

— 2019 —
STATE OF THE DEVELOPER
REPORT



2019 STATE OF THE DEVELOPER REPORT

How do developers learn? What helps them do a better job? What role do communities play in a developer's work day? We set out to answer those questions by surveying more than 800 developers.

We're interested in their answers because of our growing understanding of how critical developers are to enterprises in both the tech- and tech-enabled spaces. Nearly every company is becoming a software company. Websites and mobile apps are essential to doing business and it's the developers who make those happen. Developers' contributions are fundamental to the world's ability to do business.

With that in mind, asking developers about how they work, what their frustrations are, and how they like to learn is critical.

Here's what we learned from the survey:

- Developers are self-reliant — 77% seek to solve a problem on their own before opening a ticket. But they do engage in communities. Nearly all (94%) of developers surveyed are active in at least one developer community.
- Business pressures weigh on developers — 69% agree or strongly agree that upper management is keen to increase their productivity. And they believe they know the roadblock preventing that. Two-thirds of the developers (66%) say maintenance of legacy systems and technical debt hinder improved productivity.

There was some information that didn't surprise us: While only 21% of surveyed developers have some type of purchasing authority, 87% say they research product alternatives. They also test software when there's a free download option.

However, what did surprise us was that novice developers are participating in leadership activities, such as moderating a discussion or contributing long-form content, at higher rates than more experienced developers. Those with 1-2 years (17%) and 3-5 years (18%) are more active in contributing content than those with more than 16 years of experience. Only 3% in the latter category moderated discussions and just 9% contributed long-form content.

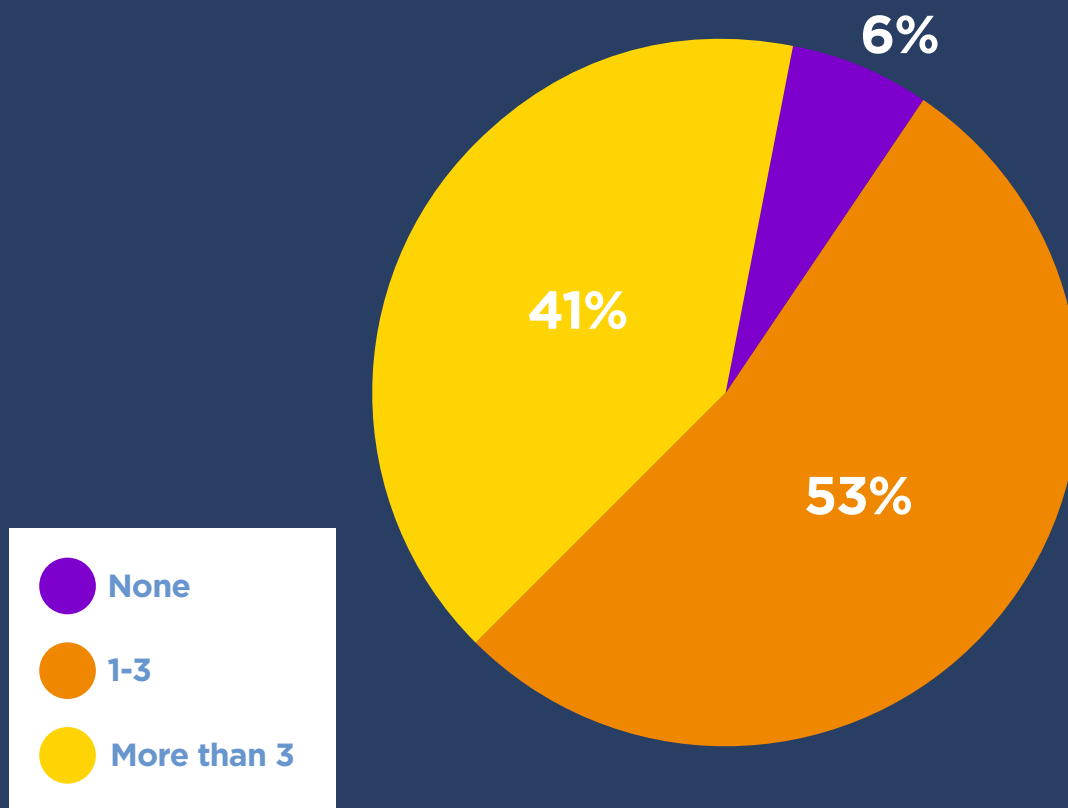
We'll explore what that might mean for developer relations and marketing, along with a host of other issues.



THE ROLE OF THE DEVELOPER COMMUNITY

Nearly all (94%) developers surveyed are active in at least one developer community. Four in ten (41%) participate actively in more than three.

How many developer communities have you visited in the past 30 days?



Developers provided an average of five reasons for their participation with the answers heavily skewed toward the desire for personal growth. A much smaller group focused on the community aspects — sharing solutions, connection with others, and influencing the industry.

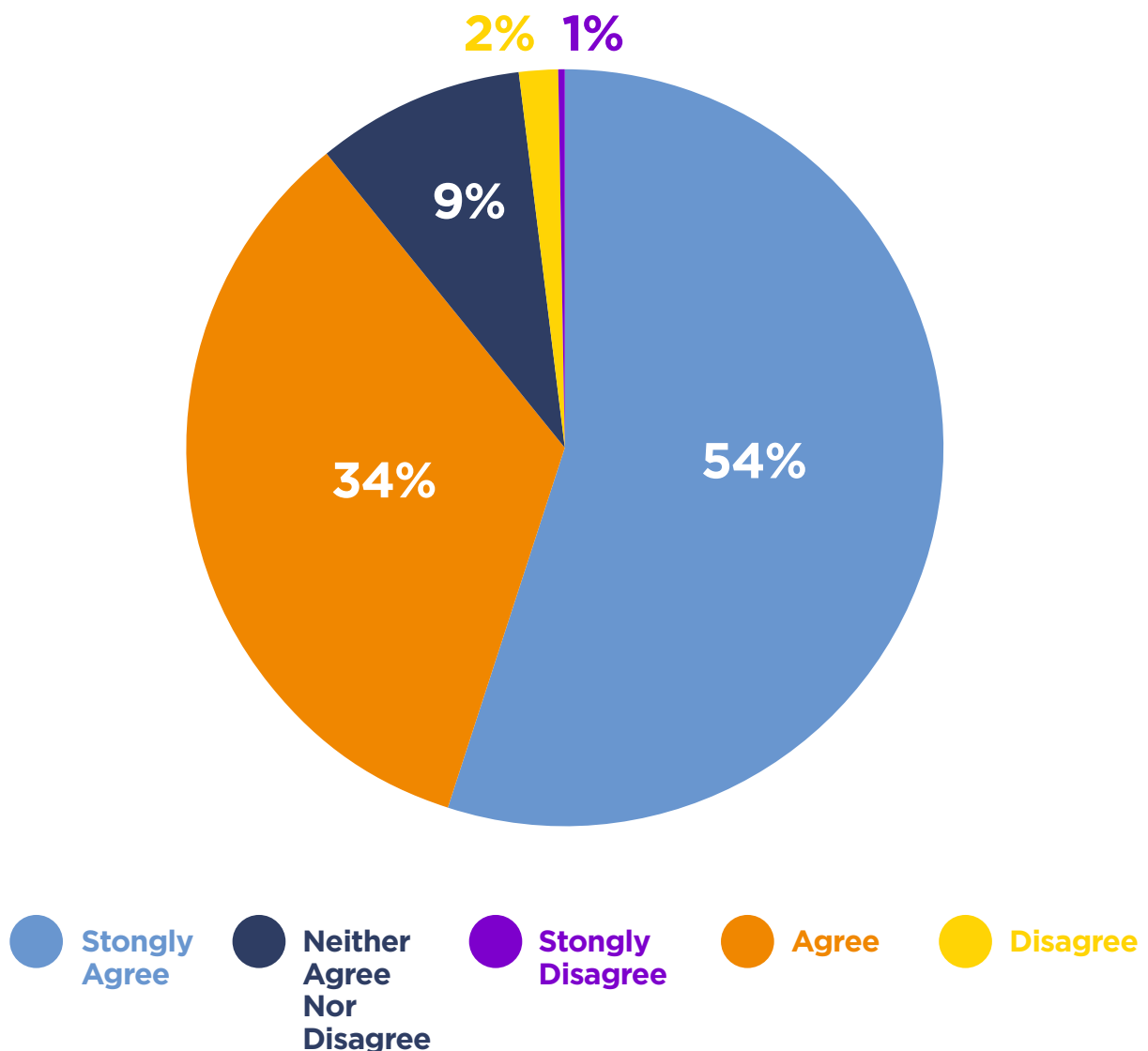


What do you hope to get out of your participation in a developer community or program?

Learn new skills or improve existing skills.	86%
Discover new solutions or techniques.	81%
Find answers to technology questions.	78%
Improve my code quality.	73%
Increase my productivity.	59%
Peruse articles, read news, and discover industry trends.	59%
Share expertise and code.	36%
Connect with other developers with similar interests.	26%
Build my reputation — thought leadership.	22%
Influence product or industry direction.	12%

What developers overwhelmingly agree on is that software vendors should provide an online forum, community, or program to facilitate communication among their peers. Fully 88% of developers agree with this statement and only 2% disagree. The message to software vendors is clear: To be successful with your internal or external developers — and even potential developers — you need a community.

Should vendors provide an online community?



WHAT DEVELOPERS WANT IN A COMMUNITY

To run a successful developer community, you must understand what developers expect. Here are three must-have items that 73% or more of developers say they want:

- How-to articles and tutorials.
- Technical information including APIs and SDKs.
- Easy-to-use, searchable, self-help knowledge base.

35% or more say these are must haves:

- Opportunity to learn new skills or improve existing skills.
- List of frequently asked questions.
- Communication with developers.
- Option to share expertise and code.



If you have more time and resources to build out your developer program, the features you should consider adding are those that are high on developers' nice-to-have list, which include:

- Training courses — 65%
- Technical support via email — 62%
- Videos, webinars, and podcasts — 58%
- Option to share expertise and code — 56%
- Hackathons, code camps, code sprints, and contests — 54%
- Opportunities to provide feedback and ideas for product direction — 51%
- Technical support via live chat — 48%

Finally, don't expend valuable resources on items that surveyed developers believe are not needed, including:

- Technical support via phone — 94%
- App store and help marketing my app — 79%
- Social networking features — 75%
- Recognition for participation — 63%

Gamification: Is it for Users or Community Managers?

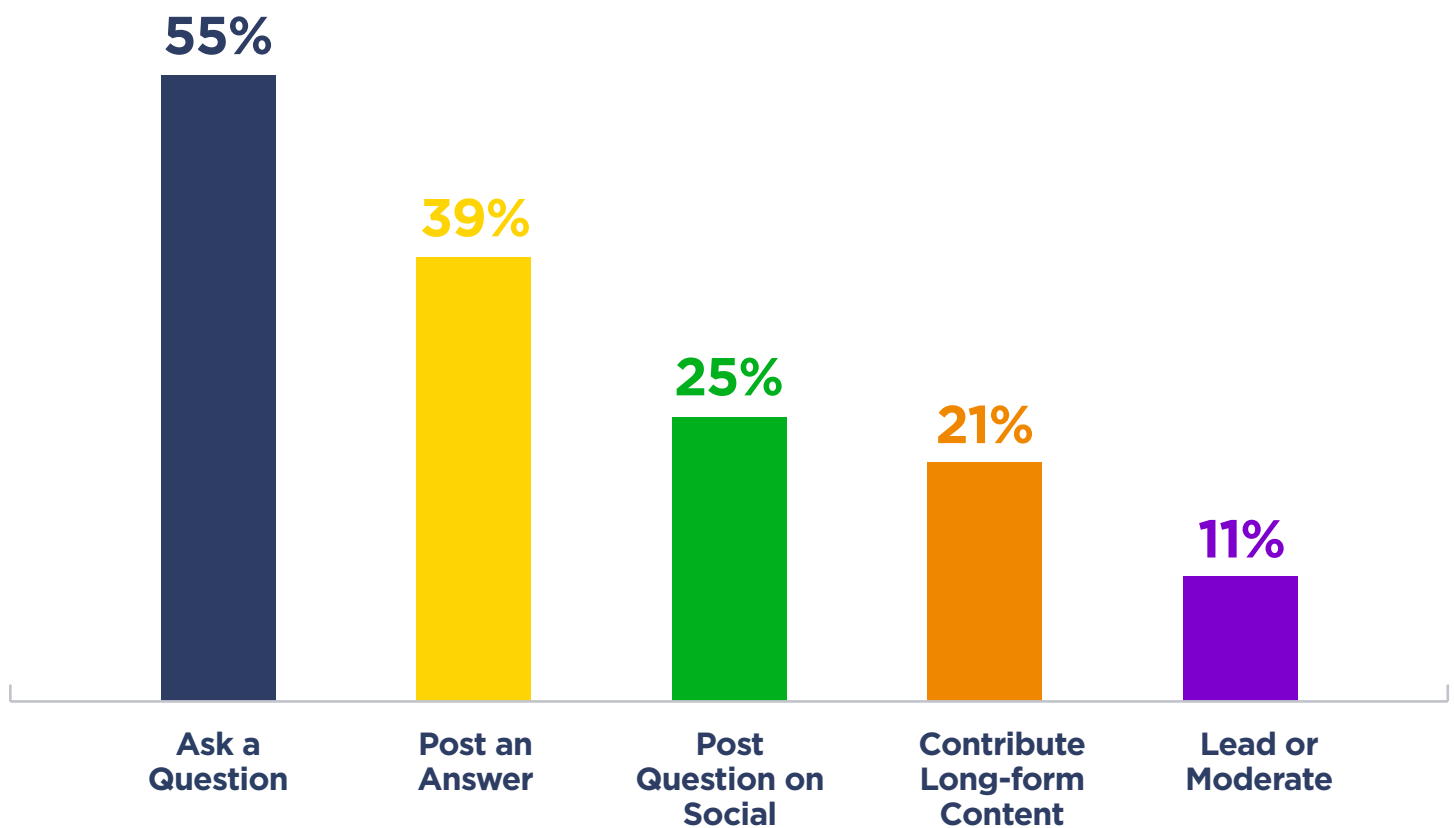
Sixty-three percent of surveyed developers say that recognition for participation is not needed. This is surprising as the community managers we talk with say gamification (a means of encouraging participation) is a big part of building an engaged community. Also interesting is that 11% of respondents say gamification is a must have. Our takeaway for those considering setting up a community: Consider platforms that include an easy way to set up gamification.

HOW DEVELOPERS ARE PARTICIPATING IN COMMUNITIES RIGHT NOW

We know what developers like in communities. So, we wanted to understand what developers were actually doing in communities — specifically in the past 30 days.

The most common response was not surprising — 55% asked a question. Other participation choices include: Post an answer (39%); post a question on social media (25%); contribute long-form content (21%); and lead or moderate (11%).

What developers did in a community within the last 30 days.

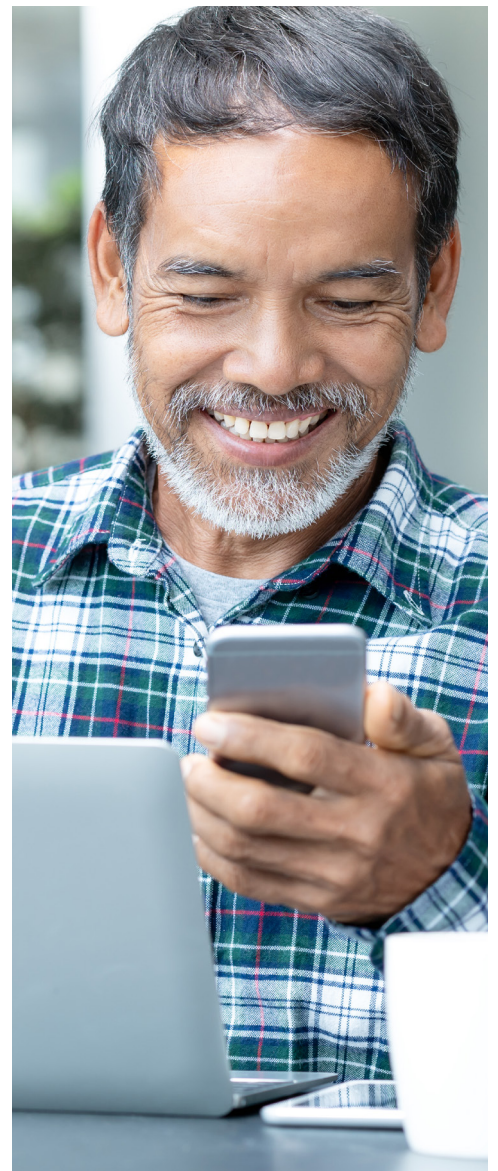


HOW CAREER TENURE IMPACTS PARTICIPATION

We expected to see that community participation was fairly constant during a person's career, but that the activities developers participated in would change as they gained more experience. Specifically, we hypothesized that developers would ask more questions earlier in their careers and then transition to answering more questions later in their careers. At mid-career, we expected to see a peak in involvement in reputation-building activities, such as moderating a discussion or contributing long-form content.

Our data shows that the first part of our hypothesis played out: Six in 10 new developers (first two years on the job) have posted a question in the past 30 days. What's interesting is that posting a question remains the No. 1 activity at all career stages — 3-5 years (47%), 6-10 years (50%), 11-15 years (46%), and 16+ years (45%).

The speed of change in the developer world, emerging languages, and new tools could account for this.

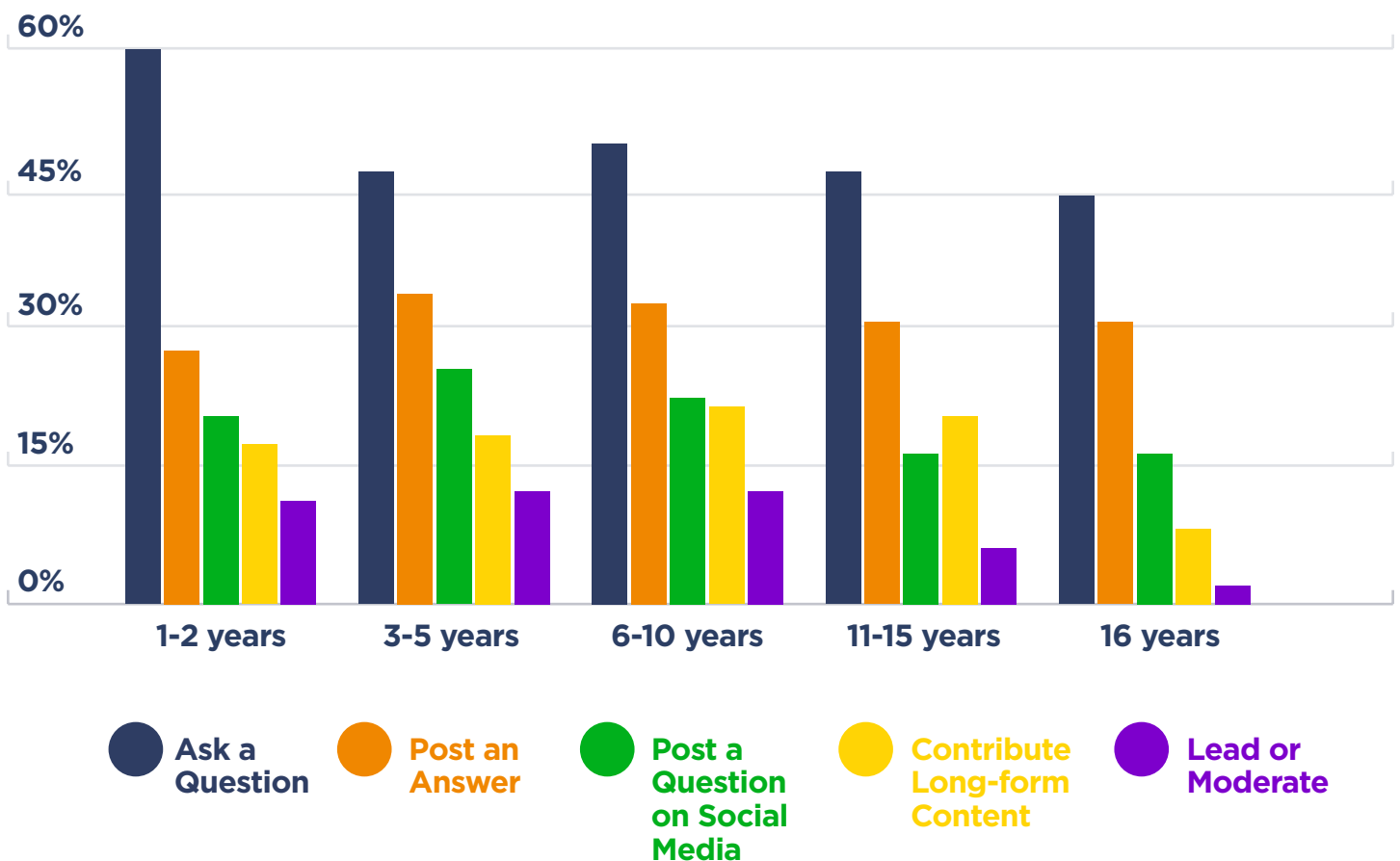


Leadership isn't just for senior developers.

Equally surprising was the extent to which early career developers are participating in leadership activities such as moderating a discussion or contributing long-form content. For long-form content contributions, those with 1-2 years (17%) and 3-5 years (18%) are only slightly less active than those with 6-10 years (22%) or 11-15 years (20%) of experience.

We see the same pattern in moderating a discussion. Those with 1-2 years (12%) and 3-5 years (12%) lead the discussions as often as the 6-10 year group (13%). There is a fall-off in participation in discussion moderation by the 11-15 year cohort (7%). Those who are 16 or more years into their career engage less often in the leadership activities, only 3% moderate discussions and 9% contribute long-form content.

Community Involvement by years in the profession.

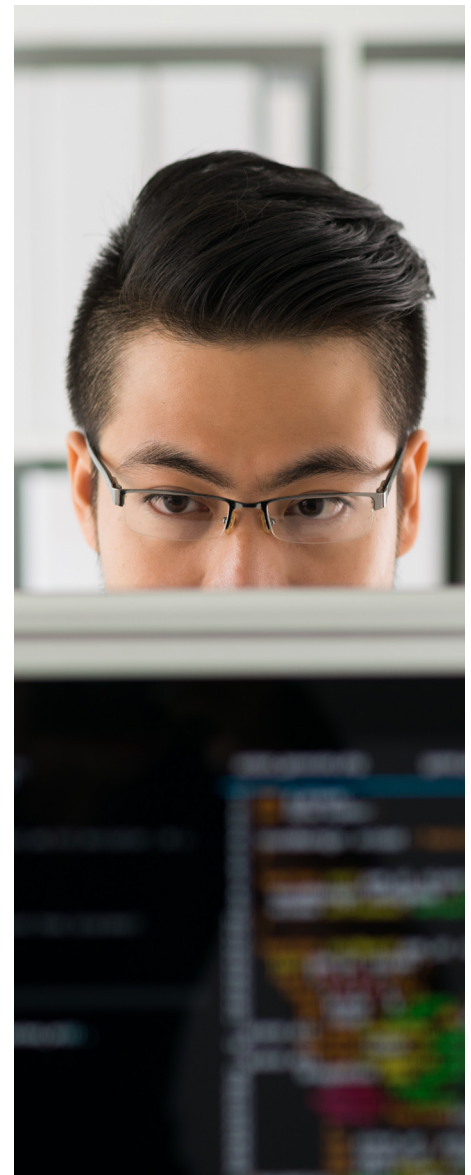


WHAT COMMUNITIES CAN DO TO ENGAGE DEVELOPERS

One of the key goals for any developer community manager is to deepen the relationship with your developers. They don't lack for ideas about how you can best do that. To sum up: Provide them with access and respect their knowledge and expertise.

There are a number of ways that you can provide the access that they seek — access to development and testing tools (61%), opportunities to talk with specialists or engineers (52%), participation in beta programs (34%), access to emulators or simulators (33%) and invitations to be part of an incubator or accelerator program (26%).

Acknowledging their expertise is simply a matter of tapping into the knowledge they possess for everyone's benefit. Their suggestions were: “Ask me to write a blog post, article, or whitepaper” (33%); “Ask me to participate in a webinar, video, or podcast” (33%); “Ask for my feedback on product direction and roadmap” (29%); “Invite me to speak at a conference” (17%); and “Ask me to participate in a roundtable or forum” (16%). Developers want to be involved — they just need to be asked.



How can a developer community or program deepen its relationship with you?

Provide access to development tools, testing tools, and test scenarios.	61%
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Provide opportunities to talk with specialists and engineers (e.g. in-person meetups/conferences, online office hours, or group chats).	52%
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Allow me to participate in beta programs.	34%
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Give me access to emulators or simulators.	33%
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Ask me to write a blog post, article, or white paper.	33%
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Ask me to participate in a webinar, video, or podcast.	33%
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Reward me for site participation.	30%
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Ask for my feedback on the product direction and roadmap.	29%
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Invite me to be part of an incubator or accelerator program.	26%
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Invite me to speak at your conference or sponsor me to speak at a developer conference.	17%
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Ask me to participate in a roundtable or forum.	16%
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Help me market my app.	9%
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FOSTERING DEVELOPER LEARNING

We know that developers are constantly looking to learn, whether it is to solve today's problems or to discover solutions that can help with tomorrow's challenges. Communities often play a role in fostering learning by hosting much of the learning and development content they want. But developer marketing and dev relations professionals also play a role in creating content that's used in other channels. We explored some of the content types that appeal to developers.

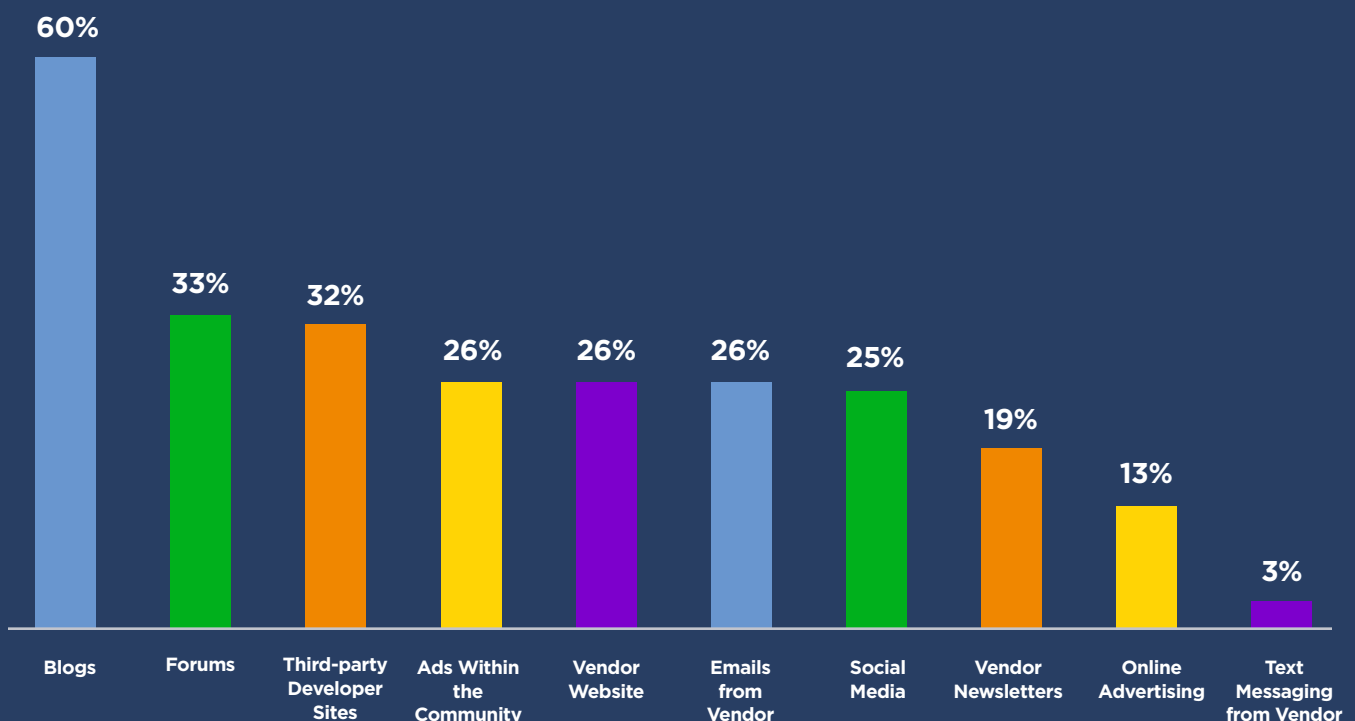


If You Need to Alert Developers to New Products or Resources . . .

Write a blog. The majority of developers (60%) read blogs for this information. The chart below shares some of the other ways developers like to receive information designed to help them learn about a new feature.

There are other methods they also rely on — one-third each cite forums and third-party developer sites. As a software vendor your own information plays an important role as well. Advertising within the developer community is preferred by 26% with an equal number (26%) looking to the vendor website and email from the vendors.

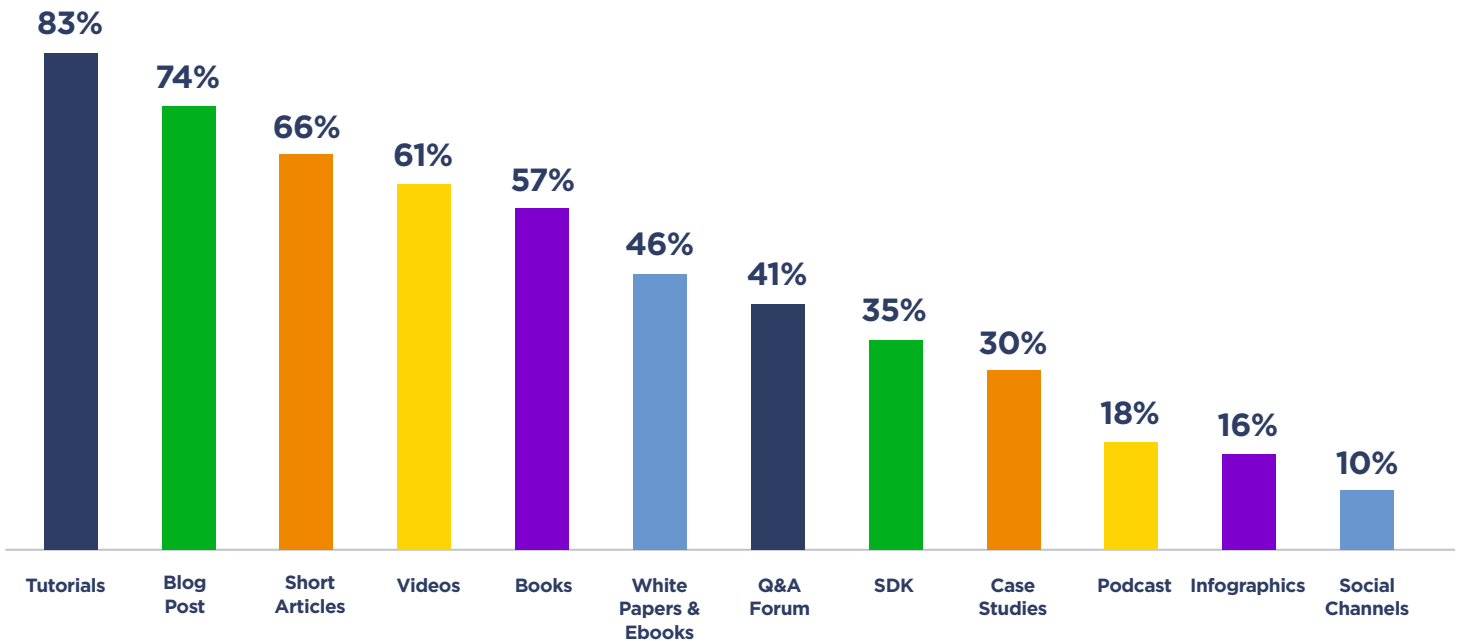
Best content for introducing new products and features.



If You Want to Help Them Learn a New Skill . . .

Create a tutorial. The vast majority of developers like tutorials for learning new skills. But it isn't the only content form that wins them over. Blog posts (74%), short articles (66%), videos (61%), and books (57%) are popular. The chart below outlines the type of content that developers like for learning a new skill. Many developers also look to white papers and ebooks (46%), Q&A (41%), SDKs (35%), and case studies (30%). Newer content types with growing popularity include podcasts (18%), infographics (16%), and social channels (10%).

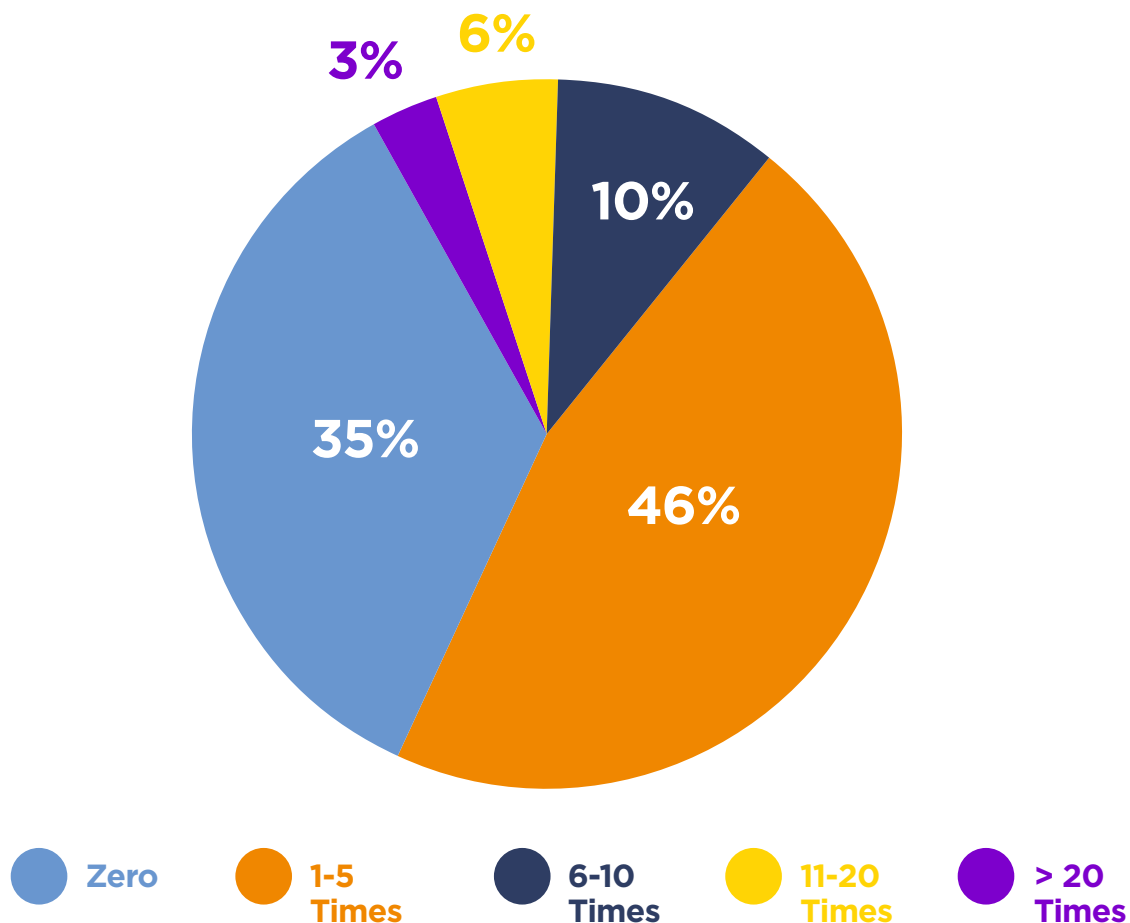
Content preferences for learning new skills.



HOW DEVELOPERS LIKE TO SOLVE PROBLEMS

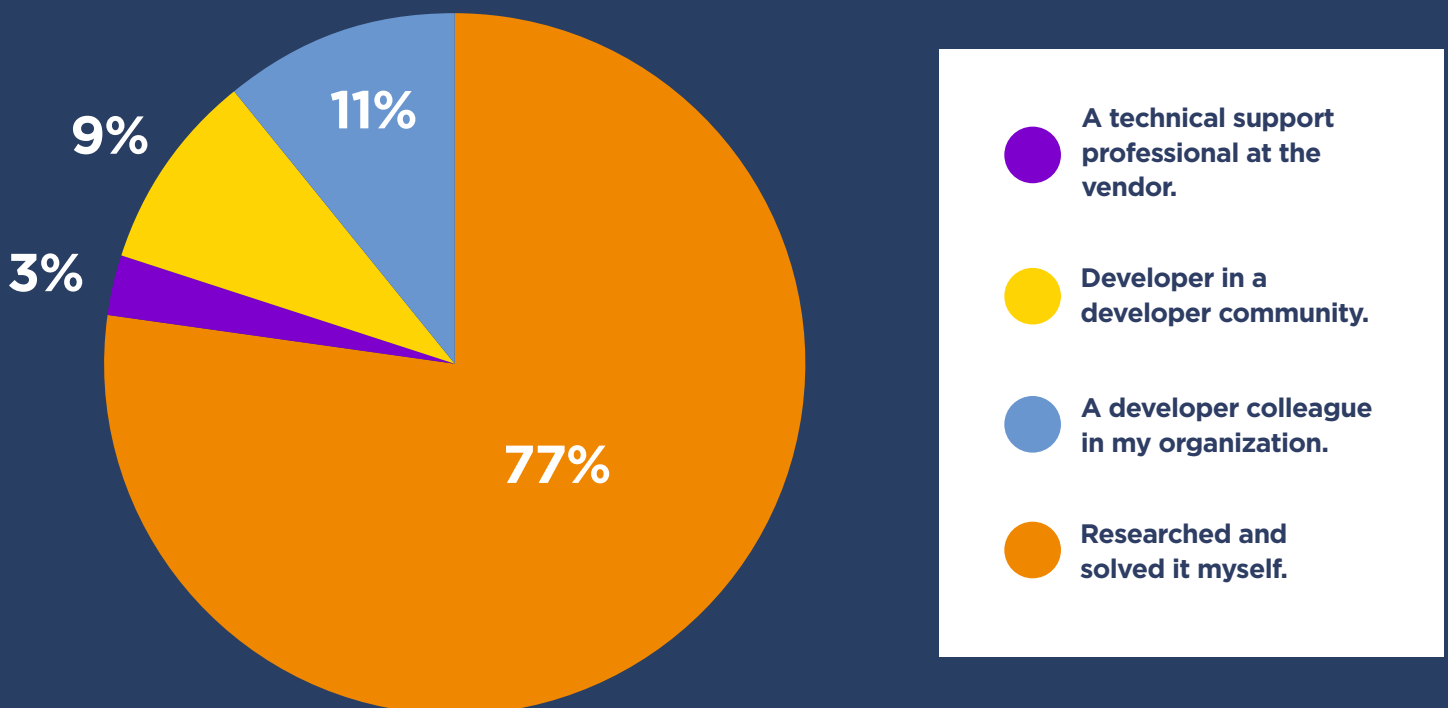
One-third of developers (35%) haven't reached out for technical support in the past 30 days. The largest group of developers (46%) reached out 1-5 times in the past 30 days and another 10% did so 6-10 times.

How often developers reach out for technical support.



If they do have a technical problem or issue, most developers research and solve it themselves. Three-fourths of developers (77%) say they are self-reliant. Twenty percent seek out developer colleagues whether from their own organization or in a developer community. Only 3% turn to technical support at the software vendor.

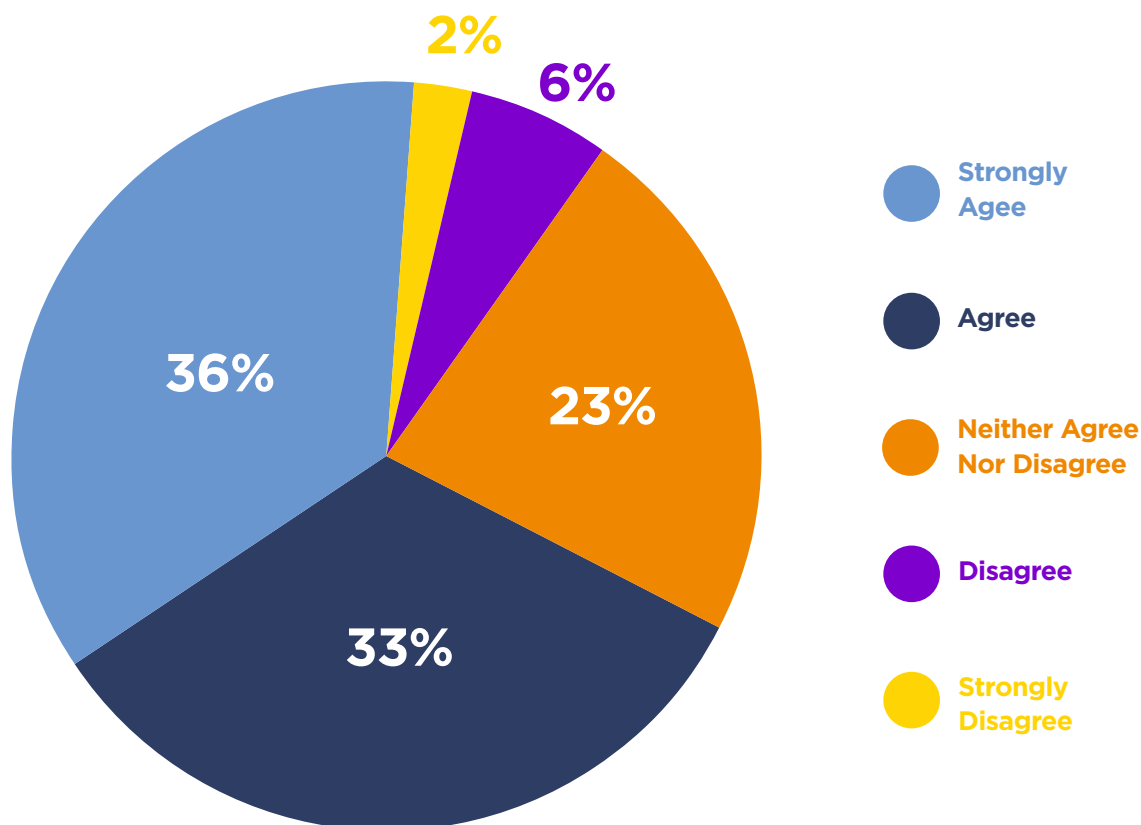
How developers say they solve challenges.



FACTORS THAT IMPACT DEVELOPER PRODUCTIVITY

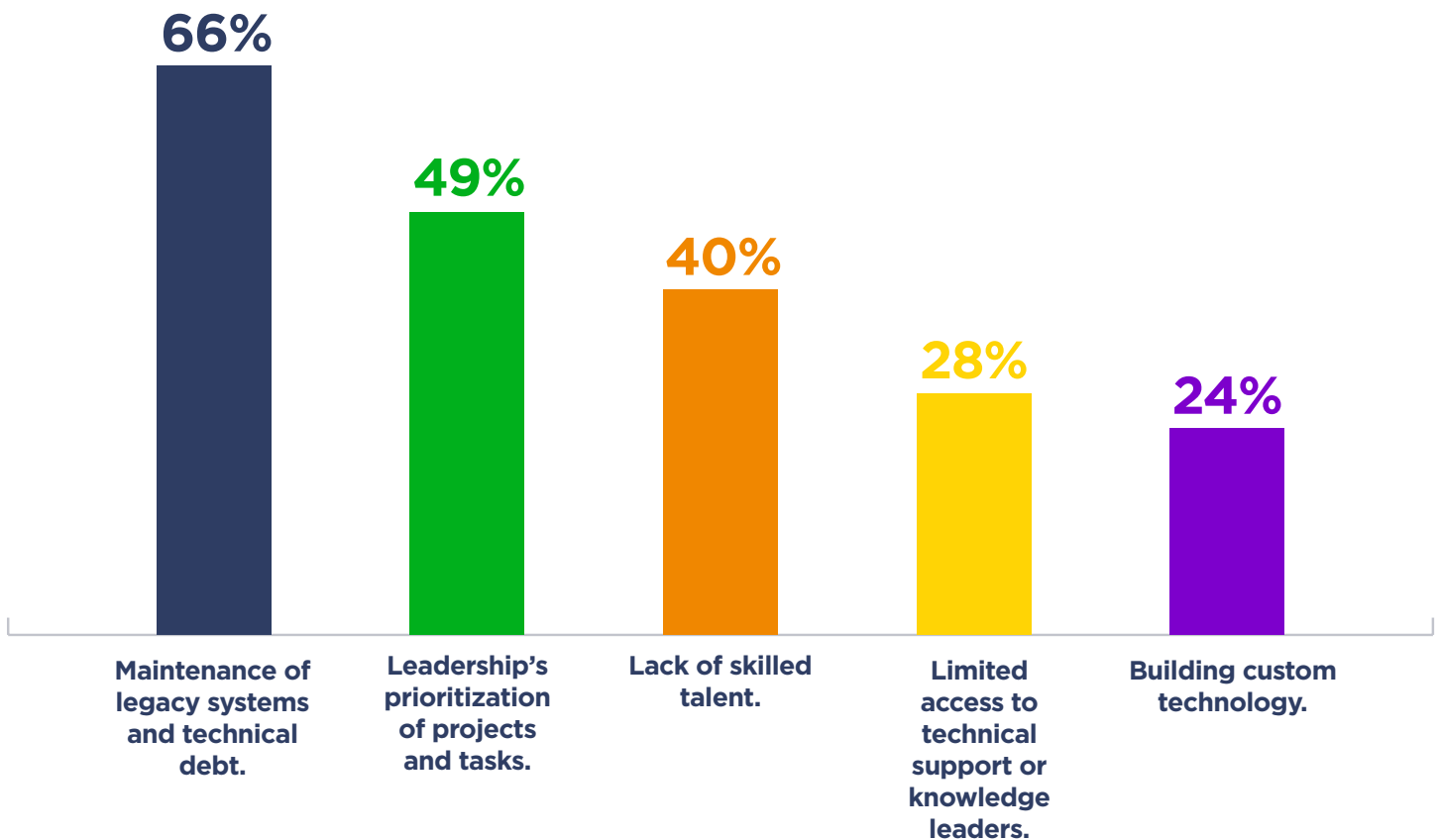
The majority of developers believe that upper management in their companies consider developer productivity as a priority.

Does upper management place a priority on developer productivity?



Since improving developer productivity is seen as a priority in most organizations, what do developers believe is hindering it? Two-thirds (66%) suggest that maintenance of legacy systems and technical debt are the issues. Half (49%) point to leadership's prioritization of projects and tasks.

What hinders developer productivity at your company?

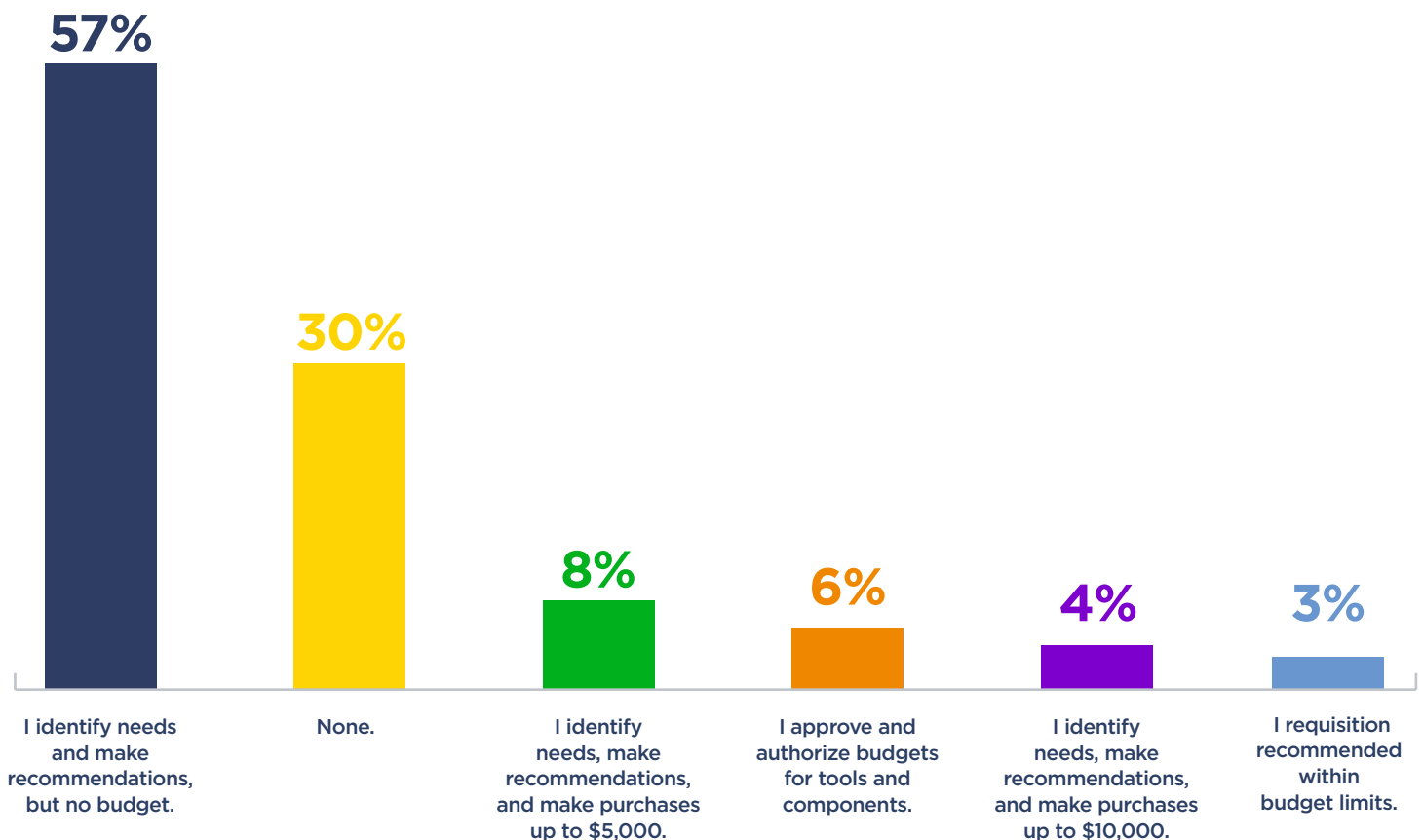


WHAT ROLE DO DEVELOPERS PLAY IN SELECTING TECHNOLOGY?

Most developers (69%) identify needs and make recommendations for technology purchasing decisions within their organizations. Three in ten say they have no role in purchasing decisions while 21% have specific budget authority within determined limitations.

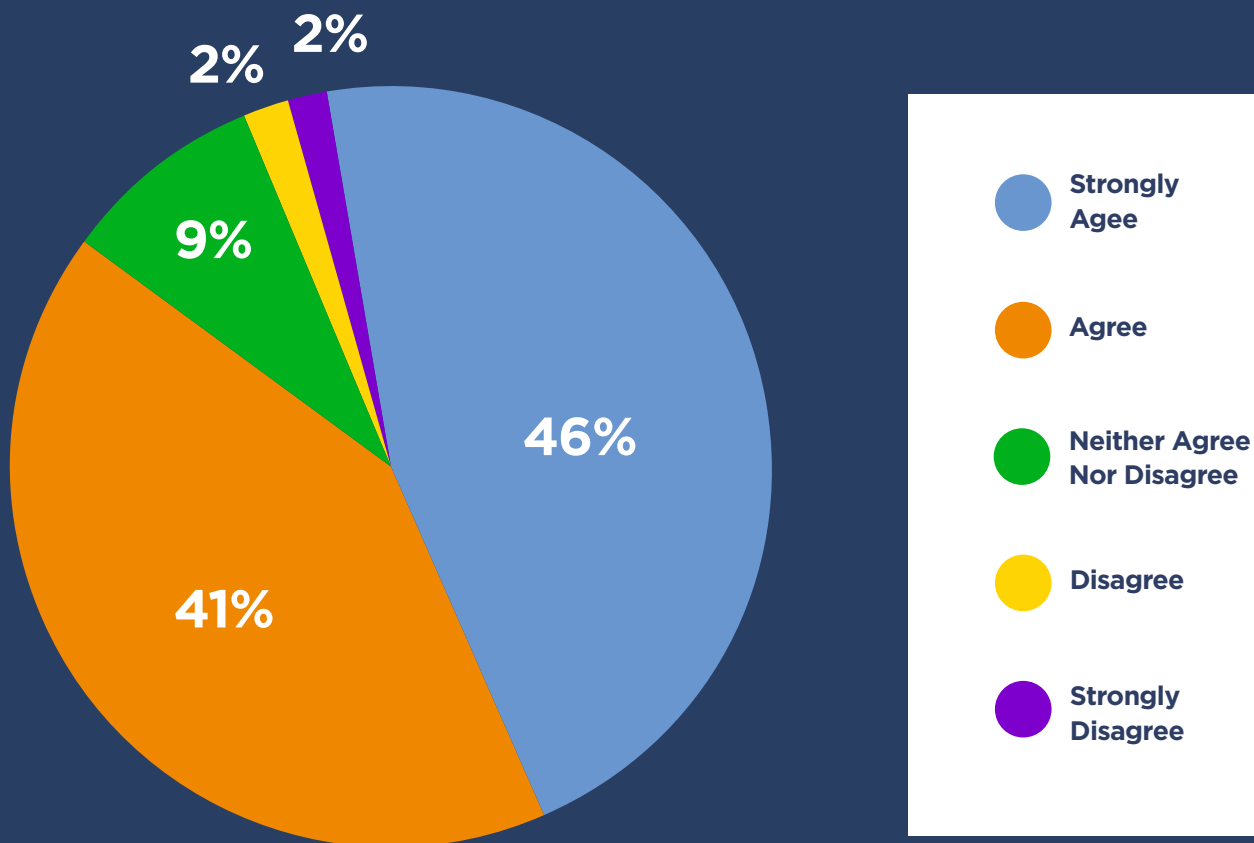
To what degree are you responsible for purchasing decisions at your company?

*Respondents could provide more than one response.



Although there's a large group of developers (87%) who don't have direct budget authority, the vast majority of respondents say "they have an influence." Eighty-seven percent agree that they research product alternatives and test software where there is a free download.

Do you research or test software?



CONCLUSION

Developers are some of the most critical individual contributors a company employs. Understanding what they want and what helps them be efficient is important for productivity, and ultimately, company success.

They are also a self-reliant group. They like to solve their own problems and avoid opening a ticket. If you don't give them the means to solve issues, you're missing an opportunity.

If a dev doesn't see options for self-service problem solving, they might look for products from companies who provide that option.

Another interesting datapoint is the lack of interest among senior developers in contributing long-form content or doing other tasks to give back to their community. Given the explosive global demand for developers, and the relative youth of many it would seem that companies are missing opportunities to encourage their senior staff to share their knowledge and become at the least part-time DevRel advocates.

These are compelling issues to explore, and we hope our survey data helps you understand the issues in more detail.



A word about survey participants and methodology.

Half (51%) of the developers we surveyed are full-time software professionals. Another quarter (24%) develop software and manage developers. Nine percent (9%) exclusively manage developers.

Respondents are evenly spread across small-, medium- and enterprise-size companies with revenues ranging from under \$10 million (39%), \$10 million to \$100 million (25%), \$100 million to \$1 billion (14%), and 22% over \$1 billion.

About Devada

Devada is committed to empowering developers with products that sit at the convergence of two important trends: developers' increased desire for authentic, user-generated content and developers' growing importance to technology and tech-enabled companies. Devada is the leading resource for engaging developers around the world through its authoritative DZone.com media site. Devada's AnswerHub powers DZone.com and developer communities for many tech and tech-enabled giants, including IBM, Epic Games, and Disney Pixar. For more information, please visit devada.com.

