From Cloud Native to AI Native:

The CIO's Journey to the New Digital Transformation

Get Started

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Introduction

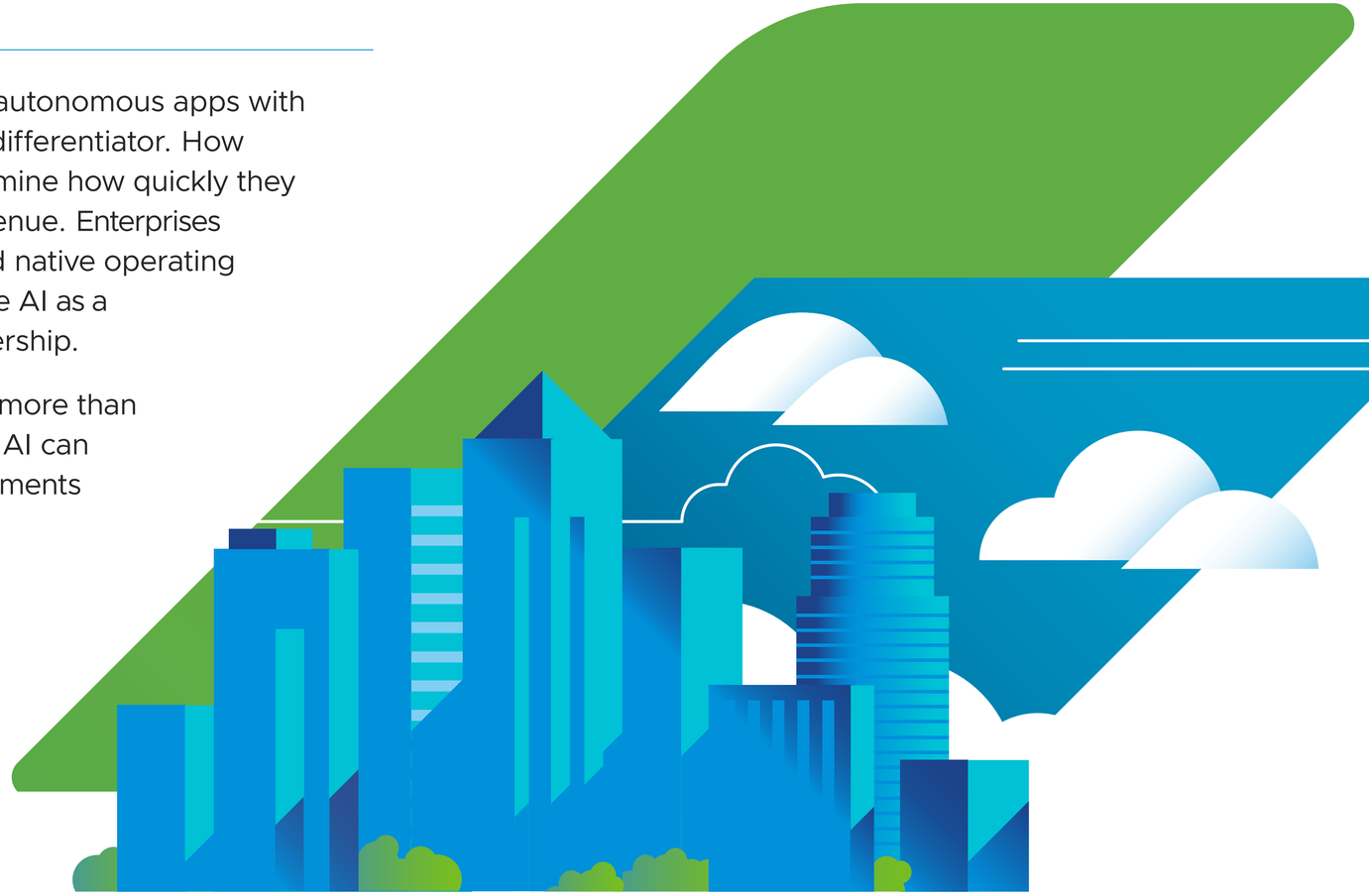
VMware Tanzu

> "The future is here; it's just unevenly distributed."
>
> - William Gibson.

As efforts to expand AI apps from basic, toil-reducing single taskers to autonomous apps with reasoning capabilities, so have our expectations of AI as a competitive differentiator. How quickly an organization can shift from cloud native to AI native will determine how quickly they benefit from its potential to improve operational efficiency and drive revenue. Enterprises that successfully invested in digital transformation efforts built on a cloud native operating model and technologies, are now the ones that are best positioned to use AI as a powerful differentiator that increases revenue and expands market leadership.

With this in mind, Broadcom's Tanzu Division commissioned a survey of more than 250 IT leaders to explore the CIO's perspective and expectation of what AI can do for them, and how they plan to get there. And we examine what investments impact digital transformation efforts have had on companies' ability to embrace AI in a meaningful way that sets them apart from their peers.

Our findings point to increased spending on AI, and adoption of a unified platform experience. We also found that some IT leaders are redirecting budgets from public cloud spend to AI and automation, and are increasing investments in private AI infrastructure.



For more detailed findings see Appendix section

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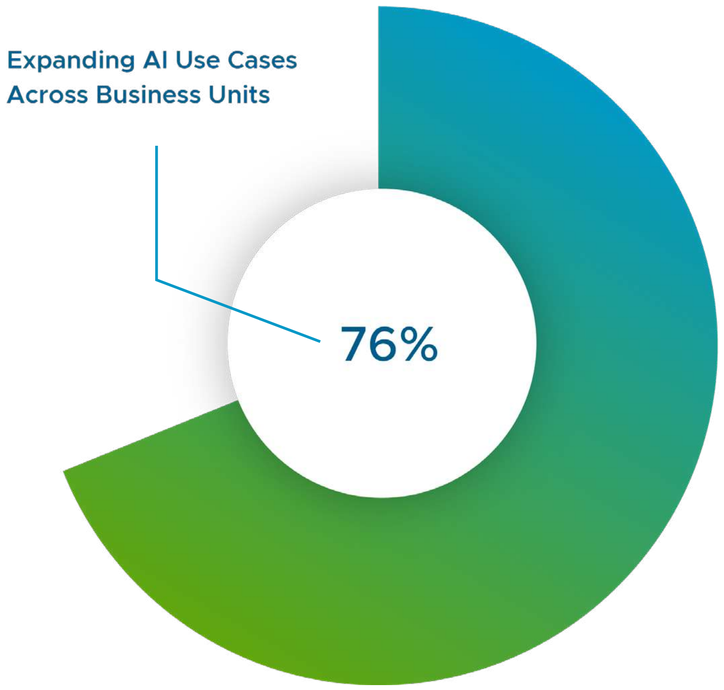
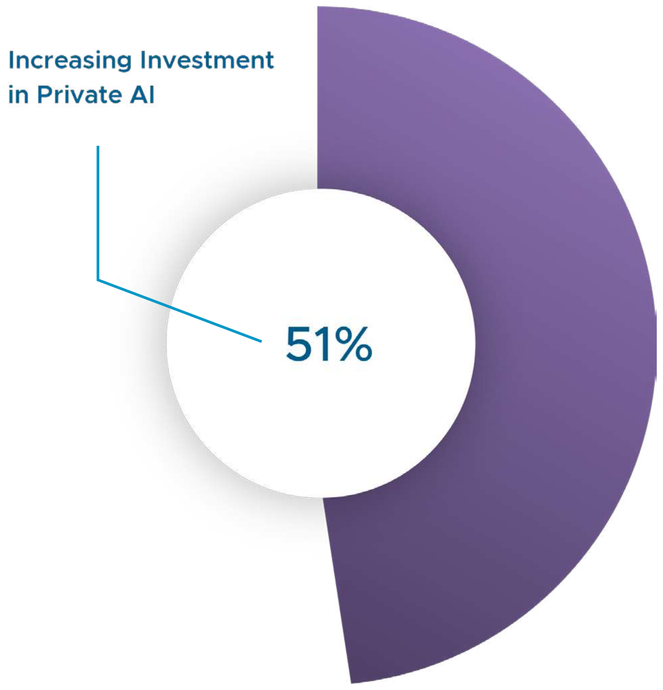
Majority of CIOs Plan to Expand AI Use Cases Across Business Units and Private AI Usage





> "This is the first year we've had a dedicated budget for AI. Prior to that, it was funded by diverting dollars from other projects. [I estimate] maybe 20%-30% [growth] on the AI budget every year for now. I think maybe we are already spending 50 million to 80 million Euro at least a year."
>
> – VP of IT, Pharmaceuticals

Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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From Digital Transformation to AI Transformation

Enterprise IT is fueled by technical innovations that modernize the systems and processes running the world's biggest commercial and public sector organizations. It's what we today refer to as digital transformation.

Each so-called transformation is cumulative, built on the learnings and patterns of the previous one. The era of AI transformation is built on the cloud native and DevOps transformations that preceded it. And just like its predecessor, today's transformation movement has enterprise leaders looking to incorporate AI in critical aspects of their businesses.

Today's transformational leader understands that adopting an AI-native strategy is the key to growth and efficiency; *those who invest earliest will maintain relevance in their industries by delivering services that improve efficiency and deliver dynamic customer experiences.*

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To understand how previously adopting modernization efforts impact attitudes toward AI transformation, we limited participants to those respondents who answered yes to having invested in modernization efforts. We then asked participants about their investments in five core modernization efforts:

- Reducing complexity by **abstracting infrastructure**
- Enhancing developer experiences with **automation**
- Standardizing on platforms to gain **visibility across IT environments**
- Adopting a PaaS strategy to **streamline development**
- Refactoring monolithic applications to **microservices**

We learned that more than three quarters said they have seen IT efficiency improvements because of IT modernization efforts and **two thirds said their investments have enabled faster adoption of AI and/or other new technologies.**

79%

have seen IT efficiency improvements because of IT modernization efforts.

2/3

said their investments have enabled faster adoption of AI and/or other new technologies.

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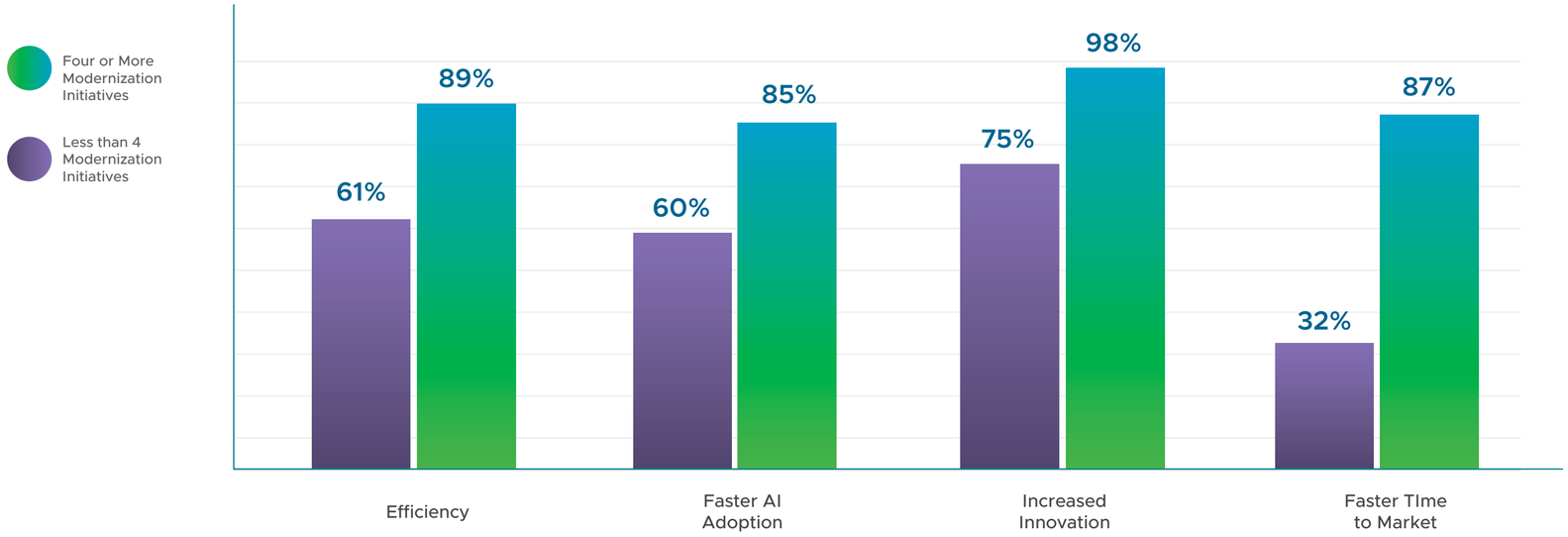
That is cool, but what is even cooler is that those defined as “heavy investors” — meaning they invested in four or more modernization efforts — are significantly more likely to report benefits, such as improved IT efficiency (89% compared to 61%), faster AI adoption (85% versus 60%), increased innovation (98% compared to 75%), and faster time-to-market (87% versus 32%).

IT Modernization is a Prerequisite for AI Success



Source: VMware’s *From Cloud Native to AI Native: A CIO Perspective* 2025

So, if every enterprise is eventually going to be using AI, what will make your use different? This is where *the way* you use AI matters. Among our survey participants, those organizations that have done significant digital transformation work (i.e. those heavy investors) are not only ahead in adoption and delivery of AI apps but also ahead in the variety of use cases.

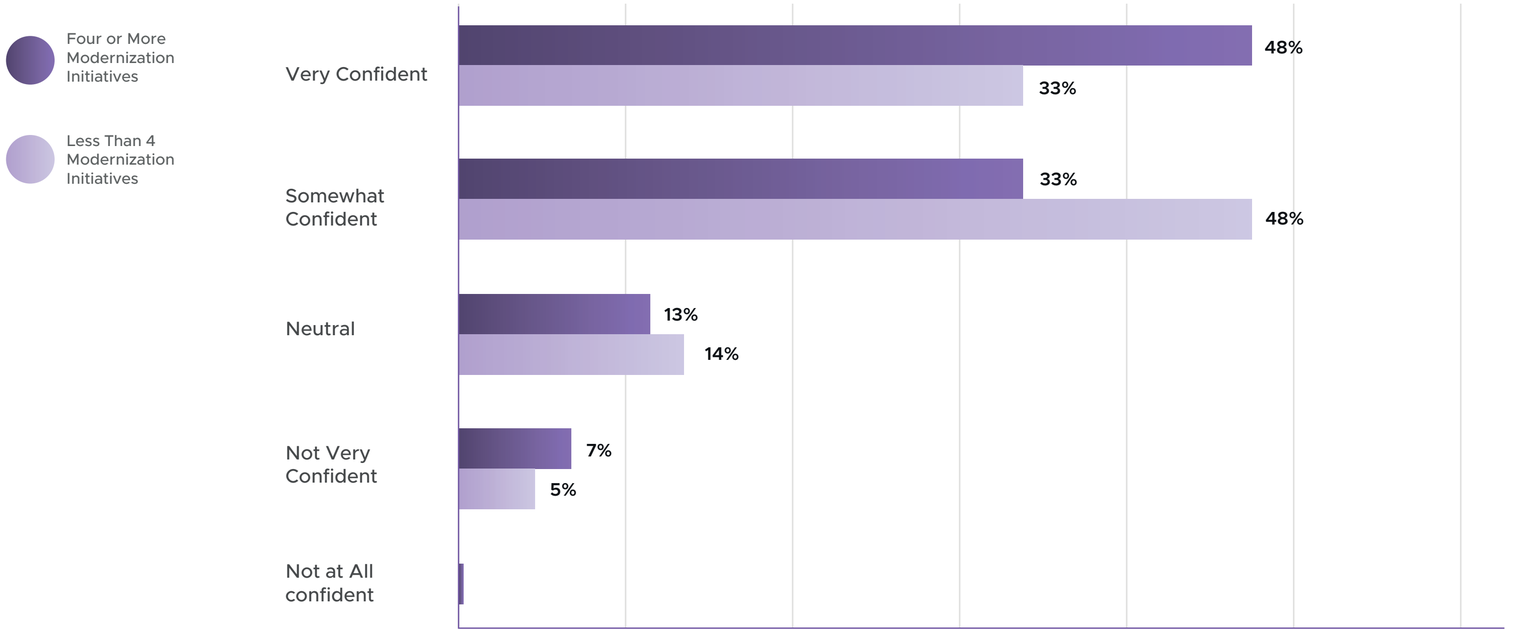
Investments in IT modernization not only set organizations up for future success, they also instill the confidence and a positive mindset necessary for a culture of innovation.

> “You can use AI technology that’ll use an infrared camera to scan how many items are actually in a truck and then verify that with the bill of lading.”
>
> –VP of IT, Retail

> “One of the biggest use cases is that we have to identify the potential molecule, for example, and the AI applications are really making a huge impact in this space.”
>
> –VP of IT, Pharmaceuticals

Heavy Investment in IT Modernization Correlates to Higher AI App Delivery Confidence

Organizations with four or more modernization initiatives report more confidence that they will succeed with AI app delivery



Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

> "We had developed a minibot to look at a counterparty's future outlook based on market events. That becomes one of the factors for them to decide on doing business with their counterparty or not in the future."
>
> –VP of IT, Financial Services

Modernization is a strong indicator of AI success, especially when efforts are coordinated and strategic. With the distributed nature of modern architectures — from microservices to edge — one can easily see how the cloud native patterns of yesterday are the foundation for today's innovation.

Organizations that are actively deploying AI applications at scale are more likely to report they are re-factoring applications to microservices (36% compared to 20% of others)

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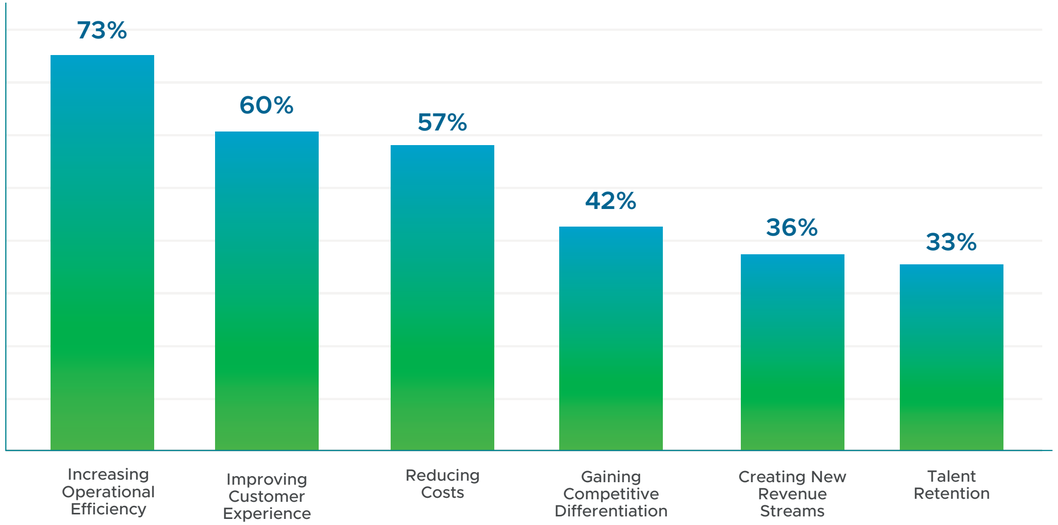
Familiar challenges hinder velocity

When we asked participants to pick three primary business drivers for AI adoption, operational efficiency, improving customer experience, and reducing costs came out on top. This was not unexpected because, as with most novel enterprise technologies, leaders are looking for ways to save or make money. The true callout from this line of questioning is that once we address expectations for making or saving money, differentiation and growth become more important.

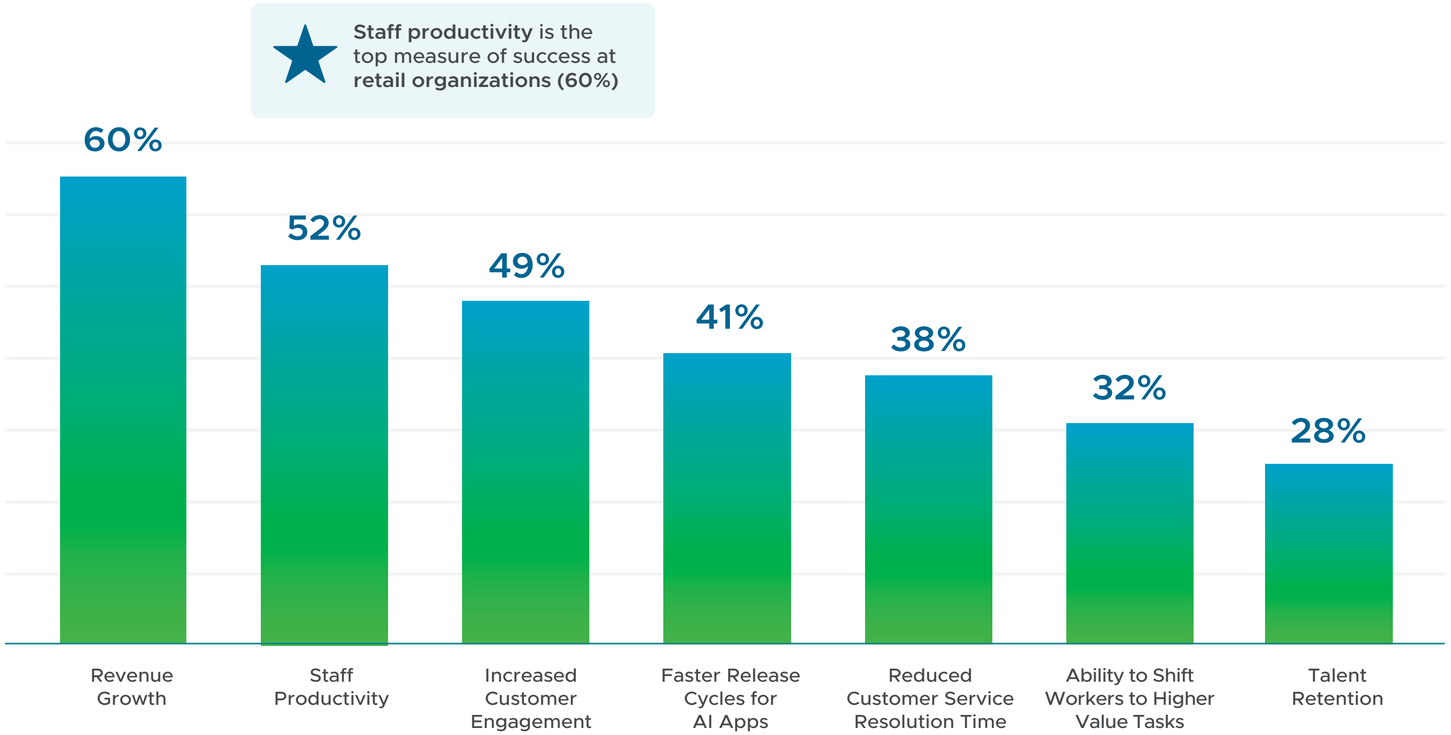
Increasing Operational Efficiency is the Primary Motivation for AI Adoption

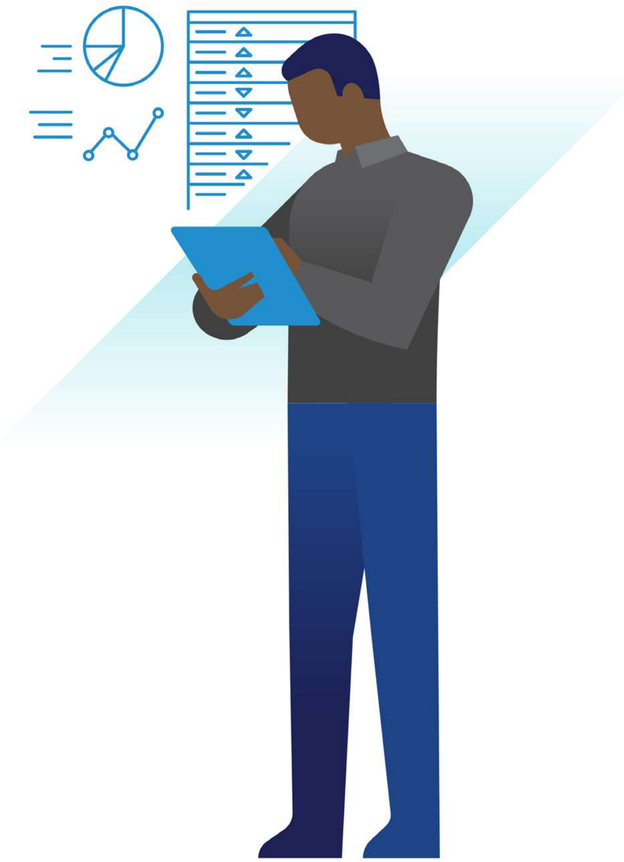


Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

While most respondents pointed to operational efficiency and reducing costs as top **drivers of adopting AI**, when asked about how they would **measure the success of their AI initiatives**, increased revenue was the top measure. Other measures of success included staff productivity, fast release cycles for delivering AI apps, and increased customer engagement.

Revenue Growth is the Top Metric for Measuring AI Success





Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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Any new technology adoption has its challenges

For our respondents, **deploying and running** AI applications in production comes with challenges around cost management, performance optimization, and AI observability.

Governance and responsible AI frameworks are critical, especially in regulated industries.

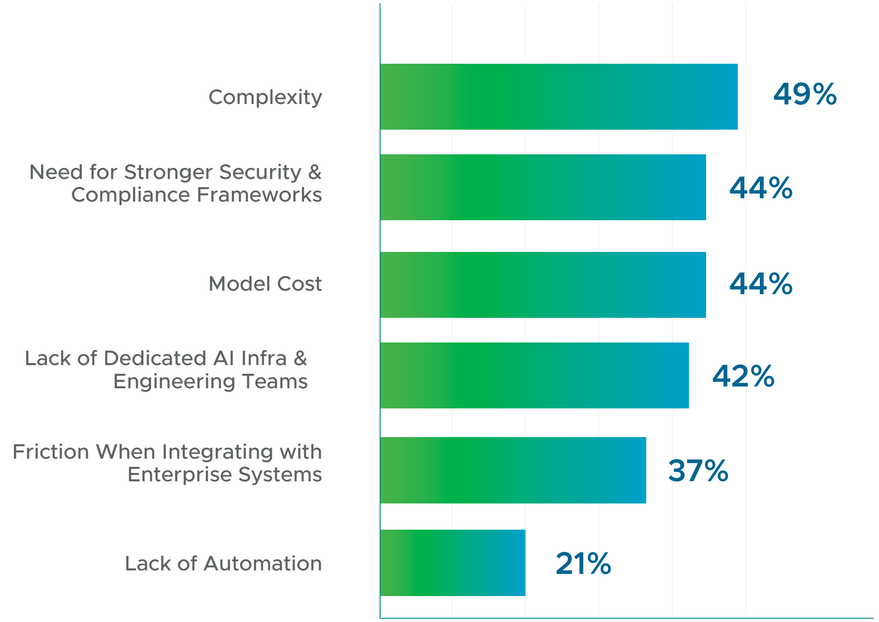
Data privacy, explainability, and guardrails are non-negotiable in sectors like retail, financial services, and pharmaceutical.

> "Everything we do touches people's lives—we can't afford a mistake in how AI is applied."
>
> VP of IT, Retail

> "You need internal policies and clear access controls for who can train or interact with AI models."
>
> VP of IT, Retail

When asked the biggest factors **hindering their progress when building and delivering AI applications**, complexity was number one, followed by security and compliance, then model cost.

IT Leaders Cite "Complexity" as Being the Biggest Inhibitor to Building and Delivering AI Applications



Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

ROI can be illusive but metrics are critical

"That ROI, return on investment factor, sometimes it is straightforward, sometimes it is not; because if it's a soft saving, it will just bring in the efficiencies. So sometimes customers can't see that … there is a cost involved in deploying these technologies…. It costs time, effort, and energy, and it requires vision."

–VP of IT, Telecom

"How to observe, how to find production issues out of an AI application is the biggest challenge. Just defining that for an AI application is tough because you are in a process of something which is ever evolving and ever changing."

–VP of IT, Financial Services

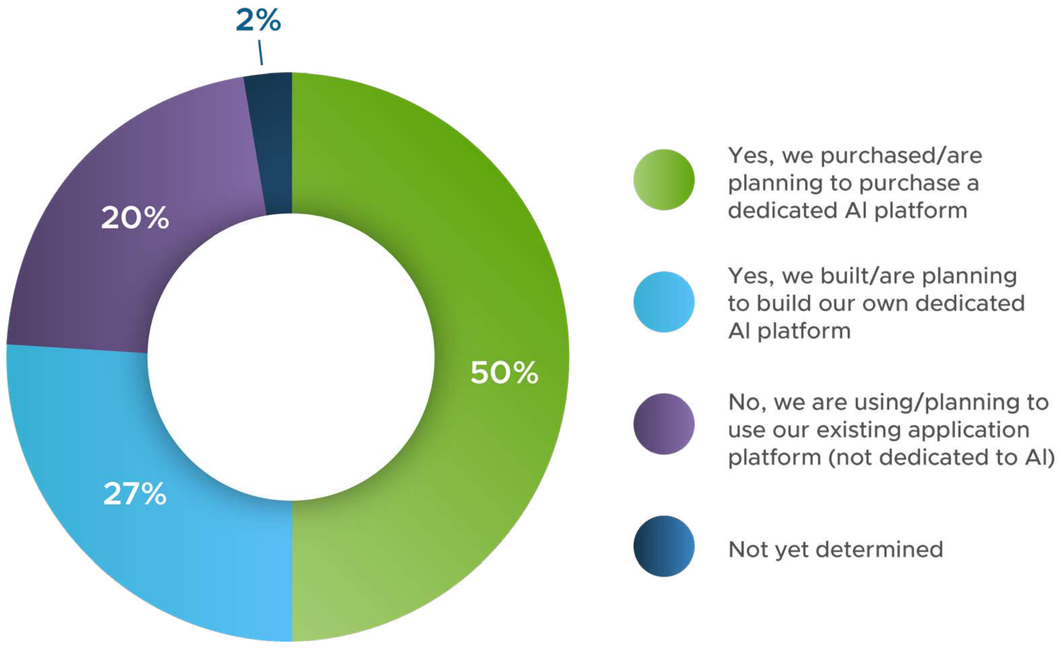
App Platform critical to solving delivery challenges

The crux of the digital transformation movement of the past decade and a half was improving developer experience so businesses could release software more regularly and quickly. This need to innovate, deploy, and optimize quickly was driven by the desire to be competitive, but also by the fear and risk of getting "Ubered," a derogatory (developer slang) term used to describe scenarios in which businesses or whole industries are disrupted by software and technology in the same way that the traditional taxi industry was usurped by Uber.

Improving the app development and delivery process led to many advancements in the way developers access and consume the services and resources they need, including APIs, open source software, databases and pipelines, and libraries, to name a few. Ultimately, the PaaS model rose to the top because it affords developers the right level of autonomy and useful constraints to help them be productive.

Striking the balance between autonomy and strict governance is like watching a pendulum. This is because, as with most budding technology, letting a thousand flowers bloom is necessary to push the boundaries of innovation. However, to safely and consistently scale requires standardization. This is why middleware exists.

Majority of Respondents are Purchasing Dedicated AI-ready Platforms



Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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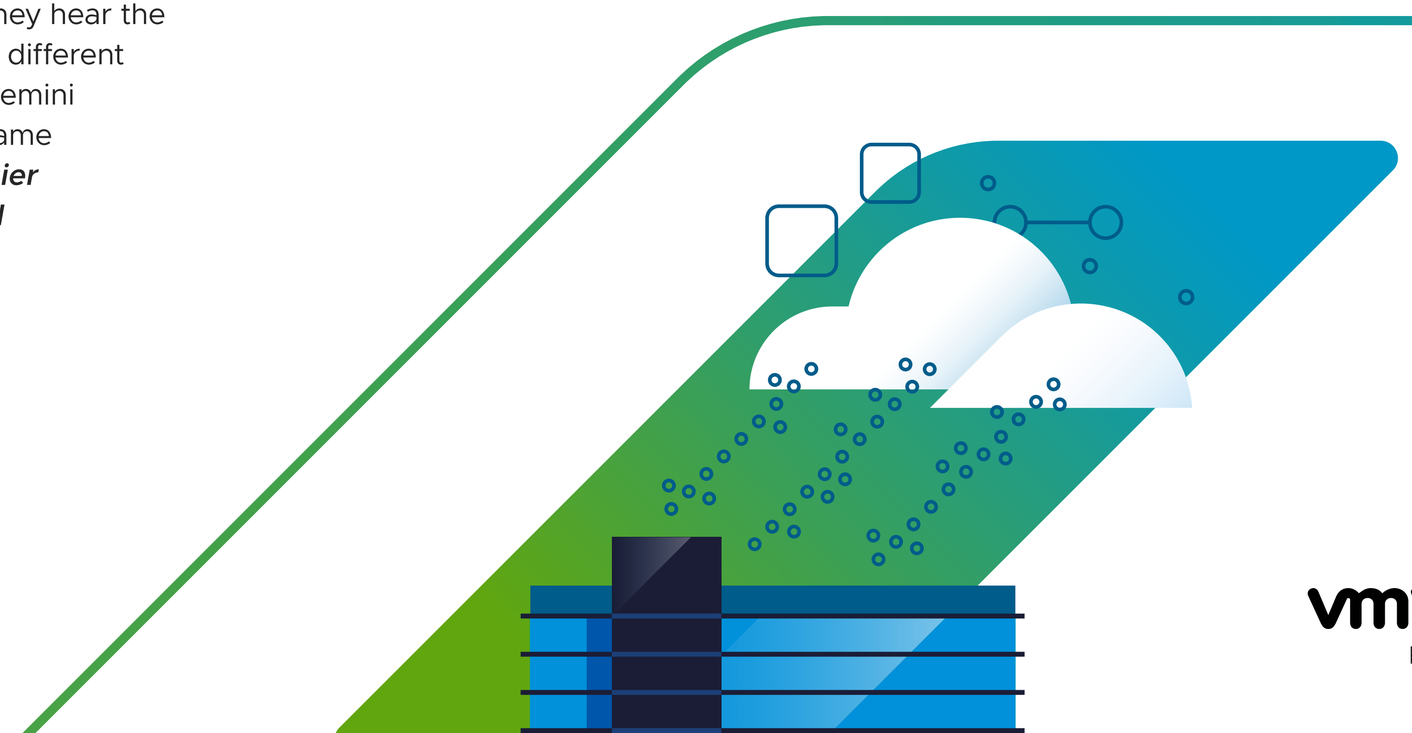
Developers are the tip of the digital transformation spear, and this is a good thing. After all, despite all the promises of AI coding, it is developers who will build those custom, differentiated apps that run your business. Survey respondents validated this, with 71% saying they've invested in enhancing developer experiences and 58% adopting a PaaS strategy to streamline development.

The path from middleware to PaaS was inevitable because every digital transformation is built on the previous one, and in the case of PaaS, that previous transformation was middleware based. Though the term "middleware" dates back to the late 1960s, as a concept it was popularized in the 1980s and became ubiquitous as the business potential of the internet was discovered.

Ultimately, middleware came to refer to a broad category of software that helps developers focus on their applications. Although when asked what comes to mind when they hear the term "AI middleware," our respondents mentioned different tools and services, from GitHub to Agentforce to Gemini to Azure AI Studio. However, a consistent theme came through: ***Middleware makes developers' lives easier by connecting their applications to the dispersed resources they need.*** To be sure, even the most generic of definitions agrees.

Middleware makes it easier for software developers to implement communication and input/output so they can focus on the specific purpose of their application.



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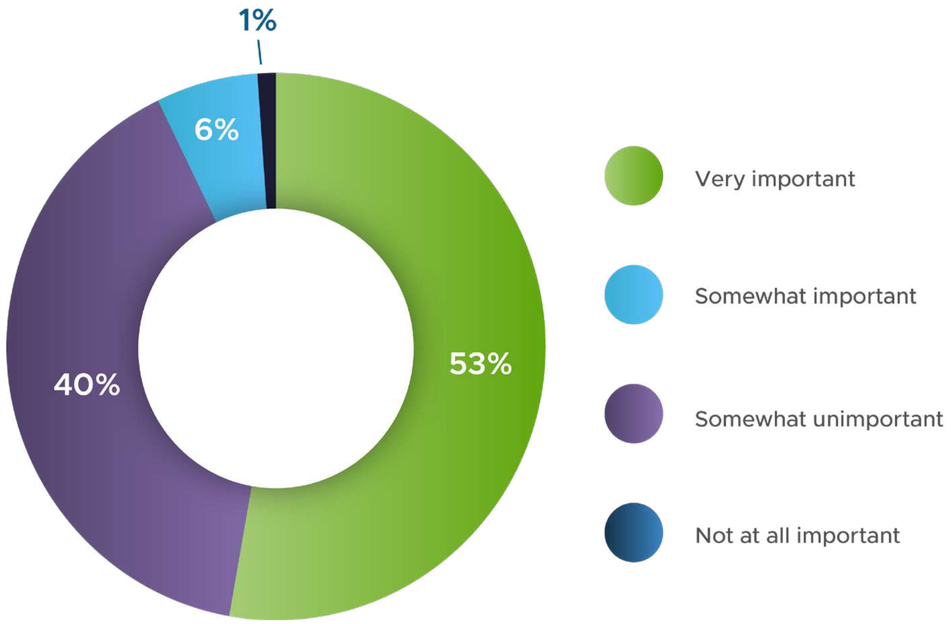
Platform Engineering is Essential

The majority of respondents recognized platform engineering as important to the success of their AI app delivery. Though a relatively new discipline, platform engineering has proven its need in the app dev and delivery cycle. Here's why:

- Consistent and scalable foundation
- Increased developer productivity and focus
- Faster and more reliable path to production
- Enhanced observability and health monitoring
- Improved security and compliance

For more about the platform engineering experience of Tanzu Platform, check out this short video.

Majority of IT Leaders Believe that Platform Engineering Function /Team is Important to Accelerating AI Adoption



93% of IT leaders indicate Platform Engineering is very or somewhat important.

Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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AI Platforms Need a PaaS Experience

Among our respondents there is an understanding of the power of platform and the PaaS experience in addressing some of the most common challenges.

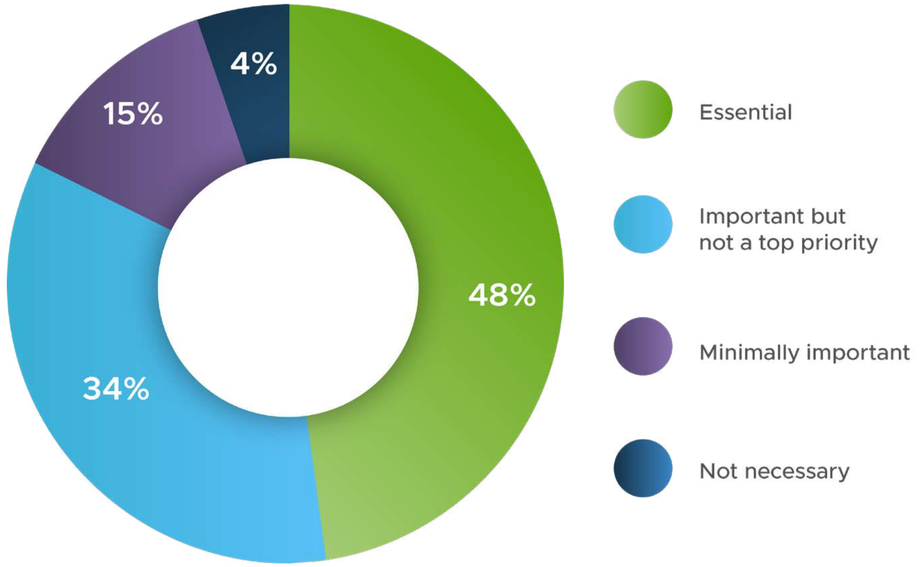
Seven out of ten of our respondents are either purchasing or building platforms dedicated to delivering AI applications, and those organizations actively deploying AI are more likely to report that their companies are purchasing or building a dedicated AI platform.

We think this demonstrates two things:

If you need to release AI-enabled apps quickly, securely, and at scale, **you need a platform.**

If you are releasing AI-enabled apps quickly, securely, and at scale, **you probably have a platform.**

Nearly Half of IT Leaders Indicate that AI App Platforms are Essential for Scaling AI



82% IT leaders indicate AI platforms are "essential" or "important" for scale.

Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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Decision-makers note that platforms are valued for:

- Pre-trained **models and maturity**
- Ease of back-end **data integration**
- Support for **compliance and governance** needs
- Ability to **scale and reuse** components

In the end, this points to a recognition that a platform experience (PaaS, specifically) is critical to a successful AI app dev and delivery strategy.

> "You have to look at what you're trying to do. If you have an organization that's using more modernized applications, then a platform is better because you're already in that ecosystem and you can build out using the technologies that you already have in place."
>
> –VP of IT, Retail

> "AI platforms are already trained, built, and developed for a long time with a lot of data, pretty mature in a way. You can connect with your back-end data. That helps us speed up the AI application development for sure. Secondly, you can develop one AI application, then you can use a similar setup, you can reuse it for another AI application."
>
> –VP of IT, Pharmaceuticals

The AI Native CIO Checklist

The “CIO Checklist for AI App Delivery Readiness” provides essential guidance for IT leaders who need to securely and effectively deploy AI applications at scale. The checklist covers key aspects across strategy, implementation, risk management, and governance, and can be utilized for building business cases and measuring ongoing success including:

Strategic Alignment: Integrate AI strategy with overall business objectives.

Comprehensive Planning: Develop detailed business cases, assess readiness, and establish data governance.

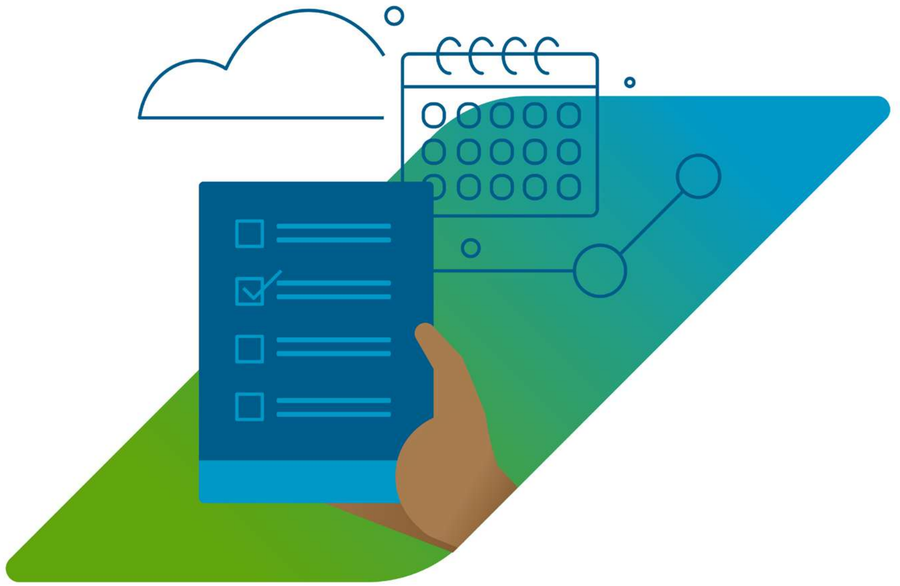
Secure Implementation: Prioritize secure environments, select appropriate tools, and ensure robust data infrastructure.

Continuous Learning: Foster an AI “Center of Excellence” and provide ongoing employee training.

Ethical & Compliant: Adhere to legal regulations and ethical guidelines, including bias mitigation.

Robust Governance: Establish clear roles, continuous monitoring, and regular reviews for AI systems.

See the full checklist here



Becoming AI Native

Enterprise IT leaders and CIOs can make a lasting impact on their companies’ business success. The investments you make in becoming an AI-native enterprise will boost your ability to use innovations in AI — from generative to reactive to agentic and self-aware— for better business outcomes and differentiation.

Appendix

From Cloud Native to AI Native

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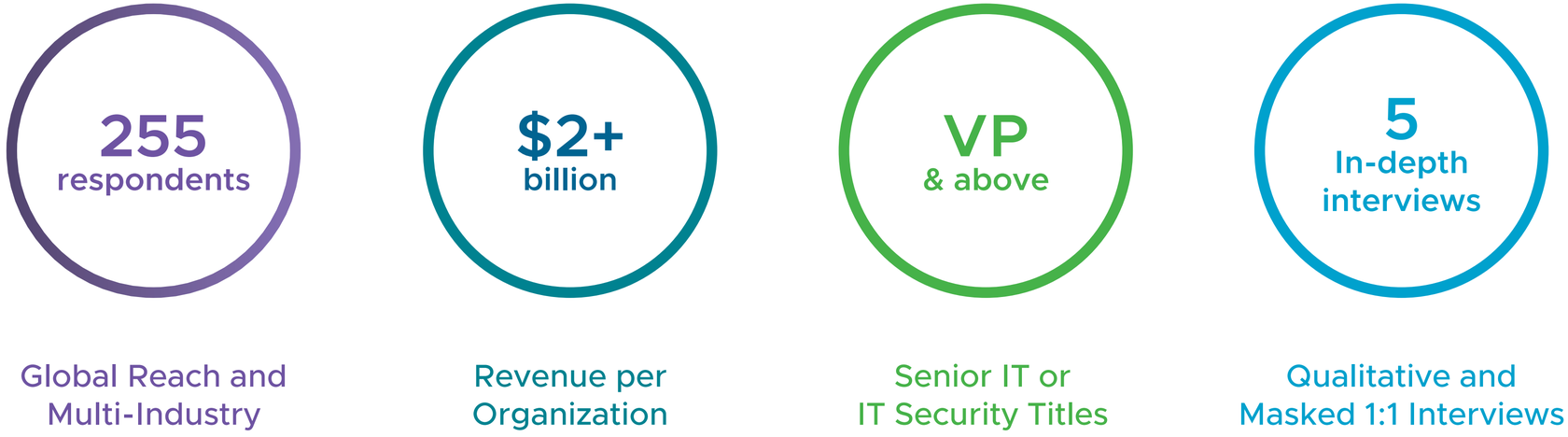
Appendix

Independent Survey Details

March - April 2025



Global Reach and Multi-Industry

Revenue per Organization

Senior IT or IT Security Titles

Qualitative and Masked 1:1 Interviews

Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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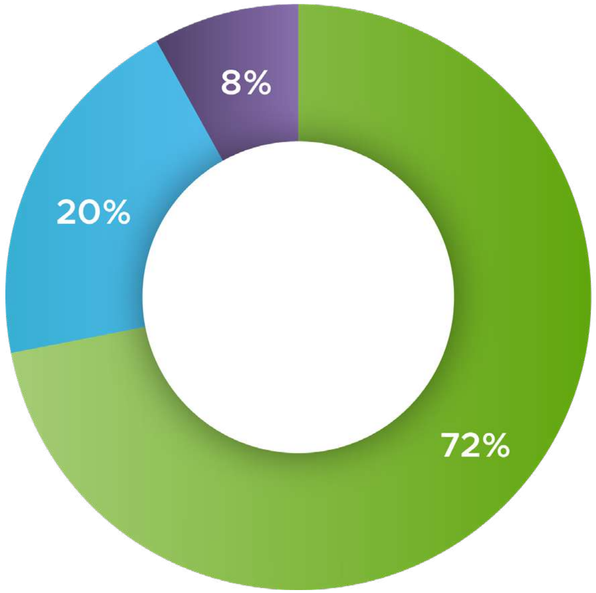
Appendix

AI Application Delivery Growing in the Enterprise

Independent study of 255 CIOs globally



- Actively deploying AI applications at scale
- Experimenting with AI in limited areas
- Exploring AI use cases but not deploying

72% of CIOs Actively Deploy AI Models in Applications

Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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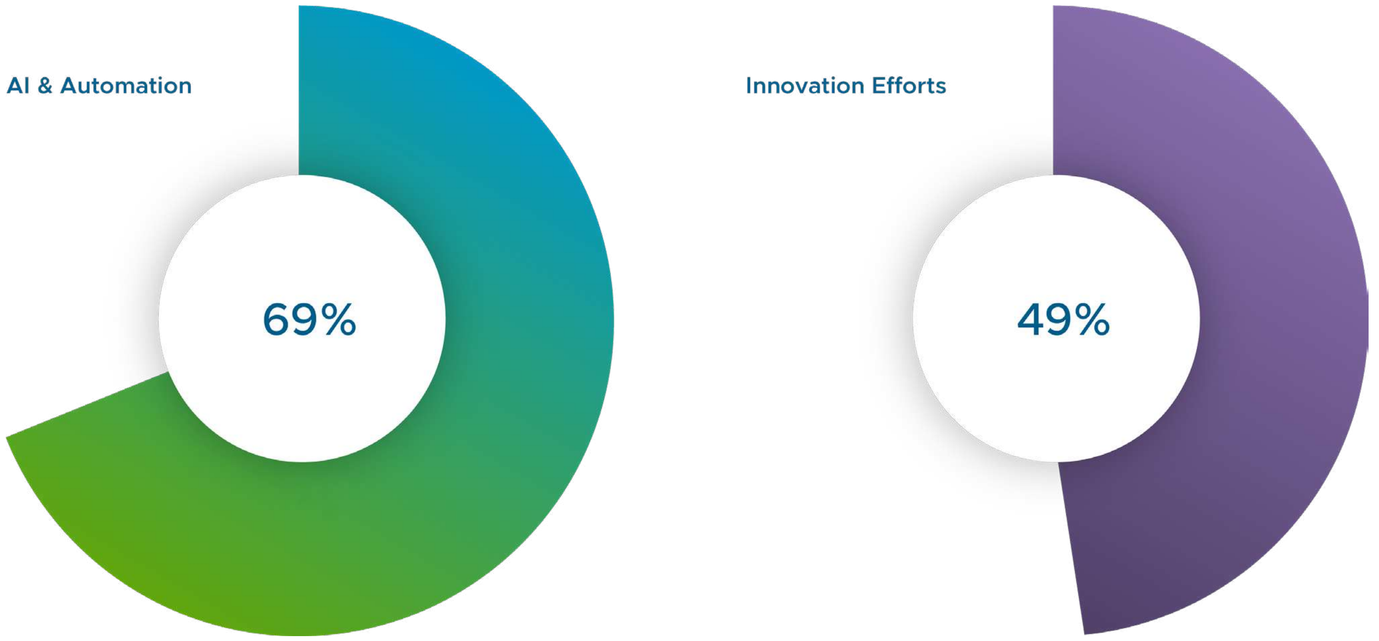
Appendix

CIOs Shift Budget Priorities to AI and Automation

Two out of three CIOs that are reducing cloud spend plan to reinvest in AI and automation



Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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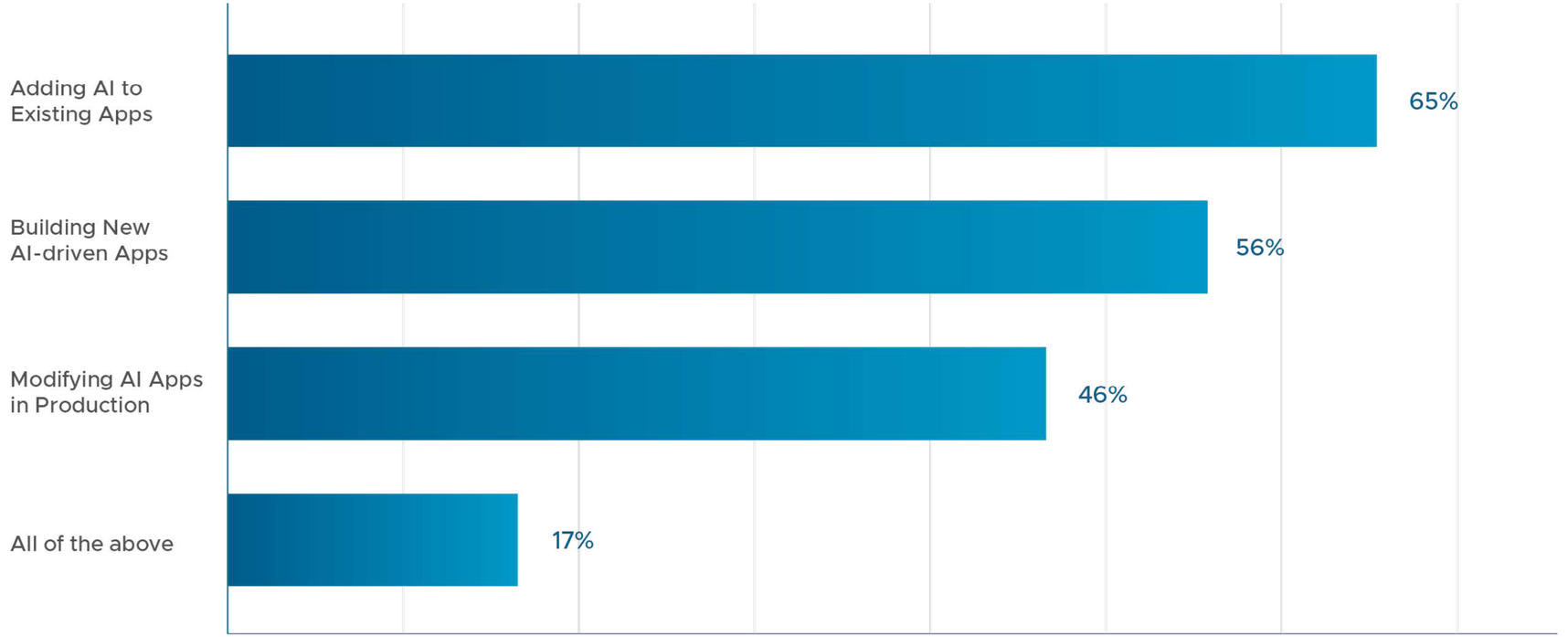
Appendix

CIOs Are Focused on Transforming Existing Applications with AI

Modify existing apps outpaces building new AI apps



Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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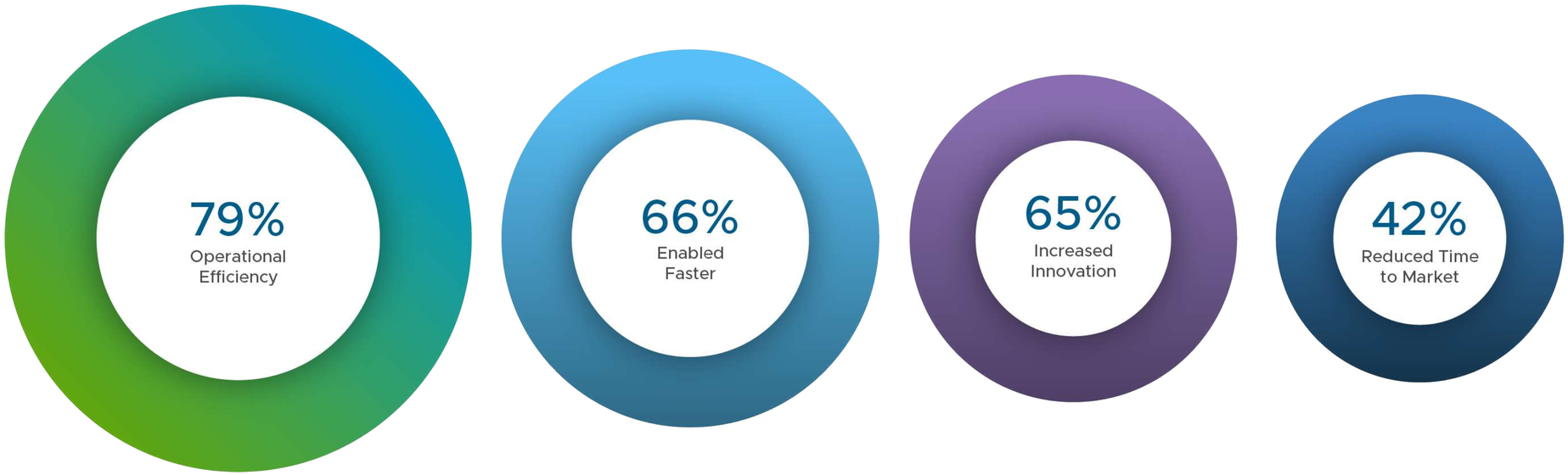
Appendix

More Than Three-Quarters Have Achieved IT Efficiency Gains from Their IT Modernization Efforts



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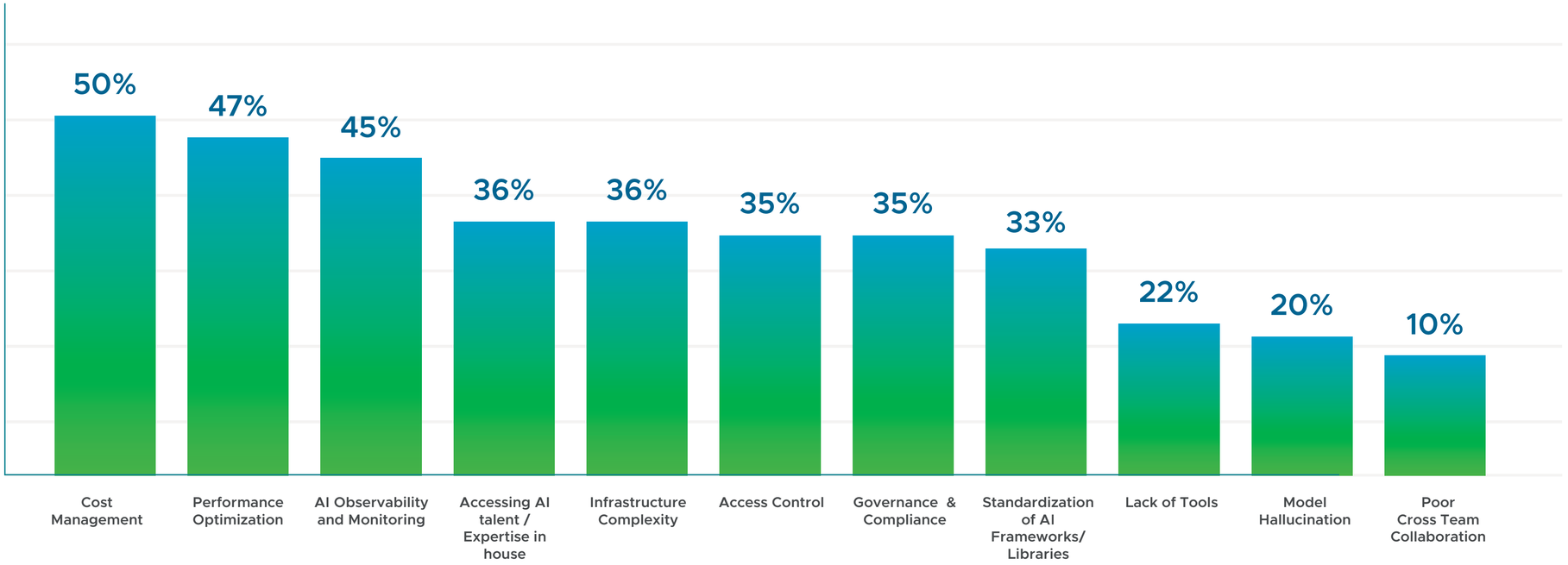
Most Cited AI App Operations Challenges are cost management, performance optimization, and AI observability



Source: VMware's *From Cloud Native to AI Native: A CIO Perspective* 2025

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