes an operational baseline that can be used to get different business units on the same page. Cross-functional communication is becoming a critical part of digital strategy, and a common language is a necessary part of that. Governance also helps ensure compliance with government regulations; highly regulated industries such as finance or healthcare have dealt with these issues for years, and now companies in nearly every industry need to pay attention as new laws are passed. Finally, governance defines metrics for successful operations. With technology shifting from a cost center activity to a strategic driver, organizations need a structure for measuring the potential impact of technology investments. An emphasis on governance in the dynamic areas of cybersecurity and data will help align technology initiatives with organizational objectives.

As with previous studies CompTIA has conducted in the field of cybersecurity, governance does not rank very high as a priority among companies in the IT Industry Outlook 2024 survey. In fact, governance is at the bottom of the list when it comes to current focal points for cybersecurity initiatives, with only 5% of individuals citing governance as a driving factor.

Most of the low concern around governance comes from a historical view of the practice as a method for maintaining compliance to government regulations. Focusing strictly on this mindset, there is enough reason for companies to build more rigor into governance processes since regulations are rapidly extending beyond the traditional highly regulated industries such as healthcare or finance. Staying on top of regulations around digital business is quickly becoming a requirement for ongoing operations.

Aside from regulatory compliance, governance helps bring structure to strategy and tactics. This is most evident in the field of data. Over the past several years, organizations have discovered a need to establish foundational data practices, consolidating and classifying data from various silos into a comprehensive picture that can be used for advanced analytics. The enthusiasm around generative AI has highlighted another reason for data governance: Data must be structured properly and classified correctly in order to accurately train AI algorithms.

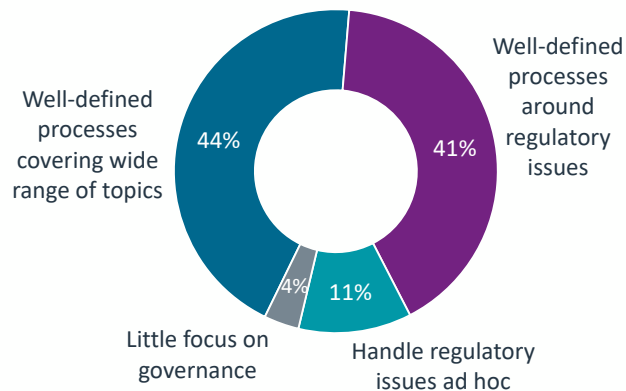
Circling back to cybersecurity, the top priorities for the year to come signal a need for stronger governance. Employee education, incident response and process improvement are endeavors that may leverage technology but primarily advance through well-defined procedures. Although 44% of companies surveyed currently have well-defined governance processes for cybersecurity and data covering a wide range of topics, that number needs to be much higher to ensure that these critical domains are following best practices.

Cybersecurity Changes Drive Demand for Governance

Top 3 Cybersecurity Priorities for 2024

- 1 Greater focus on employee education
- 2 Determining proper response to incidents
- 3 Greater focus on process improvement

Current Approach to Governance



Source: CompTIA IT Industry Outlook 2024 survey | n=513 U.S. tech professionals



Beyond- the-Basics Cybersecurity Becomes a Channel Skills Imperative

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A might be grabbing the attention these days, but the real center of gravity—and gravitas—for tech providers is cybersecurity.

Yes, basic cybersecurity services have long been part of many tech engagements, typically with providers offering antivirus, firewall, patch management and other fundamentals needed to help protect devices and networks. But those table stakes have often been where the cybersecurity discussion between providers and customers has ended. Today, that's not enough. The increasingly sophisticated threat landscape plus the high-wire act of managing IT across cloud and on-premises environments is pushing tech providers to stretch far beyond those basics. To remain competitive today, companies must prioritize cybersecurity fluency across their organizations. At a technical level, that means organizations need to deepen their skills to, among other things, support a zero trust approach to data protection and privacy, while providing core and adjacent services such as risk analysis and cyber insurance, respectively.

Operationally, this means addressing cybersecurity skills gaps with the right mix of hiring, training and partnering activities, while keeping abreast of the latest and greatest in cybersecurity products, best practices and user education strategies. It's a lot, to be sure. The skills aspect is particularly acute. CompTIA's Cyberseek tool shows that there were over 660,000 cybersecurity-related job openings in the United States between May 2022 and April 2023, representing a 28% increase from the same time period in 2020. Meanwhile, CompTIA's State of Cybersecurity 2024 study cited internal skills gaps as the top challenge to end user organization's cybersecurity initiatives. Alas, fluency is not just for the technical on staff. Everyone from sales teams to internal operations should be able to speak cybersecurity as it pertains to their in-house protection, customer needs and business goals. With MSPs themselves saying demand for cybersecurity services is their No. 1 customer ask this year, companies in the tech channel ignore the discipline at their peril.

Companies know they need to up their skills when it comes to today's cybersecurity requirements, but many face an increasingly uphill battle. More than half (52%) of the channel companies CompTIA surveyed said that they are experiencing a shortage of workers and have a challenge finding job candidates with the cybersecurity skills their organization currently needs. The competition for talent is fierce, as companies in the IT channel must also vie for cybersecurity expertise across the economy at large. That can be a particular problem because companies in other industries such as manufacturing, healthcare, finance and beyond often have more resources to attract top candidates with higher wages, benefits and perks than the average sub-\$1M-a-year channel firm.

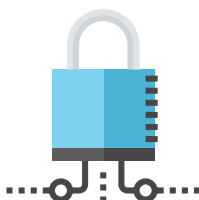
And while nearly 4 in 10 channel firms do not report issues finding cybersecurity talent, the reason is not necessarily what you might think. Companies in this category might not be seeking next-gen talent, either because they don't feature cybersecurity in their portfolio or because they have chosen to stay in the lane of basics (i.e. antivirus, firewall, etc.) versus pursuing a more advanced, modern set of cybersecurity skills. Or as is the case for 35% of respondents, they could be partnering with other channel firms focused on cybersecurity to fill in their skills gaps without hiring internally.

Challenges in Building Cybersecurity Skills

A variety of factors make it difficult for channel firms to find and develop cybersecurity skills



58%
Trying to grow portfolio of cybersecurity offerings



50%
Working to improve internal cybersecurity



34%
New to cybersecurity market and building expertise



33%
Difficulty finding cybersecurity training



16%
Facing competitive pressure in the market

Source: CompTIA IT Industry Outlook 2024 survey | n=267 U.S. tech industry professionals

Beyond the hunt for talent, there are a number of other pressing challenges for companies looking to extend their reach in cybersecurity. Topping the list is the quest to grow their portfolio of solutions. Nearly 6 in 10 channel firms are looking to do this, likely reflecting today's imperative to remain competitive by adopting the most current tactics to support cybersecurity. This means not only acquiring expertise with newer cybersecurity products that address cloud and mobility realities, but also gaining consulting chops around cybersecurity best practices, user education and modern protection frameworks such as zero trust, risk assessments and cyber insurance.

How channel firms plan to address their skills shortages and desire to move up the cybersecurity food chain is multipronged. Nearly half (45%) are taking a holistic approach and increasing overall spending in 2024 on all cybersecurity-related areas in the company. Others are taking the worker piece head on, with 43% providing training to existing employees to upskill them and another 38% looking outside to hire cybersecurity specialists.



Cloud Architecture Accelerates Solution Complexity

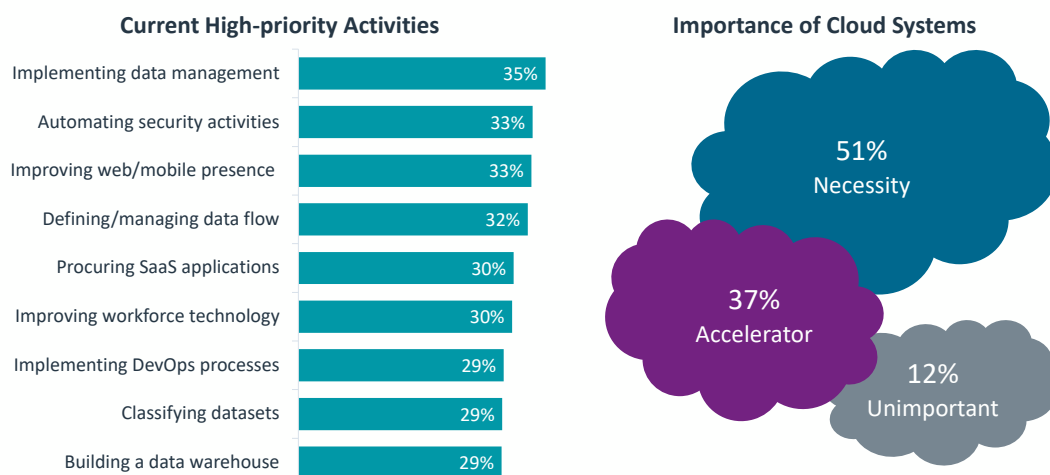
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One hallmark of modern technology is that solutions are rapidly growing in complexity. For decades, most of the energy and investment in building out a technology footprint went into establishing foundational capability. This meant increasing the compute power that was available, which went hand-in-hand with performance gains driven by Moore's Law, and expanding the accessibility of computing resources, which leapt forward with home broadband and advanced cellular networks. During this time, applications placed on this foundation were relatively simple standalone solutions, especially outside the largest enterprises. The introduction of cloud computing, along with mobile devices, marked a shift in this model. Nearly every organization now had as much computing power as it desired, and that power could be tapped from nearly any location. Extra effort toward improving the foundation had diminishing returns, so energy started going into applications. Rather than being content with packaged software, companies started hiring their own software developers to customize and automate

software installed on-prem or procured in the cloud. Data became an integral input to solutions, with feedback loops improving the quality of the output. Most emerging technologies, from internet of things (IoT) to blockchain to all the different variations of AI, are typically parts of a comprehensive solution instead of being individual products. With the lion's share of the focus being placed on building these intricate solutions, it can be easy to overlook the importance of the foundation. Although growth in performance or accessibility may not be a primary goal, properly implementing and managing a cloud architecture is a prerequisite to having a suite of tailored solutions. Most organizations have moved past the first stage of cloud adoption, where pilot programs or selected migrations helped establish a working knowledge of cloud operations. The second stage of adoption will involve more depth, as companies build best practices around multi-cloud systems, financial operations (FinOps) and resilient architecture. As this foundation grows stronger, the ability to craft custom applications will grow broader.

All too often, the traditional mindset around isolated IT projects still persists. Along with standard projects like implementing enterprise resource planning (ERP) or upgrading servers, IT teams are under pressure to replicate applications from the consumer tech space or develop pilot programs around emerging technology. These directives may overlook the interconnected nature of technology components.

Digital Activities Require Cloud Foundation



Source: CompTIA IT Industry Outlook 2024 survey | n=513 U.S. tech professionals

Take upgrading a website as an example. It is easy to imagine that a small business might have a simple website featuring a static display of information and offerings. A more modern approach would be to add e-commerce capabilities, along with a chatbot for customer service and backend analytics to understand buying patterns. This new website goes far beyond HTML sitting on a server in the data center; the many features of the site require microservices architecture and connections to data warehouses, all while being wrapped in controls that ensure customer privacy.

Standing up the various pieces of a solution and providing ongoing maintenance quickly taxes resources. Skills are one part of that equation, but infrastructure is another part. Modern technology applications require infrastructure that is flexible and scalable, ideally with a high degree of automation. For most companies, the answer that checks all the boxes is a cloud solution.

While most companies already view cloud systems as a necessity in their digital endeavors, more than one third feel that cloud computing is more of an accelerator. There is a fine line between the two camps—in today's fast-paced environment, accelerating productivity or time to market could be its own form of necessity. Aside from enabling a corporate vision around technology, the availability of cloud systems also broadens the horizon in terms of vendor choice. The majority of companies surveyed say they are more willing to consider a variety of vendors, with 42% saying they are far more willing to explore new tech providers.

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