



Report

How development teams purchase SaaS



Overview

In October 2020, the first edition of this report was published by Auth0. Among other insights, it revealed just how important third-party software-as-a-service (SaaS) components (e.g., Twilio for messaging, Stripe for payment processing, Okta for authentication) were becoming to application developers.

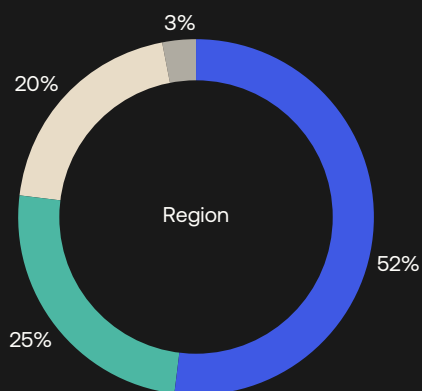
Quite a lot has happened since that first report — including Auth0 becoming part of Okta. We couldn't help but wonder (among other things):

- Where does adoption of third-party SaaS components stand today?
- What motivates organizations to integrate these components into their apps — and what benefits do they experience by doing so?
- What's the outlook for the near-term future — including the role of artificial intelligence (AI)?

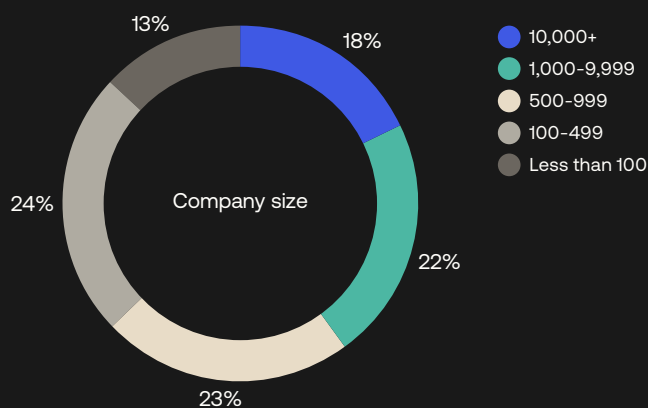
To uncover the answers, we once again partnered with SD Times to survey hundreds of developers, managers, and executives around the world — with a specific focus on application development teams.

Methodology

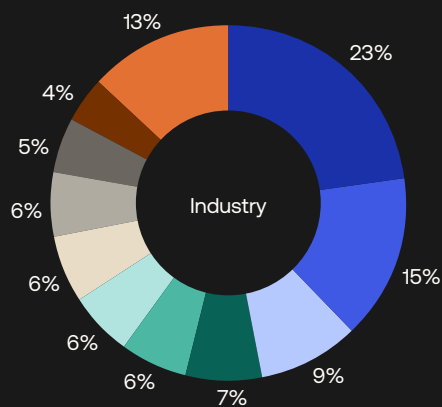
This report is based upon a blind online survey conducted by SD Times on behalf of Okta (the “Survey”). The global Survey targeted members of application development teams and generated 675 responses from professionals in 56 countries. All data in this report originates from the Survey unless indicated otherwise.



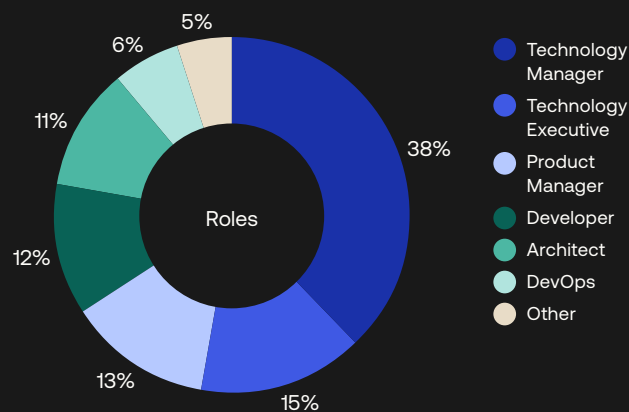
- North America
- Europe, Middle East, and Africa
- Asia Pacific
- South America



- 10,000+
- 1,000-9,999
- 500-999
- 100-499
- Less than 100



- Telecommunications, technology, internet, and electronics
- Finance, financial services, and insurance
- Manufacturing
- Entertainment, leisure, food and beverage
- Business support and logistics
- Education
- Government and nonprofit
- Healthcare and pharmaceuticals
- Transportation, delivery, and automotive
- Construction, machinery, and homes
- Other



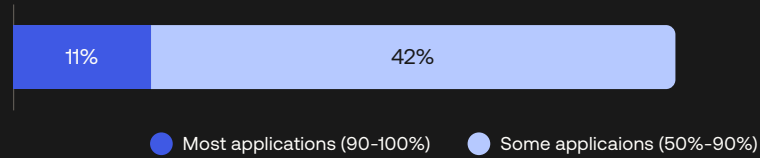
- Technology Manager
- Technology Executive
- Product Manager
- Developer
- Architect
- DevOps
- Other

Key insights

53%

of respondents already use third-party SaaS components in **most of their apps**.

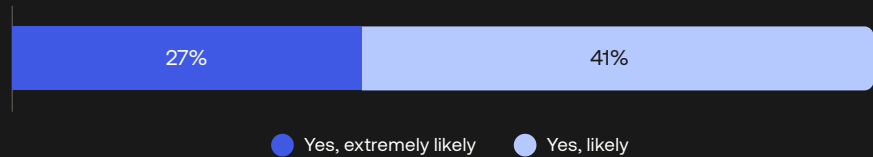
What percentage of your apps use some third-party SaaS components?



68%

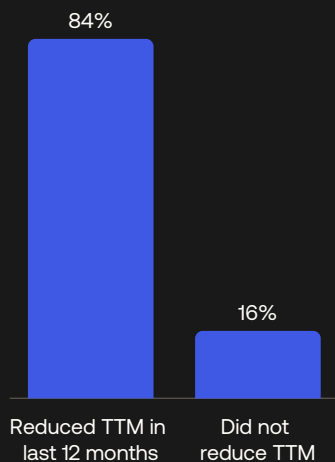
of respondents **expect to add new third-party SaaS components** next year.

In the next year, do you expect to add new third-party SaaS components?



Organizations that use third-party SaaS components reduce time to market and have shorter release cycles.

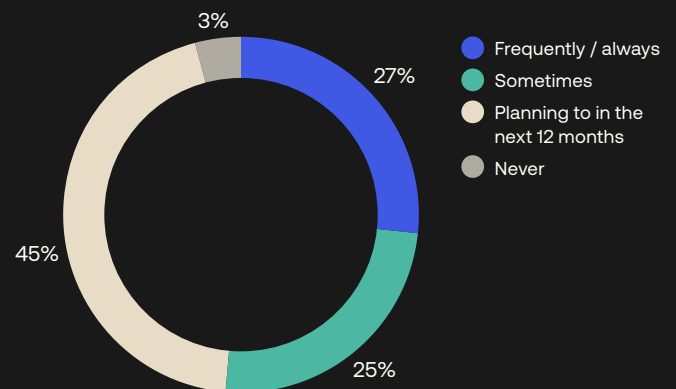
Organizations that used one or more third-party SaaS components



97%

of product engineering teams are expected to be using AI tools within 12 months.

Does your product engineering team use or plan to use third-party AI tools as part of your overall strategy?



Including application development team members in SaaS component procurement is good business.

92%

of respondents indicate that they are more productive when they get to use their preferred SaaS components.

90%

of respondents experience greater job satisfaction when they get to use their preferred SaaS components.

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01

The big picture

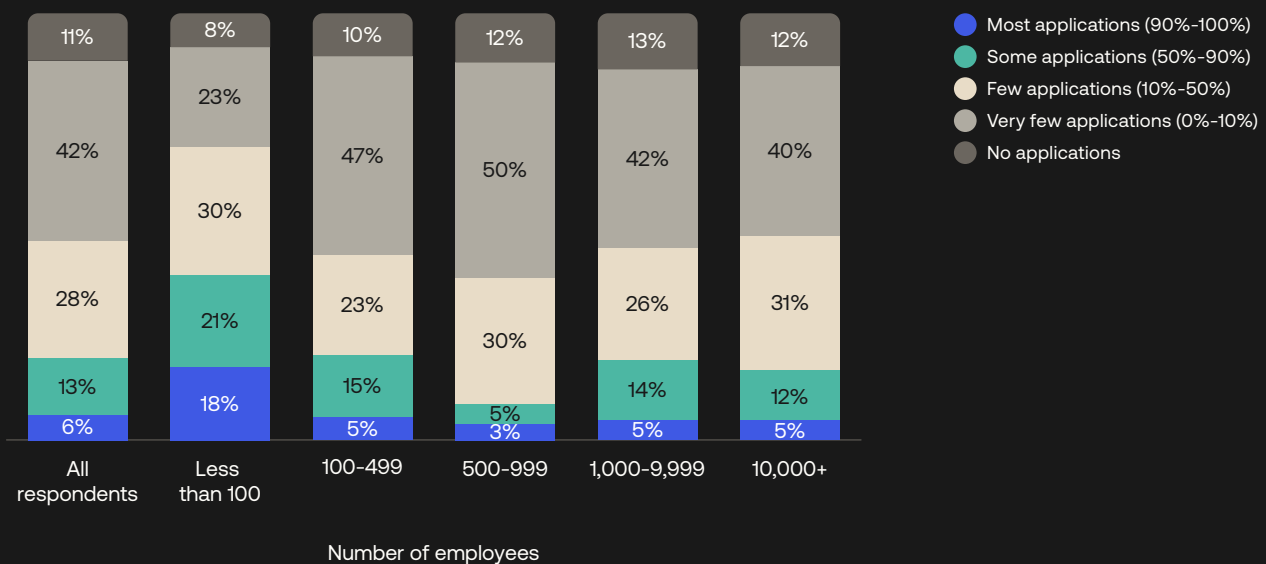
Use of third-party SaaS components is already high, and is still increasing — with innovative organizations leading the charge.

The majority of respondents (53%) report that more than 50% of their apps use third-party SaaS components.

In the 2020 edition of this report, only 43% of respondents reported that most of their apps made use of third-party SaaS components, so **adoption has increased 10 percentage points in just three years.**

Only 31% of respondents from organizations with fewer than 100 employees report using third-party SaaS components in most of their apps; above that threshold, the adoption rate jumps to 57%.

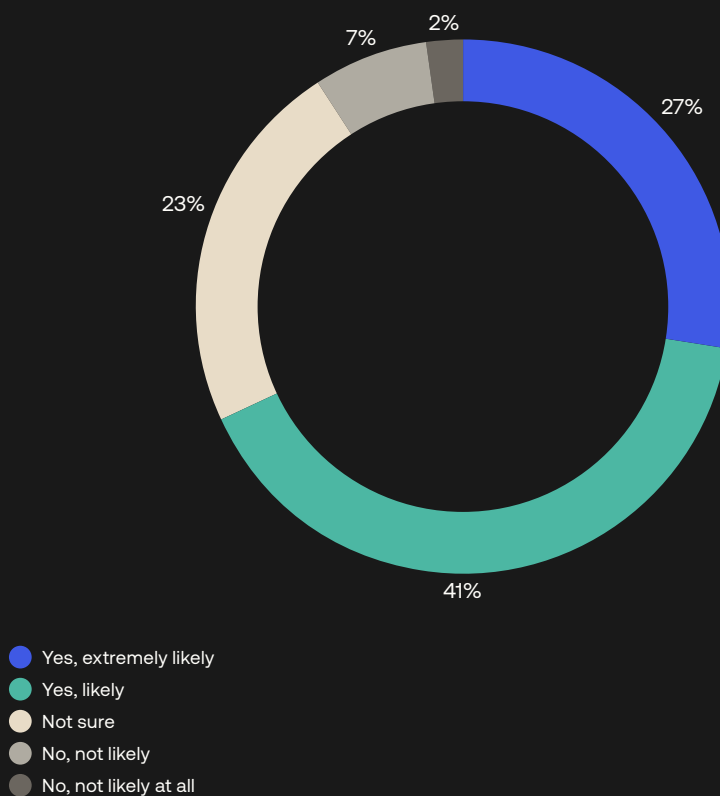
What percentage of your apps use some third-party SaaS components?



Adoption is going to continue to increase: 68% of respondents expect to add new third-party SaaS components next year.

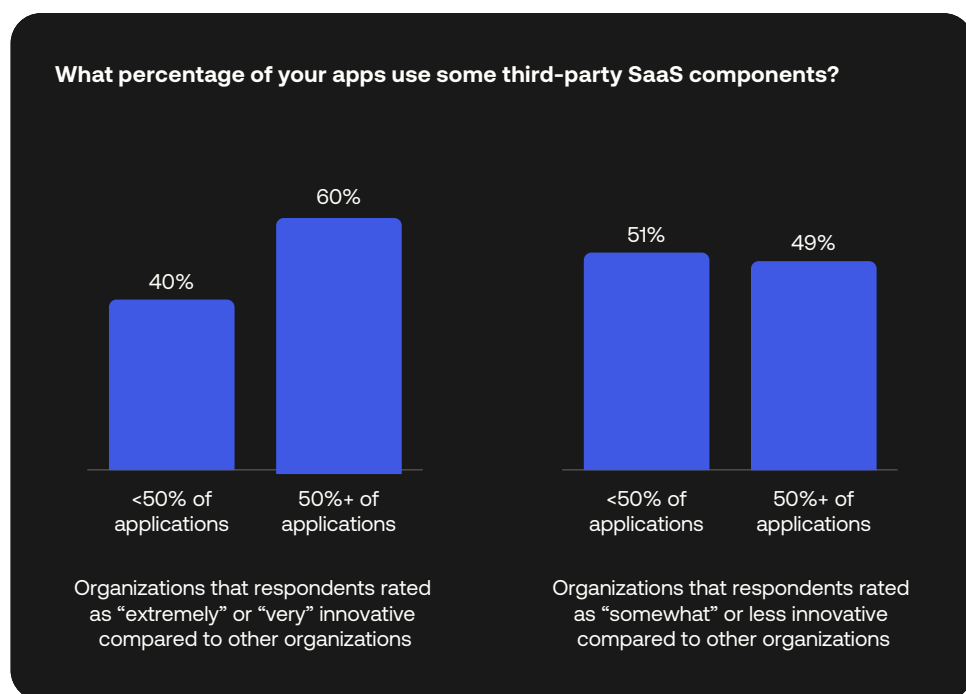
This 68% figure represents an increase of 10 percentage points over the 2020 edition of this report's finding of 58% — **suggesting that adoption isn't just increasing, but actually accelerating.**

In the next year, does your development team expect to add new third-party SaaS components to your application strategy?



Adoption of third-party SaaS components correlates with innovation.

The majority (60%) of respondents who rated their organization as being “extremely” or “very” innovative relative to other organizations also reported that their organization uses third-party SaaS components in most of their applications — 11 percentage points higher than respondents from less innovative organizations.

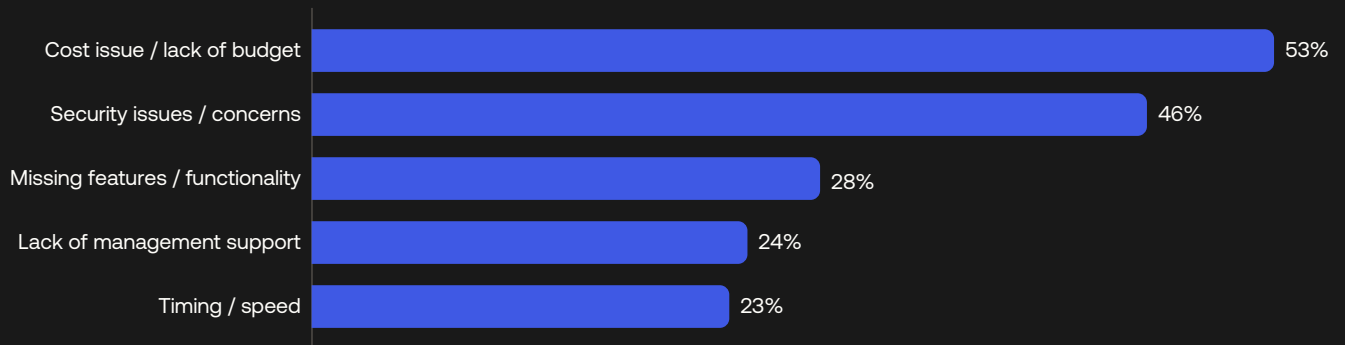


Cost / budget issues and security concerns are by far the biggest barriers to adoption of third-party SaaS components.

It's tempting to cite the macroeconomic climate and headline-grabbing supply chain attacks as explanations, but here's the twist: **This list is almost exactly the same as it was in the 2020 edition of this report.**

SaaS component developers can't control their customers' budgets, but they can (and should) be prepared to demonstrate strong security.

What, if anything, prevents you and your team from using third-party SaaS components? (Select all that apply.)



02

Motivations and benefits

Want to reduce time to market?
Third-party SaaS components help
with that (and a whole lot more).

Saving time / gaining agility remains the most common motivation for using third-party SaaS components.

In fact, the top five motivations for teams to use third-party SaaS components are largely unchanged from the 2020 edition of this report:

1. Time savings, agility
2. Features and functionality
3. Utilizing technical expertise
4. Cost savings
5. Simpler design, construction, and testing

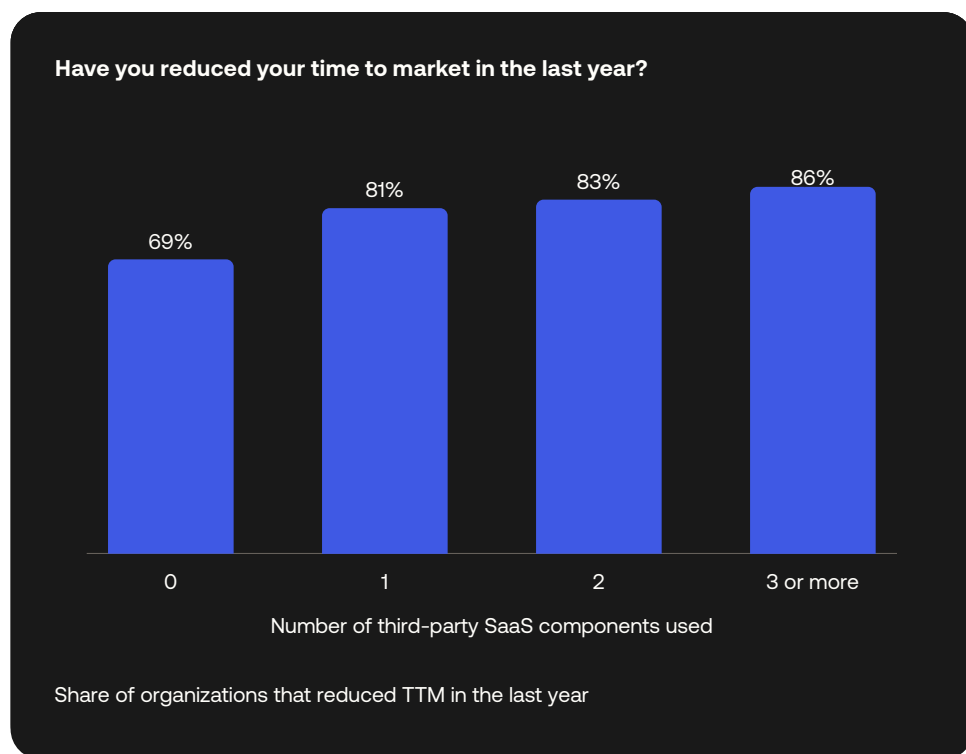
What motivation does your team have when using third-party SaaS components?



Top five motivations for teams to use third-party SaaS components

Using third-party SaaS components correlates with reducing time to market (TTM).

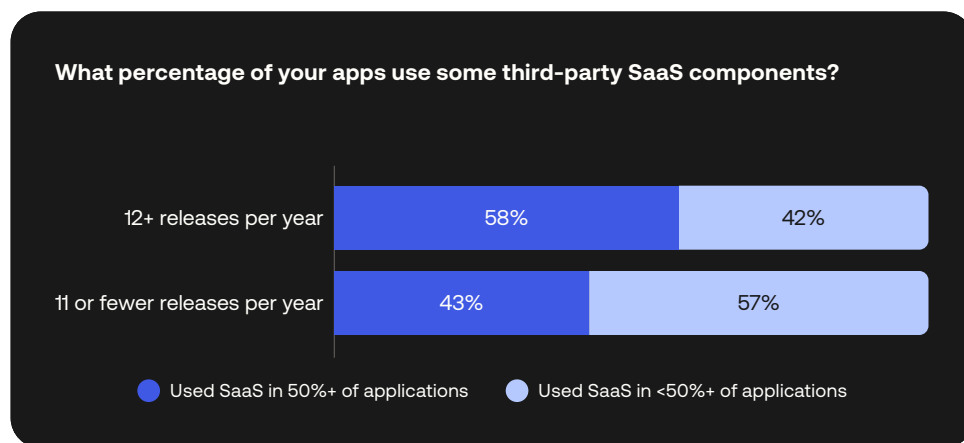
77% of respondents indicated that their organization reduced TTM in the last year, but this achievement was not spread uniformly — **only 69% of respondents from organizations that did not use any third-party SaaS components reported lowering TTM**, compared to 84% of respondents from organizations that used at least one third-party SaaS component.



Organizations that use third-party SaaS components in most of their apps have faster release cycles.

In the 2020 edition of this report, 51% of respondents from organizations with fast release cycles reported using third-party SaaS components in most of their apps — a figure that has risen by seven percentage points in 2023, to 58%.

But SaaS components aren't just for those with fast release cycles. In the 2020 edition of this report, only 20% of organizations with 11 or fewer releases per year used third-party SaaS components in most of their apps — in 2023, that figure has more than doubled to 43%.



03

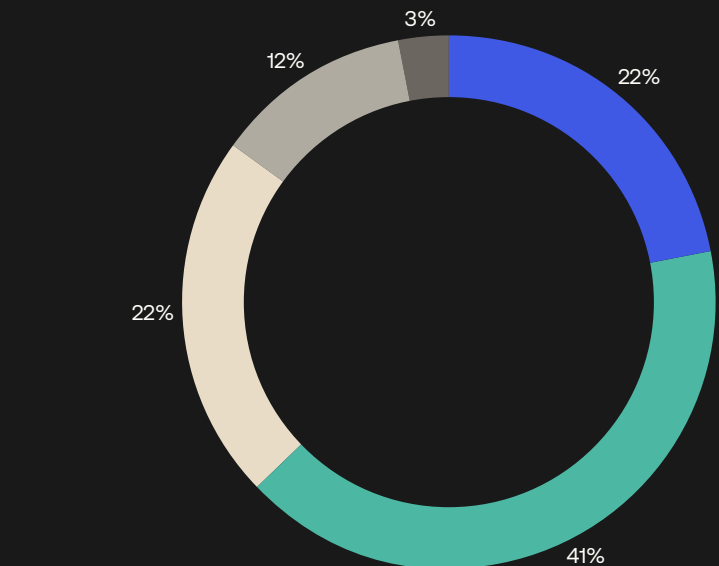
A closer look at SaaS components

DevOps tooling and automation lead the way in terms of third-party SaaS component adoption, but authentication has the biggest impact.

The strong majority (63%) of respondents are in favor of buying SaaS components that aren't part of the software's core differentiation.

In fact, only 15% of respondents believe organizations should try to build all application components in-house, whenever possible (with the remaining 22% offering a neutral opinion).

What is your personal point of view of your team's "build vs. buy" strategy?



- I strongly believe we should always buy SaaS components that are not a part of the software's core differentiation
- I believe we should buy SaaS components that are not a part of the software's core differentiation
- I am neutral in opinion
- I believe we should try to build all application components in-house unless we run into friction
- I strongly believe we should always try to build all application components in-house unless we run into major friction

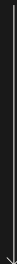
Data management and storage components take the most time and work to build in-house and maintain.

The top four application components all appeared in this list in the 2020 edition of this report, albeit in a different order.

Data augmentation — which is associated with machine learning (ML) — is a new arrival, and hints at the evolving needs facing product engineering teams as the role of artificial intelligence (AI) increases.

What application components take the most time and work to build (in-house) and maintain?

Most time / work



Least time / work

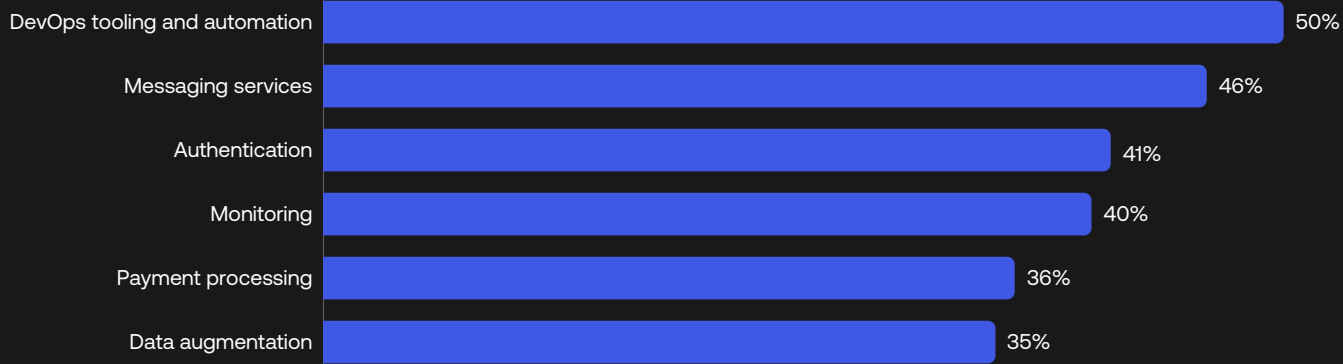
1. Data management and storage
2. DevOps tooling and automation
3. Authentication
4. Payment processing
5. Data augmentation

DevOps tooling is the #1 third-party SaaS component used by product engineering teams.

Three years makes a big difference — from the 2020 edition of this report to today:

- Payment processing fell from #1 to #5
- DevOps tooling jumped from #4 to the top of the list
- Authentication jumped two places, into #3
- Messaging services moved up a single position, to take #2

What types of third-party SaaS components does your product engineering team use? (select all that apply)



Top six SaaS components used by product engineering teams

Third-party authentication reduces time to market more than any other SaaS component.

88% of organizations that use a third-party SaaS platform for authentication report reducing time to market in the last year, compared to only 74% for those that built authentication in-house — this +14% delta is the largest for any SaaS component examined in the Survey.

Have you reduced your time to market in the last year?



Impact on time to market from buying third-party SaaS components versus building functionality in-house

04

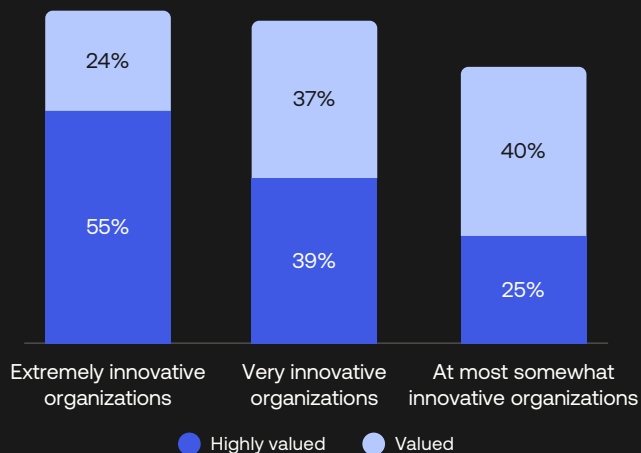
The procurement process

In the most innovative organizations, sourcing third-party SaaS components is a team effort.

The most innovative organizations are more likely to value developer feedback during the SaaS component evaluation process.

There's a clear relationship between innovation and valuing developer feedback — suggesting that **no matter who initiates the procurement process, successfully sourcing third-party SaaS components is a concerted team effort.**

During the SaaS purchase process, how much does your organization value the product feedback given from developers?

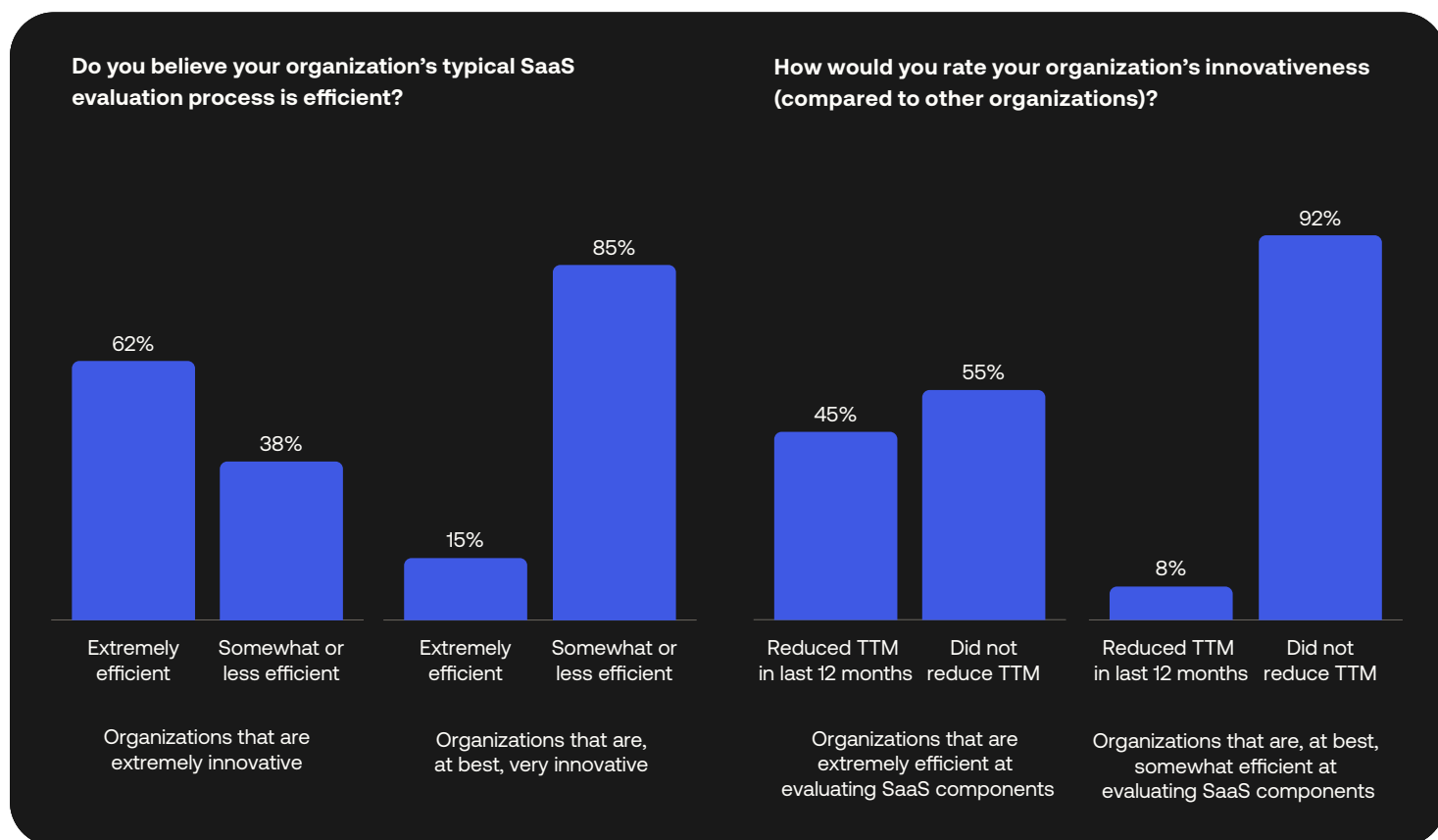


Extremely innovative organizations are extremely efficient at evaluating SaaS components (and vice versa).

Correlation and causation are tricky things, but it's clear that extreme innovation and extreme efficiency at SaaS component evaluation enjoy each other's company:

- Respondents who believe their organization is extremely efficient at evaluating SaaS components are **4x more likely** to rate their organization as being extremely innovative
- Respondents who rate their organization as being extremely innovative are **more than 5x more likely** to believe their organization is extremely efficient at evaluating SaaS components

(For what it's worth, there was no correlation between perceived efficiency of evaluation and duration of evaluation.)



An organization's size influences how it evaluates SaaS components — but three activities cross size boundaries.

Out of the eight options available within the Survey, three appeared in all three top-five lists:

- Peer conversations (within my team / firm)
- Analyst reports and conversations
- SaaS trials (getting to try before we buy)

Outside of these three:

- Large organizations leverage RFPs and vendor reviews
- Medium and small organizations rely upon online communities and peer conversations outside the firm

When researching options for new SaaS components, what activities influence your organization's evaluation? (select all that apply)

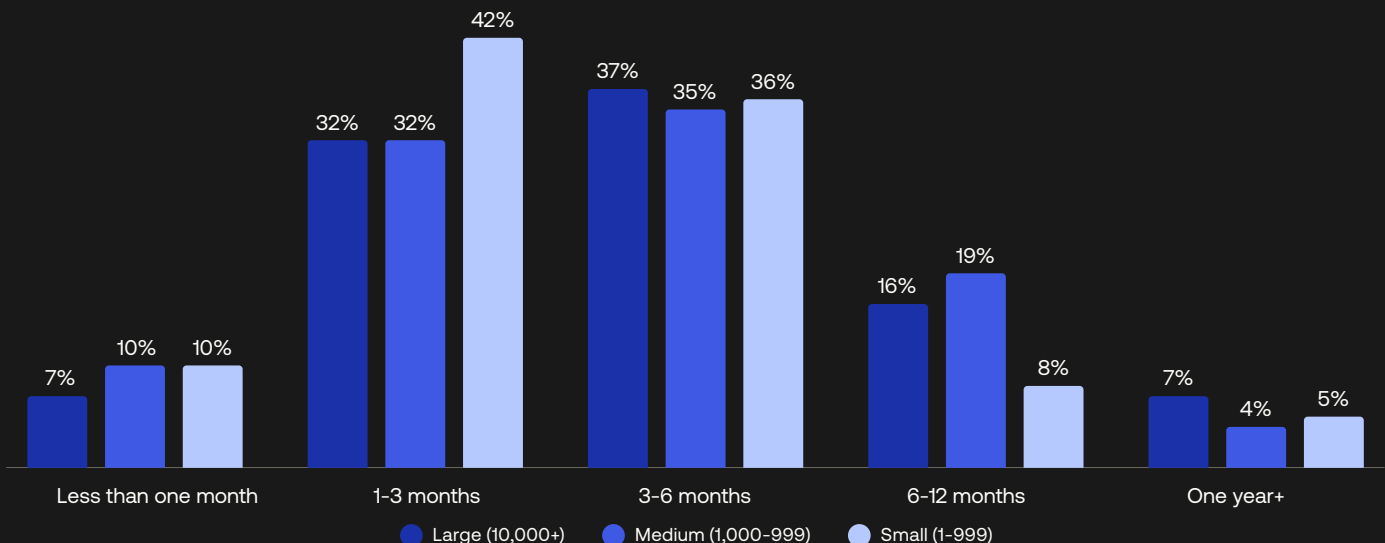
Rank	Large (10,000+)	Medium (1,000 - 9,999)	Small (1 - 999)
01	Analyst reports and conversations	Peer conversations (within my team / firm)	Peer conversations (outside my firm)
02	Peer conversations (within my team / firm)	Online communities and references (e.g., StackOverflow)	Peer conversations (within my team / firm)
03	SaaS trials (getting to try before we buy)	Analyst reports and conversations	Analyst reports and conversations
04	RFP submission responses	Peer conversations (outside my firm)	Online communities and references (e.g., StackOverflow)
05	Vendor reviews (e.g., G2, Peer Insights)	SaaS trials (getting to try before we buy)	SaaS trials (getting to try before we buy)

Organization size by number of employees

Organization size has little impact on evaluation duration — but those with faster release cycles make faster decisions.

49% of organizations that release to production at least once per month evaluate third-party SaaS components in three months or fewer, compared to only 42% of organizations with less frequent releases.

How long does your organization's typical SaaS purchase evaluation process take?



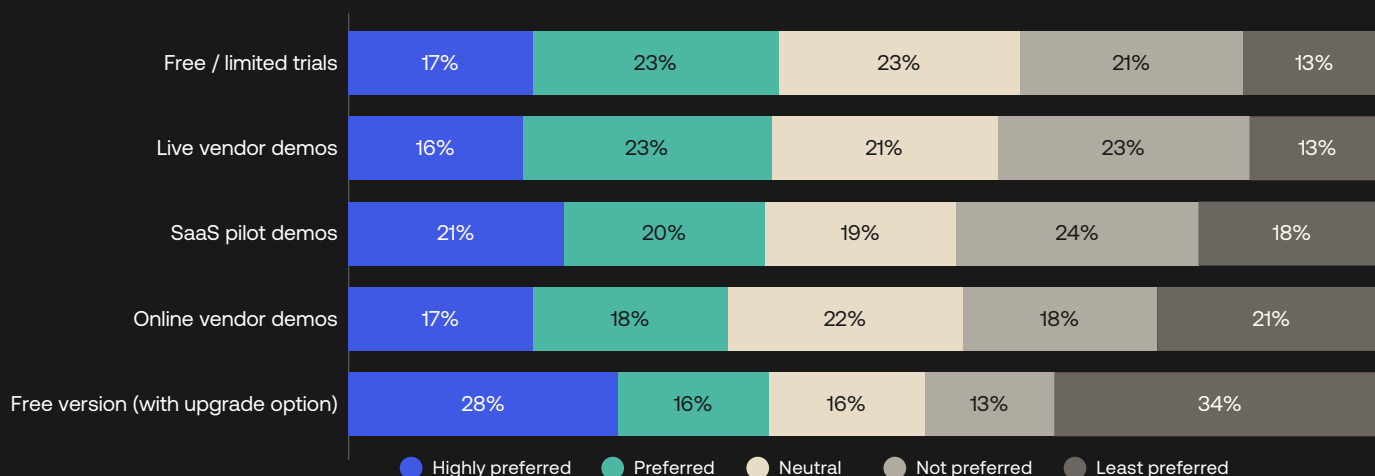
Purchase evaluation duration by organization size

Respondents don't have a clearly preferred testing option for SaaS components — but one approach is highly polarizing.

Very little separates the top four SaaS component testing options, with respect to developer preferences.

However, **offering a free version with the option to upgrade later is very polarizing**: This approach simultaneously received, by far, the most high scores and, by far, the most low scores.

When testing options for new SaaS components, what activities does your team prefer?



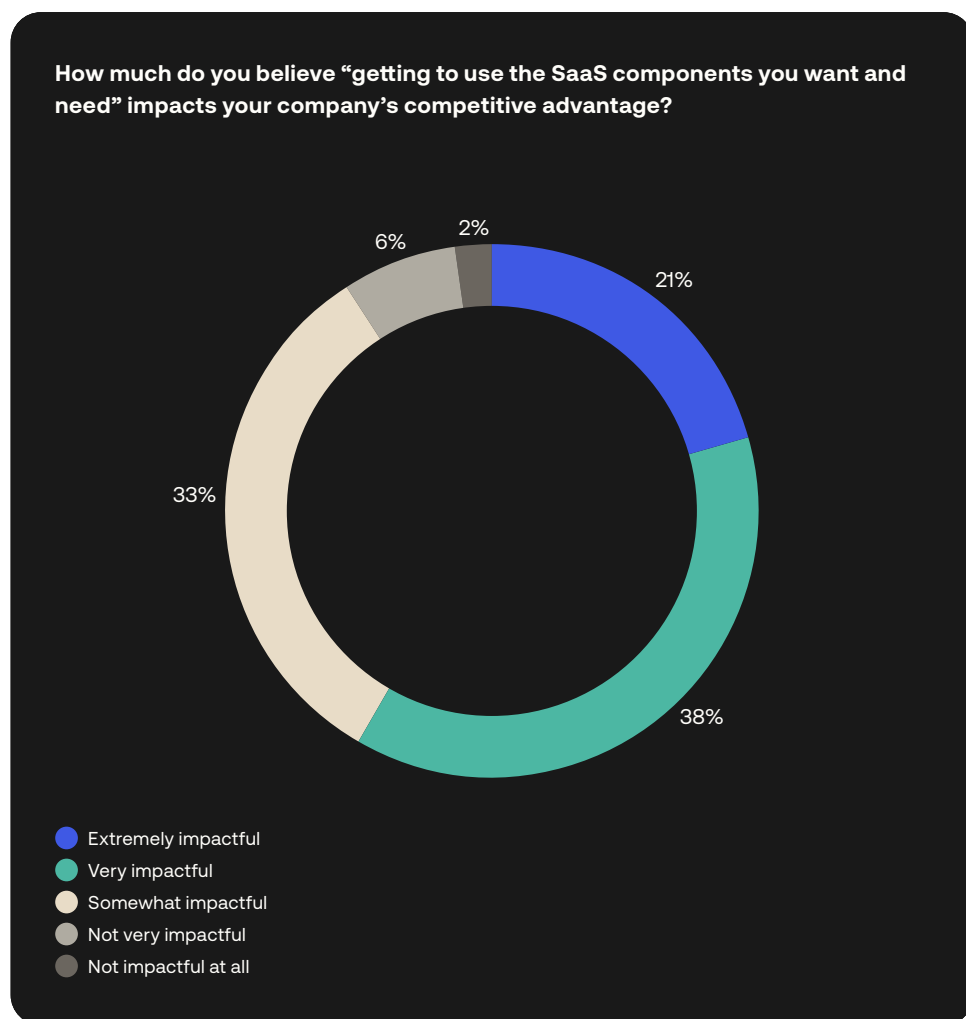
Preferred SaaS testing options, from most preferred (top) to least preferred (bottom)

05

The importance of app team input

Want to gain a competitive advantage, make faster sourcing decisions, and hang on to talent? Then include application development teams in SaaS component decisions.

92% of respondents believe that getting to use their preferred SaaS components is at least somewhat impactful for their company's competitive advantage.

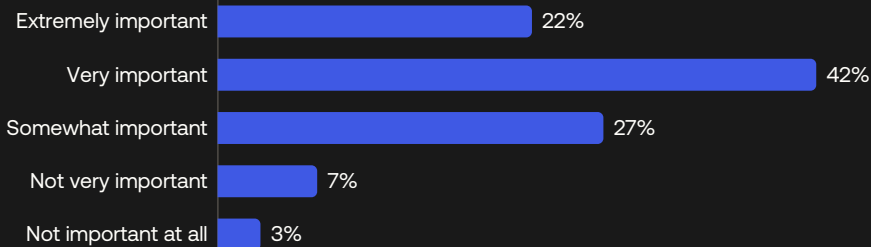


Including members of the application development team in SaaS component decisions is good business — and the importance of doing so is increasing.

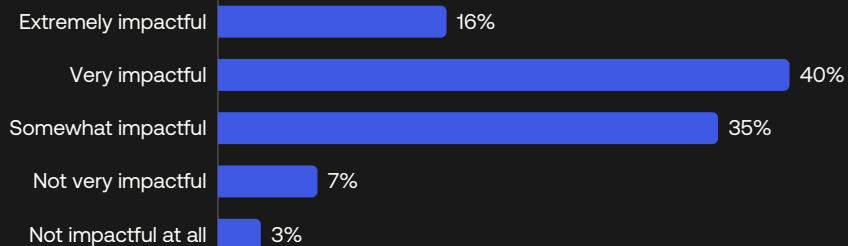
Also of note...

- **90%** of respondents value being consulted in SaaS component evaluation
- **90%** of respondents experience greater job satisfaction when they get to use their preferred SaaS components
- **92%** of respondents indicate that they are more productive when they get to use their preferred SaaS components

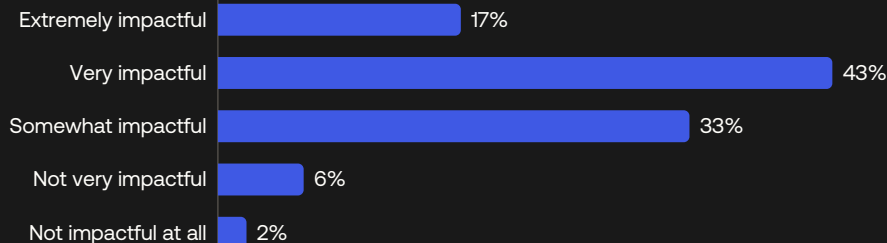
How important is it to you that you are consulted in evaluating SaaS components used by your immediate team?



How much does “getting to use the SaaS components you want and need” impact your overall job satisfaction?

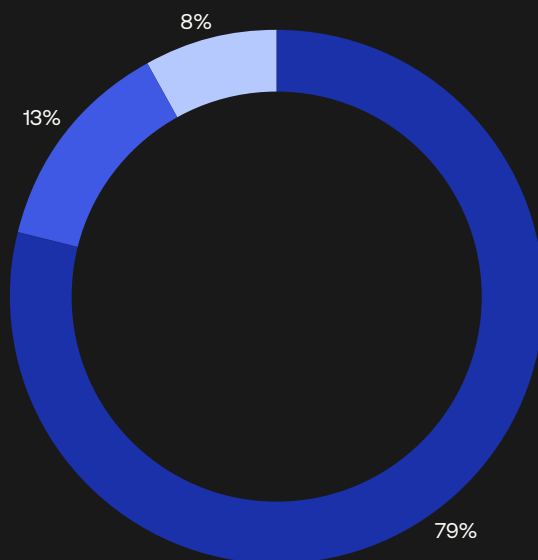


How much does “getting to use the SaaS components you want and need” impact your overall productivity?

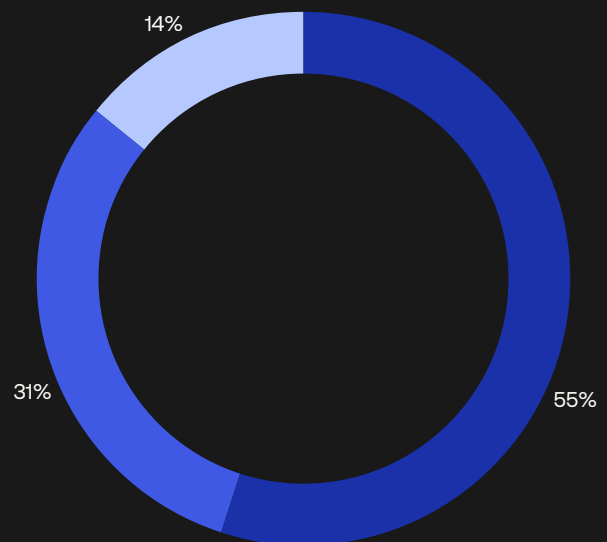


Respondents experience much higher job satisfaction in organizations that value their feedback during the SaaS purchase process.

During the SaaS purchase process, how much does your organization value the product feedback given from developers?



Extremely satisfied and
very satisfied team members

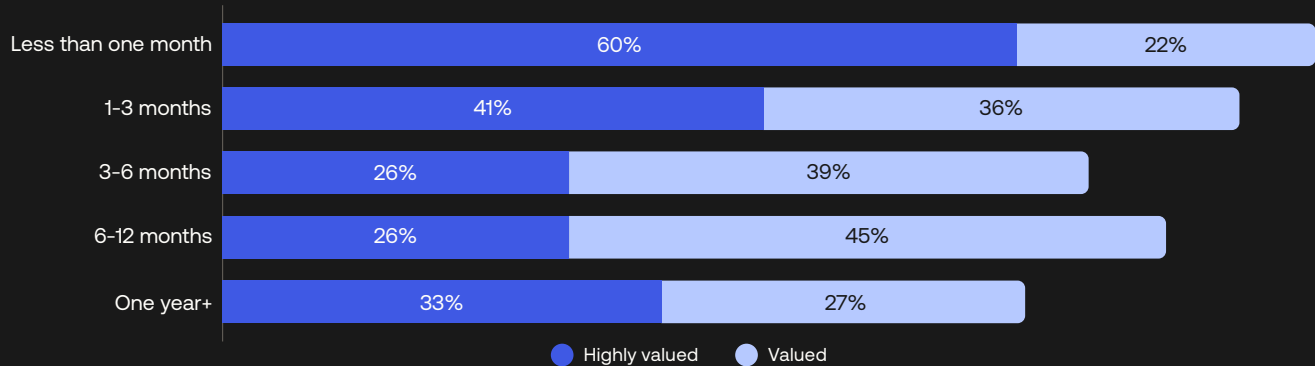


Not very satisfied and
not satisfied team members

- Highly valued and valued
- Only somewhat valued
- Not valued or not included

Among organizations that procure SaaS components in less than one month, 82% either highly value or value feedback from the application development team.

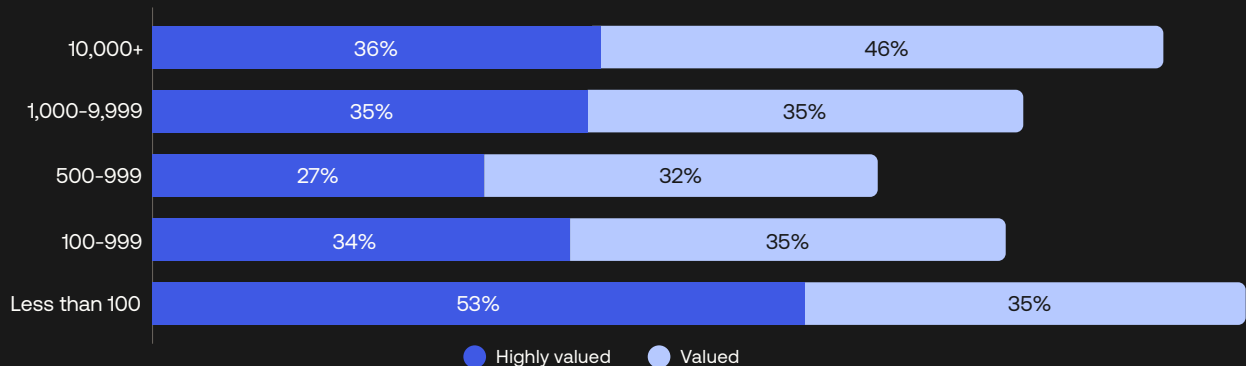
How long does your organizations' typical SaaS purchase evaluation process take?



Percent of respondents whose organization highly values or values feedback from developers during the SaaS procurement process

The largest and smallest organizations most-value feedback from the application development team.

During the SaaS purchase process, how much does your organization value the product feedback given from developers?



Percent of respondents whose organization highly values or values feedback from developers during the SaaS procurement process

06

AI insights

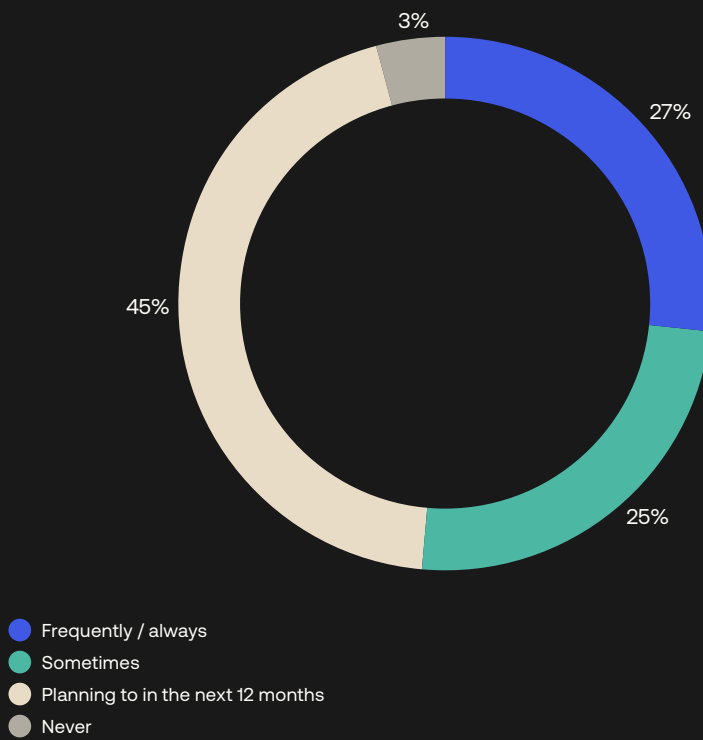
In 12 months, 97% of product engineering teams are expected to use many third-party AI tools for many different reasons.

52% of respondents say their team already uses third-party AI tools, and 45% plan to introduce AI tools in the next 12 months.

AI and innovation go hand in hand

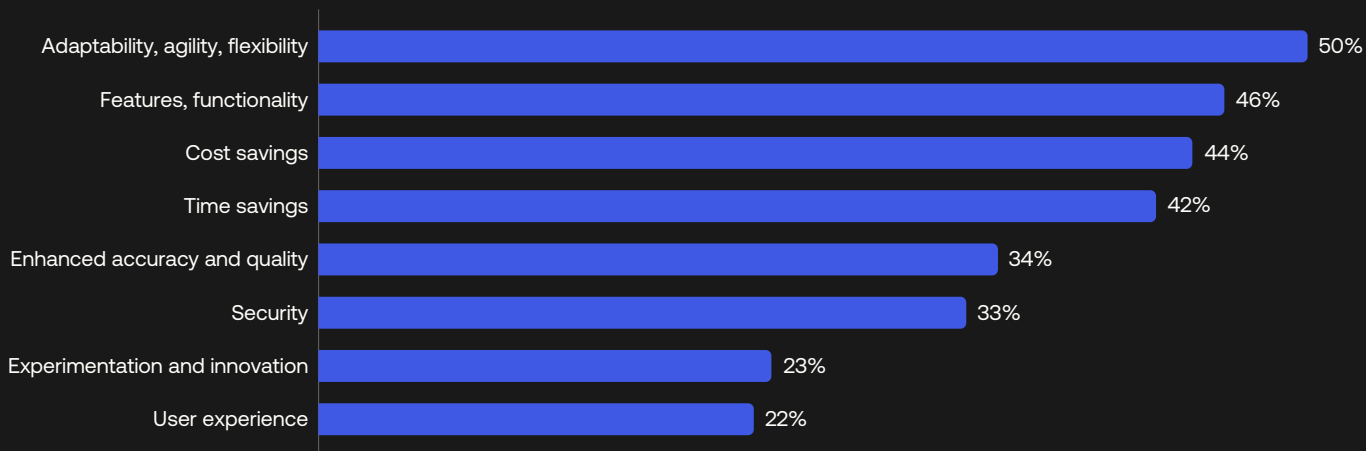
43% of respondents who rated their organizations as being extremely innovative indicate that their organization frequently / always uses third-party AI tools as part of their overall strategy — compared to only 23% from all other organizations.

Does your product engineering team use or plan to use third-party AI tools as part of your overall strategy?



A desire for adaptability, agility, and flexibility is the leading driver of investments in AI tools.

What are the main factors or considerations that drive your product engineering team's decision to invest in AI tools?



A wide range of third-party AI tools are already in use, led by data analytics.

What types of third-party AI tools does your product engineering team use? (select all that apply)



Top six third-party AI tools, by adoption among organizations using AI today

In Summary

With this Survey and report, we set out to discover how organizations incorporate third-party SaaS components into their apps, who initiates procurement, and who's involved with sourcing.

We also wanted to look a bit more deeply into what types of components organizations use and why.

And, of course, we hoped to see that organizations were experiencing benefits from doing so. It certainly appears that this is the case, and points to a future in which organizations that incorporate third-party SaaS components will enjoy meaningful advantages over those that — for whatever reason — don't.

01 **Adoption of third-party SaaS components continues to increase — and even looks to be accelerating — with good reason.**

What do faster release cycles, high degrees of innovation, and shorter time to market have in common? They all correlate with higher adoption of third-party SaaS components.

(And no component reduced TTM as much as authentication.)

02 **There are basically two types of organizations: those that already use AI in product engineering, and those that will within the next 12 months.**

In pursuit of a range of benefits — particularly agility, new capabilities, cost reduction, and time savings — organizations are integrating AI-powered tools for data analytics, quality assurance, machine learning, automation, and much more.

03 **Everyone has an important role to play in deciding what functions should be fulfilled by third-party SaaS components, and how to source solutions.**

Consider a few findings: authentication.

- 63% of respondents are in favor of buying SaaS components that aren't part of the software's core differentiation
- More innovative organizations are more likely to value or highly value developer feedback during the evaluation process
- 59% of respondents believe that getting to use their preferred SaaS components is at least very impactful for their company's competitive advantage
- 90% or more of respondents value being consulted in SaaS component evaluation, experience greater job satisfaction when they get to use their preferred SaaS components, and indicate that they are more productive when they get to use their preferred SaaS components

The takeaway is clear: Getting the most out of integrating third-party SaaS components into your apps is a team effort.

**About Okta**

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