Partner Up To Optimize GenAI

Adopting And Optimizing GenAI With A Third-Party Services Provider Can Enhance Time To Market, Productivity, And Customer-Driven Business Outcomes

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Partnerships Can Augment The Capacity And Expertise Needed To Scale GenAI For Software/Application Development

In North America, Asia Pacific, and EMEA, 87% of future-fit organizations are experimenting with and/or scaling AI.[1] Software/application developers and managers are laser-focused on using AI to improve time to market and product delivery for their organizations, with the objective of improving experience and productivity. To accomplish these goals, many are relying on the power of generative AI (genAI). If successfully scaled, genAI can improve software/application development speed and productivity while driving business outcomes like experience, agility, and revenue.

However, many organizations don't have the bandwidth or expertise to adopt and optimize genAI for development purposes. Third-party service providers represent an underutilized yet powerful fulcrum to help them do this through strategic partnerships.

Key Findings

Faster time to market (61%) and increased productivity of software delivery (59%) are the most important software/application development objectives.

More than half of respondents say a lack of bandwidth/scalability (55%) and training (51%) holds them back from optimizing genAI for software/application development.

Eighty percent believe that partnering with third-party service providers can help their organization scale genAI more successfully. This can drive key business outcomes like experience, productivity and agility, and revenue.

Achieving Customer-Driven Growth Requires Faster Time To Market

Surveyed software/application developers and managers note that their organizations' most critical strategic goals over the course of the next 12 months are rooted in enhancing user experience (UX) for their customers, increasing revenue, and boosting their holistic productivity. In doing so, they also aspire to encourage more loyalty for their product/service and strengthen their focus of software as an expression of the business. For developers and managers, these business outcomes are determined by the success of specific factors driving their software/application strategy.
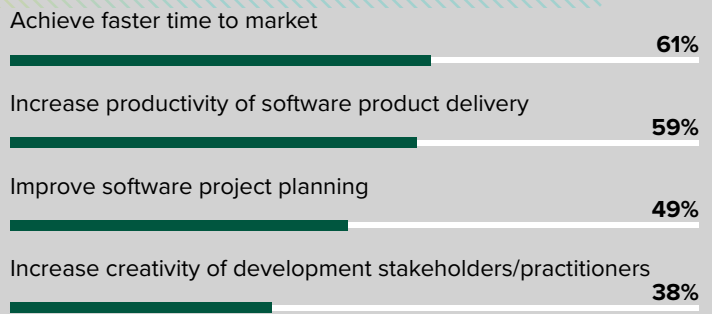
More than half of respondents say that faster time to market (61%) and increased productivity of software delivery (59%) are their most important software/application goals in the next year, followed by improvements in process (project planning) and boosting the skills and creativity of their own developers.

Top Strategic Initiatives For Next 12 Months

Improve user experience
67%

Increase revenue
64%

Increase productivity
57%

Increase customer loyalty
53%

Top Software/Application Objectives For Next 12 Months

Achieve faster time to market
61%

Increase productivity of software product delivery
59%

Improve software project planning
49%

Increase creativity of development stakeholders/practitioners
38%

Base: 243 software and application developers and managers with sole or shared responsibility in decision-making related to genAI implementation strategy
Note: Showing top 4 responses
Source: A commissioned study conducted by Forrester Consulting on behalf of NTT DATA, December 2023
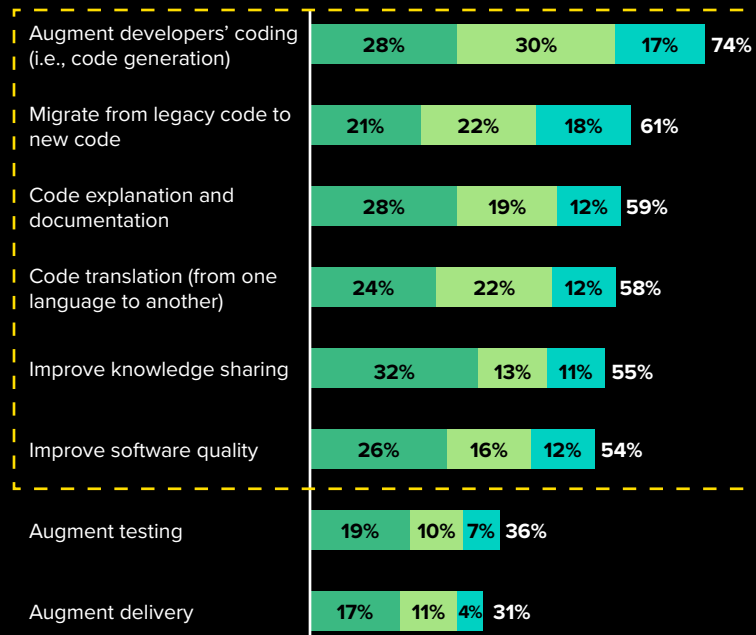
Organizations Rely On GenAI To Accomplish Their Top Strategic Objectives

Software/application developers and managers are still experimenting and scaling the power of genAI for a diverse range of use cases, especially ones that help achieve their primary objectives of increasing UX and productivity. The top-two types of genAI products used are software code completion and generation (46%) and design experimentation (41%).

Nearly 75% of respondents note their organization is using genAI to augment its developers' coding, and over 50% are also using it for code migration, documentation, translation, and improvements in quality and knowledge sharing. However, there are untapped opportunities, especially when it comes to software testing and delivery. Not as many organizations are using genAI for testing (36%) and delivery (31%). However, to speed up productivity and avoid bottlenecks, organizations will benefit from using AI as a foundational component of adopting continuous testing and delivery.[2]

"To what extent is your organization using/ planning to use genAI to accomplish the following elements of its software and/or application development strategy?"

● Experimenting ● Scaling ● Adopting enterprisewide

	Experimenting	Scaling	Adopting enterprisewide	Total
Augment developers' coding (i.e., code generation)	28%	30%	17%	74%
Migrate from legacy code to new code	21%	22%	18%	61%
Code explanation and documentation	28%	19%	12%	59%
Code translation (from one language to another)	24%	22%	12%	58%
Improve knowledge sharing	32%	13%	11%	55%
Improve software quality	26%	16%	12%	54%
Augment testing	19%	10%	7%	36%
Augment delivery	17%	11%	4%	31%

There Are Untapped Opportunities To Adopt And Optimize GenAI

Ninety-six percent of respondents said their organization is taking action to improve its ability to adopt and use genAI for software/ application development. Most seek improvement by reviewing internal code patterns, policies, and styles; others perform their own due diligence to compare and rank vendors based on their efficacy. More than half are increasing their hiring to improve expertise. Despite this motivation, there continue to be unexplored avenues for improvement.

While most of respondents note their organizations are focused on investing in recruiting genAI experts and performing their own due diligence internally, others (37%) choose to partner with third-party service providers to outsource the expertise and onboard the assistance needed to optimize their use of genAI. This is a highly valuable but less utilized solution to spending resources on building and scaling a genAI knowledgebase from the ground up.

"Which of the following immediate actions is your organization taking to improve its use/adoption of genAI for software and/or application development?"
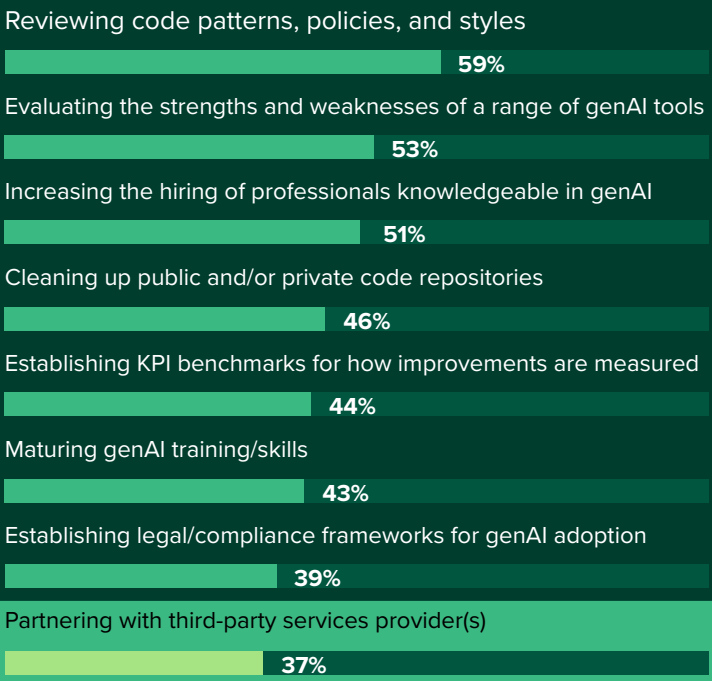
Reviewing code patterns, policies, and styles
59%

Evaluating the strengths and weaknesses of a range of genAI tools
53%

Increasing the hiring of professionals knowledgeable in genAI
51%

Cleaning up public and/or private code repositories
46%

Establishing KPI benchmarks for how improvements are measured
44%

Maturing genAI training/skills
43%

Establishing legal/compliance frameworks for genAI adoption
39%

Partnering with third-party services provider(s)
37%

Base: 243 software and application developers and managers with sole or shared responsibility in decision-making related to genAI implementation strategy
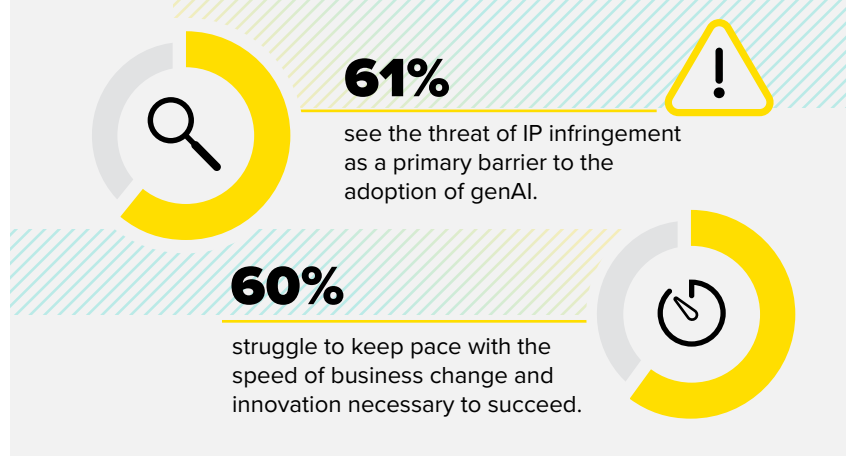Note: Showing top 8 responses
Source: A commissioned study conducted by Forrester Consulting on behalf of NTT DATA, December 2023

Risk Aversion And Lack Of Innovation Slow Down Growth

Sixty percent of software/application developers and managers say that they cannot keep the pace of change needed to succeed. This lack of enterprisewide agility and adaptability contributes to their organizations' falling behind on critical strategic initiatives like improving user experience, growing revenue, and increasing productivity — which are also their biggest challenges. This lack of adaptability and risk aversion extends to genAI adoption.

For some, genAI is a growth catalyst and a fulcrum for improving software/application development — but others see it as a risk. For 61%, the threat of IP infringement is a primary barrier to adoption, while 51% view genAI as a bigger compliance threat than a business opportunity. Behind this hesitancy is the lack of internal legal and compliance procedures to sustain this risk (40%). Organizations require more support to hedge these risks and kickstart growth.

61% see the threat of IP infringement as a primary barrier to the adoption of genAI.

60% struggle to keep pace with the speed of business change and innovation necessary to succeed.

Top 3 Strategic Initiative Challenges

42% Improving user experience

33% Growing revenue

30% Increasing productivity

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Note: Showing top responses
Source: A commissioned study conducted by Forrester Consulting on behalf of NTT DATA, December 2023

Organizations Need More Bandwidth And Expertise To Optimize GenAI

Many organizations are recruiting more genAI experts and choosing to perform their own due diligence to evaluate vendors. However, more than half of respondents (55%) say their organization is still missing the level of IT capacity it needs to support and scale genAI use throughout the organization. This leads to a similar number (54%) saying that they still struggle to harness the full potential of genAI for software/application development.

Not only are they lacking the staff to scale genAI, but 51% are also missing the resources needed to train them. Achieving faster time to market is a top goal for software/application developers and managers but doing so with employees who are not trained in genAI is delaying their progress.

A lack of internal capacity and expertise is a barrier to genAI adoption and innovation, contextualizing the need for third-party support.

"Which of the following issues are inhibiting your organization's ability to adopt/scale genAI for software and/or application development?"

My organization lacks the bandwidth (IT staff) it needs to be scalable.

55%

My organization lacks the professional development resources to train its staff to achieve faster time to market with genAI.

51%

My organization's software supply chain practices are not productive enough.

42%

My organization's legal and compliance procedures are not mature enough to sustain the risks of genAI.

40%

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Note: Showing top 4 responses
Source: A commissioned study conducted by Forrester Consulting on behalf of NTT DATA, December 2023

Third-Party Service Providers Help Scale GenAI Adoption, Offering Expertise, Capacity, And Due Diligence

Eight in 10 software/application developers and managers see the value in partnering with a third-party services provider to adopt/optimize their organization's use of genAI more successfully. This spotlights a key opportunity, since only 37% of respondents say their organization is currently taking this action to meet software/application development goals.

Organizations seek service providers that offer them the ability to supplement areas they lack — namely bandwidth/scalability (49%), the expertise to compare vendor strengths and weaknesses (46%), and the ability to identify where/how genAI can be applied (41%). On top of this, 33% also say that partnering up is more cost-effective. This provides a better option for companies that lack the internal capacity and expertise to adopt and scale genAI themselves.

80%
agree that partnering with third-party services providers has allowed/will allow their organization to successfully adopt/scale genAI.

Top Benefits Of Working With Third-Party Service Providers To Adopt/Scale GenAI For Software/Application Development

49% Their IT staff support increases my organization's own bandwidth/scalability.

46% They help my organization compare the strengths and weaknesses of various genAI vendors.

41% They know where and how in the software supply chain genAI can be applied.

37% Their software supply chain maturity boosts my organization's productivity.

36% They help my organization improve its own development capabilities.

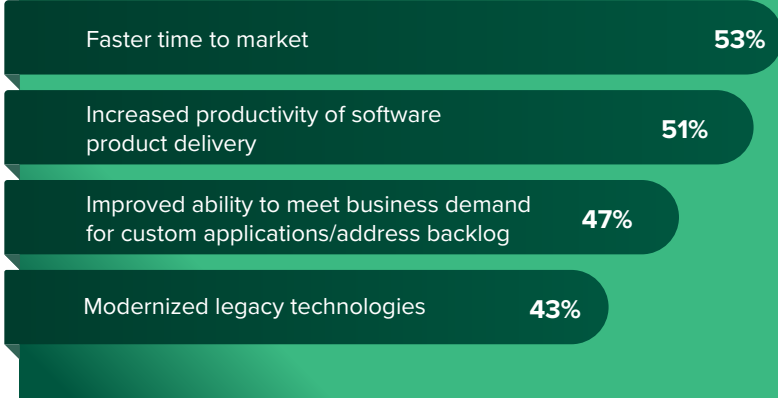**33%** Partnering is more cost effective than doing it ourselves.

Base: 243 software and application developers and managers with sole or shared responsibility in decision-making related to genAI implementation strategy
Note: Showing top 6 responses
Source: A commissioned study conducted by Forrester Consulting on behalf of NTT DATA, December 2023

GenAI Boosts Development Speed, Increases Productivity, And Drives Key Business Outcomes

Improving time to market and development productivity are the top-two software/application objectives that organizations are focused on over the next 12 months. GenAI plays a very important role in developers' and managers' ability to accomplish these near-term objectives. If genAI is onboarded and scaled successfully, more than half of respondents say that faster time to market (53%) and increased productivity of software product delivery (51%) are top benefits that their organization expects to gain from it.

The benefits of adopting and optimizing genAI don't end with software/application development — they extend throughout the entire enterprise. If adopted and onboarded successfully, genAI can also drive near-term organizational goals like improving experience for users (customers), improving market agility, and increasing revenue.

Top Software/Application Development Goals

Faster time to market	**53%**
Increased productivity of software product delivery	**51%**
Improved ability to meet business demand for custom applications/address backlog	**47%**
Modernized legacy technologies	**43%**

Top Business Outcomes

61%
Improved user experience

60%
Increased agility/adaptablity to business and market changes

56%
Increased productivity

52%
Increased revenue

Base: 243 software and application developers and managers with sole or shared responsibility in decision-making related to genAI implementation strategy
Note: Showing top 4 responses
Source: A commissioned study conducted by Forrester Consulting on behalf of NTT DATA, December 2023

Conclusion

Based on what we learned in our study of 248 software/application developers and managers and from Forrester's key research on genAI, here are key takeaways to consider:

- GenAI can automate and enhance many use cases and tasks in software/application development. Organizations are using genAI (specifically TuringBots) for code generation and migration, but there are more stages of the software development lifecycle that genAI can help with. Software testing and delivery are among these use cases.[3]

- Trusted service providers can augment genAI capacity and skills. Many organizations lack the experience and capacity to onboard genAI themselves. Partners can help them establish a proper governance framework, coach individuals, establish rules and guardrails to address risks, and even provide TuringBot accelerators. Find trusted third-party service providers to lean on for this additional bandwidth and knowledge.

Endnotes

[1] Source: Forrester's Priorities Survey, 2023.

[2] Source: "The 12 Must-Dos For Achieving Continuous Software Testing," Forrester Research, Inc., June 28, 2023.

[3] Source: "The Future Of TuringBots," Forrester Research, Inc., July 21, 2023.
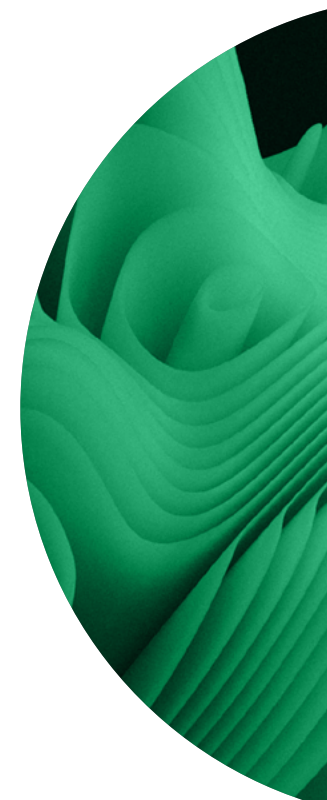
Resources

Related Forrester Research

"TuringBots Offer A Peek Into The Next Generation Of Software Development," Forrester Research, Inc., November 21, 2022.

"The State of TuringBots, 2023," Forrester Research, Inc., August 21, 2023.

Related [Blogs/Podcasts/Webinars]

Diego Lo Guidice, "Generative AI TuringBots Win Again In Forrester's Top 10 Emerging Technologies," Forrester Blogs.

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Methodology

This Opportunity Snapshot was commissioned by NTT DATA. To create this profile, Forrester Consulting supplemented this research with custom survey questions asked of software and application developers and managers with sole or shared responsibility in decision-making related to genAI implementation strategy. The custom survey began and was completed in December 2023.

ABOUT FORRESTER CONSULTING

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Demographics

INDUSTRY (TOP 5)	
Retail	**7%**
Financial services and/or insurance	**7%**
Technology and/or technology services	**6%**
Manufacturing and materials	**6%**
Telecommunications services	**6%**

GENAI IMPLEMENTATION	
Expanding/upgrading	**26%**
Implemented but not expanding	**21%**
Planning to implement in 12 months	**52%**

Note: Percentages may not total 100 due to rounding.

TITLE (TOP 5)	
Software developer	**28%**
Engineer	**21%**
Manager	**18%**
Director	**16%**
VP	**8%**

COMPANY SIZE	
1,000 to 4,999 employees	**51%**
5,000 to 19,999 employees	**37%**
20,000+ employees	**12%**

POSITION/DEPARTMENT	
IT/software	**73%**
Operations	**27%**