

2020

STATE OF THE DEVELOPER REPORT



**OUR SECOND ANNUAL REPORT REAFFIRMS DEVELOPERS'
RELIANCE ON COMMUNITY.**

[DEVADA.COM/ANSWERHUB](https://devada.com/answerhub)

2020 STATE OF THE DEVELOPER REPORT

SURVEY METHODOLOGY

The 2020 State of the Developer Report is based on survey research conducted by AnswerHub between January 30 and February 21, 2020. There were 1000+ survey respondents from around the globe: 33% North America, 40% EMEA, and 21% APAC. The majority (54%) are full-time software developers, 20% develop software and manage other developers, and 7% manage developers as their full-time job. Forty-one percent work at companies with revenues less than \$10 million USD, 22% are at companies with \$10 million USD to \$100 million USD, 15% are at companies with \$100 million USD to \$1 billion USD in revenue, and 21% work at companies with revenues in excess of \$1 billion USD. The margin of error for our sample is +/- 3% at the 95% confidence level.

ABOUT ANSWERHUB

AnswerHub is an online developer engagement and community solution that enables developers and technical professionals to connect, learn, and collaborate within their culture and working style. Our software enables companies to increase productivity and employee engagement by providing a platform that captures and shares your development team's knowledge through Q&A, Articles, and Ideation. This dramatically reduces the time it takes for engineers to solve problems, shortens new engineer onboarding time, and enables teams to ship products faster. The world's largest developer-centric companies trust AnswerHub to power their developer communities: Amazon, Twilio, and Disney Pixar.

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EXECUTIVE SUMMARY

The pace of change in software development today is nothing short of exponential. New tools, technologies, languages, frameworks, and capabilities emerge on a near daily basis, forcing companies to evolve with the markets or be left behind. To keep their organizations competitive, developers are constantly forced to learn new skills.

Developer communities are critical in helping them keep up. Last year, we surveyed developers asking them about how they learn, if they use online communities, how they use communities, and what helps them be more efficient.

When we surveyed developers this year, we expected to find a few new trends – such as a bit more interest in learning via video. Or a more pronounced interest in attending live, in-person events. What we found is developers want to and, in fact, desire to engage in communities, and their expectation that vendors should host communities is as strong in 2020 as it was in 2019.

And developers around the world remain a very self-reliant, “let me solve it myself” group of professionals. If you are debating enhancing phone-based customer support vs. standing up an online community (or enhancing an existing one) our results suggest building or growing an online community is the clear winner.

Here are some other key takeaways:

DEVELOPERS VISIT COMMUNITIES AT THE SAME RATE AROUND THE WORLD.

Nine out of every 10 developers have visited at least one developer community in the past seven days. Nearly 30% have visited four or more community sites in just the past week.

DEVELOPERS DISCOVER THE VALUE OF COMMUNITIES EARLY IN THEIR CAREER – AND THEY NEVER STOP USING THEM.

Eighty percent of novice developers visit communities regularly, while more than 96% of experienced developers are regular community visitors.

COMMUNITIES ARE VENUES FOR LEARNING AND SHARING.

Eighty-four percent of developers use them to learn new skills or improve existing skills. Only 16% visit communities to build their reputations.

CONTENT DRIVES VALUE IN A SUCCESSFUL COMMUNITY.

How-to articles and tutorials are on the “must have” list. In comparison, hackathons and contests are further down on the “nice-to-have” list.

ENGAGEMENT PREFERENCES HAVE CHANGED LITTLE FROM '19-'20.

Sixty-two percent of developers in 2019 told us they want communities to provide access to development tools, testing tools, and test scenarios. That number dropped slightly to 61% this year.

YOU DON'T NEED VIDEO TO REACH DEVELOPERS.

We asked developers how they want vendors to tell them about new products and features (whether in the community or outside of it). Seventy-one percent chose blogs while only 37% requested video.

Developers are voracious learners. This behavior transcends geography and years of experience. New developers in China are just as interested in learning as 20-year veteran programmers in Silicon Valley – and our survey data drives that point home. The reason for this is simple: Peer-to-peer collaboration with other developers results in higher quality code that is written more quickly.

Working together in online communities allows developers to adapt to rapidly evolving tools and techniques together and release great products to market faster than ever before. Additionally, we see that developers continue to value ‘giving back’ to other developers because, as they were learning, developers took the time to help them and answer their questions. Finally, the data tells us that these trends will hold true for many years to come as most developers learn from others early in their careers, and they want to pay that forward to benefit other developers.

ZEROING IN ON PRODUCTIVITY

Like last year, we devoted three questions to exploring the push for productivity and what developers feel hurts productivity. We also asked what they did in the last seven days and what they thought would have been most productive to do in the last seven days.

Here are three key takeaways:

1. A slightly higher percent of respondents agreed or strongly agreed that “It is a priority for my company’s upper management to increase the productivity of its developers.”
2. Developers say they spend twice as much time as they would like dealing with and working on maintenance issues, attending meetings, and doing administrative work, all of which hurts developer productivity.
3. In an ideal week, developers would spend more than 50% of their time on coding or architecture.

The global developer shortage is sacrificing innovation and new products on the altar of technical debt, which stunts corporate growth. Therefore, managers are seeking ways to enable their developers to be more productive and efficient by eliminating maintenance of legacy code, improving inefficient processes, and increasing communication channels. Spending money on these tools will allow developers to spend more time on the coding that will have a greater impact on company growth.

A WORD ON COMPARING 2019 TO 2020 DATA

Our 2019 report was met with tremendous interest by developer community managers, software developers, developer relations professionals, and managers. Along with that interest came some suggestions for questions to add – or delete, along with different options for completing answers.

Because of that, we can’t provide side-by-side comparisons for every question we analyze. We do provide that when possible. Nonetheless, the trends from 2019 to 2020 are clear:

- Developers want to learn from experts and their peers.
- Developers like and want to use online communities and expect to use them more in 2020.
- Developers are eager to find ways to be more efficient and more productive.

In a ‘digital- and software-first’ world that is increasingly reliant on developers, this is all good news.

SO HOW OFTEN DO DEVELOPERS VISIT ONLINE COMMUNITIES?

If anyone has any doubts about the importance of communities to developers, just check out this data. Nine out of every 10 of developers have visited at least one developer community in the past seven days. And nearly 30% have visited four or more community sites in just the past week.

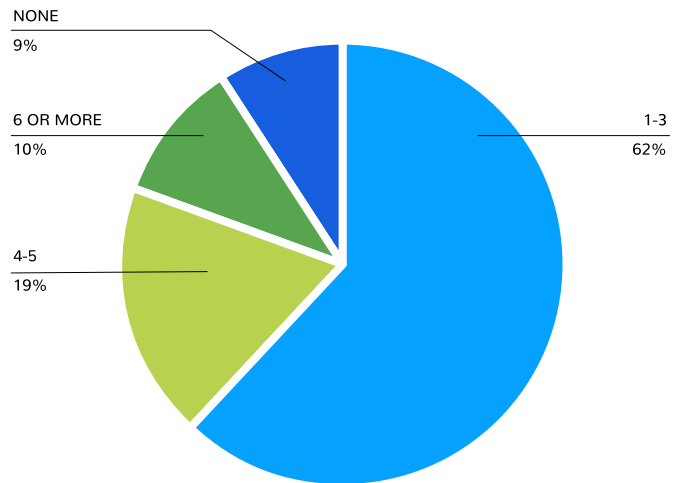


Figure 1: Community Site Visits in Past 7 Days

The results are even more striking when you look at the past month. Nearly one-third of developers (31%) have been to six or more community sites in the past 30 days, with another quarter (26%) visiting four or five sites and another third (37%) visiting one to three sites. Only one in 20 (5%) of surveyed developers have not been to a developer community in the past month.

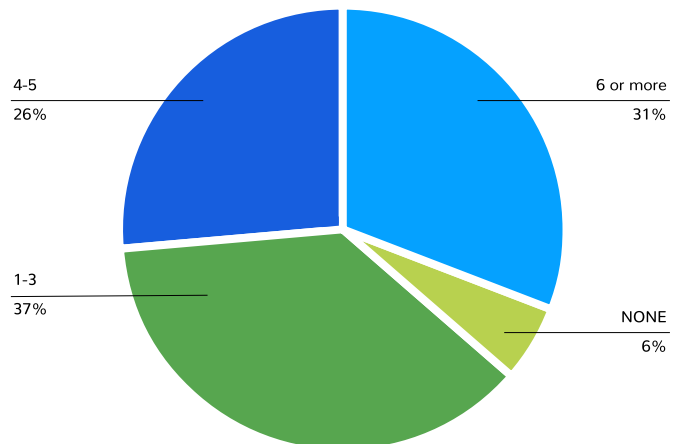


Figure 2: Community Site Visits in the Past 30 Days

HOW DEVELOPER VISITS VARY ACROSS THE GLOBE

No matter which geographic region a developer lives in, community participation rates are similar. Of the three major world regions, more than 90% of developers have visited a dev community in the past 30 days. North American developers tend to visit fewer communities than their colleagues in EMEA or APAC.

And in every region of the world, over 50% of developers have visited at least four developer communities over the past 30 days. Developers have a culture and language all their own that transcends geopolitical boundaries, making online community participation a necessity.

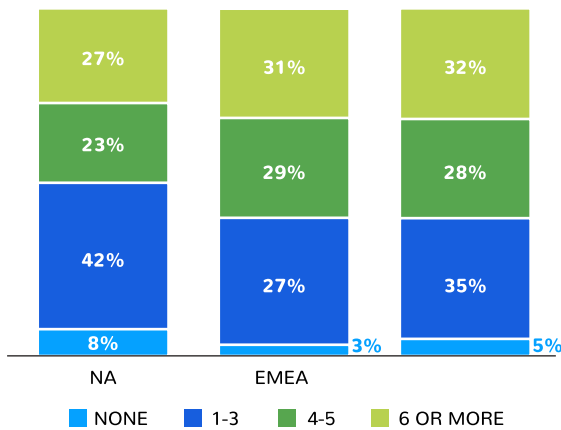


Figure 3: Community Site Visits in the Past 30 Days by World Region

It’s interesting that developers’ use of communities grows as they gain experience. Eighty percent of developers early in their careers (1-2 years) have visited a site in the past 30 days. That participation increases and levels out from three to 10 years — perhaps because of a realization that answers can be quickly found in communities.

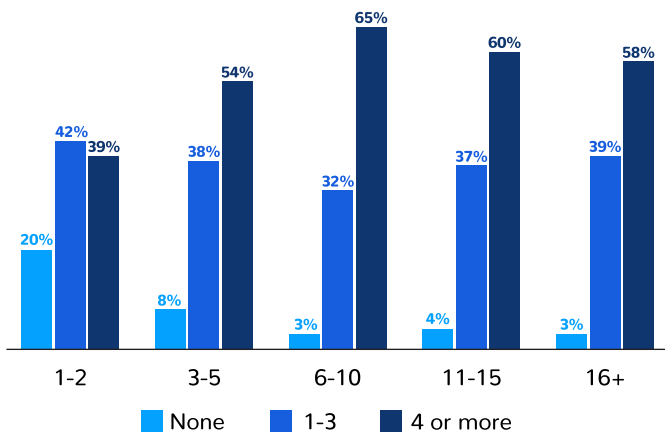


Figure 4: Community Participation by Experience Level

How developers participate in communities continues the pattern we saw in 2019. A majority of developers (56%) asked a question on a community in the past month. Not surprisingly, answering questions was the second most common activity (36% of developers). The other three types of developer community participation we measured – contributing long-form content, posting a question to social media, and leading or moderating all saw a decline from last year. Many developers added their own category through write-in responses saying that they participate by searching and reading.

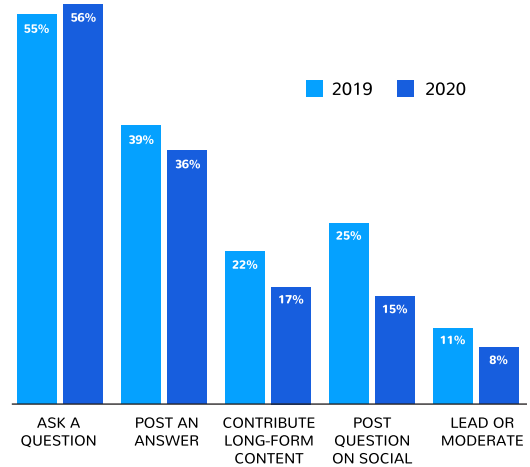


Figure 5: '19 vs '20 Developer Community Participation Comparison

Developers are naturally curious and are constantly learning new frameworks and tools that help them create better products. That natural curiosity manifests as questions and answers – the preferred medium developers use to collaborate online. As developers grow in their careers, they will begin to contribute longer form content and moderate. With the global demand for developers at an all-time high (and continuing to grow), new developers are asking and answering questions, but the influx of new questions and mentoring needed for these developers is taking away from the more experienced developers’ time writing longer form content or moderating. The participation in social media is reduced by the uptick in more directed collaboration tools such as Slack, Teams, Reddit, and other chat sources. These serve as acceptable substitutes for more traditional social media outlets like Facebook.

COMMUNITY PARTICIPATION REMAINS CONSTANT OVER A DEVELOPER’S CAREER

When we looked at the type of contribution by level of experience, we found something that we didn’t expect. It’s not surprising that asking questions in an online community is something that developers do at every stage of their career – learning is a life-long desire for developers. Nor is it surprising that answering questions is more common for those

with six or more years of experience under their belts. However, we were a little surprised at the revelation that one in five developers with only a year or two of experience contributed to a community in the past month by answering a question.

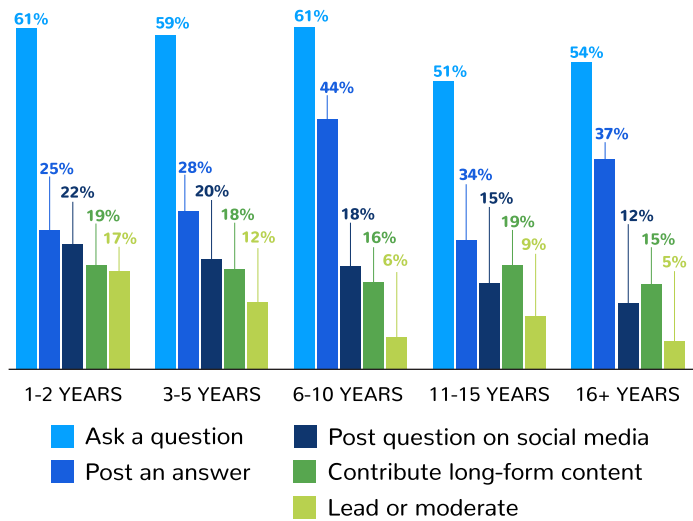


Figure 6: How Developers Participate in Communities by Years in the Profession

Developers have multiple reasons for visiting or participating in a community. The most frequently cited reasons revolve around skill development and problem-solving: For a majority of developers (anywhere from 57% to 84%), five reasons are firmly rooted in fulfilling those needs. Keeping up with trends and news motivated between 40% and 50% of developers. Influence, whether it was influencing the industry, product direction, or other coders, was identified by a smaller but still significant group. For example, 28% said they want to share their expertise and code and 16% want to build their reputation and thought leadership.

REASON FOR COMMUNITY PARTICIPATION	PERCENT
To learn new skills or improve existing ones	84%
To find answers to technology questions	78%
To discover new solutions or techniques	75%
To improve my code quality	65%
To solve problems	57%
To keep up with trends	49%
To increase my productivity	42%
To peruse articles, read news and trends in the industry	42%
To share expertise and code	28%
To connect with other developers with similar interests	20%
To build my reputation – thought leadership	16%

Online communities provide a place where developers belong and where they feel they find their peers. Here, they participate in an environment

with less structure than a traditional in-person meeting. Questions are answered with a variety of fresh approaches and discussed freely, increasing the speed at which developers can absorb new technologies and solutions.

New technology is released every day, and time to release is now measured in days instead of months. This new velocity requires developers to stay relevant by learning new technology and solving coding problems faster, the top reasons they say that they visit a community.

Developers will form ad-hoc, virtual teams around posted questions and ideas. These teams challenge one another and discuss solutions, breaking them out of their own restrictive thinking by challenging their more rigid ideas and coding methods. This challenge-based method results in higher code quality and more robust solutions to problems. Developers also want to build their reputation and become known in their specialized field, but this is a secondary reason for most developers. Their primary reason for contributing to the community is to see others grow and help solve problems in more creative and complex ways.

DEVELOPERS EXPECT VENDORS TO PROVIDE A COMMUNITY

Technology providers, listen carefully: Developers want you to provide them with a community that has a focus and mission to help them use your products and services and help them solve problems with your products and services. Eighty-eight percent of developers agree or strongly agree that software vendors should provide an online community to facilitate communication, collaboration, and learning among developers.

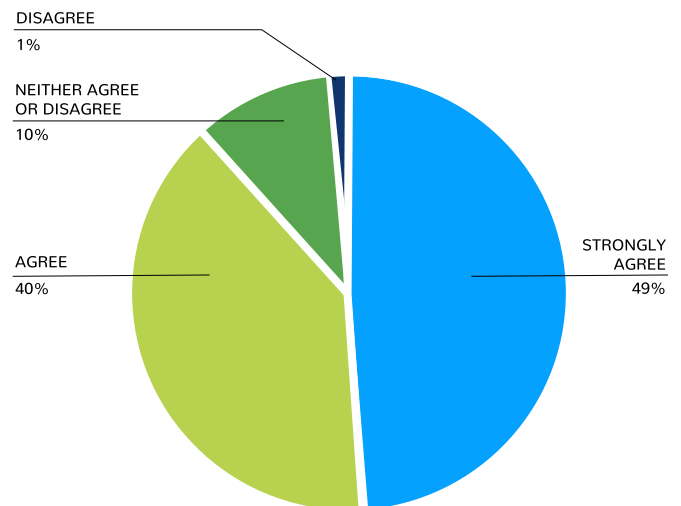


Figure 7: Percent of Developers Who Expect a Vendor to Supply a Community

WHAT DO SOFTWARE DEVELOPERS REALLY WANT FROM A COMMUNITY?

We asked developers to categorize features and services as ‘must have’, ‘nice to have’ or ‘not needed’. To create a community that fulfills the expectations of developers, here are the six things that a majority say you must have (in order of importance):



1. | How-to articles and tutorials
2. | Opportunity to learn new skills or improve existing ones
3. | Easy-to-use, searchable self-help (available 24/7) knowledge base
4. | Technical information including APIs and SDKs
5. | Q&A with options to both ask and answer questions
6. | FAQs

There were two items on the list that developers were evenly split between ‘must have’ and ‘nice to have’:

- Options to share expertise and code
- Videos, webinars and podcasts

As you mature your developer community and consider other ways to enhance engagement, there are additional features a majority of developers felt were nice to have in the community:

- Ability to collaboratively solve a problem
- Ability to interact directly with other developers
- Ability to create a personal knowledge base from content they’ve curated.

- Opportunity to provide feedback/ideas for product direction
- Access to exclusive content
- Recognition for participation
- Hackathons, code camps, code sprints, and contests

Release timelines necessitate short onramps to learning and successfully deploying new technology. Companies that lack an online or formal community will see low developer adoption of their products and services, as the onramp to productivity is too steep. Developers expect you to have an online community so they can quickly learn (through articles, tutorials, and documentation) and implement the solution. Developers prefer to learn about your products from other developers. And, they prefer to solve their issues by asking another developer for help via a question and answer capability in your online community.

Solving problems with tech support engineers is difficult for many developers (and expensive for companies) – they feel like they already know a lot about the problem and would enjoy solving it themselves or with help from a peer. This is why developers prefer self-help articles, good documentation, and Q&A interaction with other developers. Videos are great for simple ways to get started, but are not preferred by developers as the need to continually pause and play a video is tedious when you can simply have a monitor with the article, tutorial, or Q&A stream as text that you can read and re-read as you seek to understand and implement a new technology.



UNDERSTANDING HOW DEVELOPERS LIKE TO ENGAGE

Knowing what features developers consider valuable in a community is only part of the answer. You also need to know specifically how they want to engage with the features and capabilities of your community. The story between 2019 and 2020 is quite consistent. Most important is providing them access to development tools, testing tools, and test scenarios. They want to engage with your tools and your code. Providing that access should be a top priority. Sizeable minorities also want to be part of beta programs (36%) or have access to emulators or simulators (35%).

Developers also want to engage directly with other developers, sharing their ideas and hearing from others. That can take the form of talking with your specialists (45%), participating in a webinar or podcast (36%), or writing a blog post or article (35%).

	2019	2020
Provide access to development tools, testing tools, and test scenarios	62%	61%
Provide opportunities to talk with specialists and engineers (e.g. in-person meetups/conferences, online office hours, or group chats)	52%	45%
Allow me to participate in beta programs	34%	36%
Ask me to participate in a webinar, video, or podcast	33%	36%
Ask me to write a blog post, article, or white paper	33%	35%
Give me access to emulators or simulators	33%	35%
Ask for my feedback on the product direction and roadmap	29%	28%
Reward me for site participation	31%	28%
Invite me to be part of an incubator or accelerator program	26%	23%
Ask me to participate in a roundtable or forum	16%	20%
Invite me to speak at your conference or sponsor me to speak at a developer conference	17%	17%
Help me market my app	10%	10%

Developers overwhelmingly tell us they come to communities to learn new skills or improve existing ones (84%). So which content formats help meet that need? Developers want practical, useful content with code examples and tutorials (84% and 82%, respectively) leading the list. Other formats that are preferred by a majority include blog posts (73%), short articles (62%), videos (59%), and books (58%).

Code examples	84%
Tutorials	82%
Blog posts	73%
Short articles	62%
Videos	59%
Books	58%
White papers and ebooks	44%
SDKs	34%
Question and Answer (Q&A) forums	31%
Case studies	29%
Podcasts	19%
In-person events	15%
Infographics	12%



Developer also want to learn about new products and product updates. Is your community the right place for helping developers do that? While your community is one resource, other channels are a higher priority. Far and away, blogs should be your choice for distributing new product information. In addition, your own website is a place that 37% said they prefer to go for that content.

Blogs	71%
Forums	38%
Vendor website	37%
Videos	37%
Advertising within the developer community or program	30%
Emails from the software vendor	28%
Third-party developer sites	27%
Vendor newsletters	25%
Social media	21%

As career creators and inventors, developers regularly experiment and try new things, which shapes the engagement models that they prefer. Rather than waiting until a product is fully baked and released, developers want to help you shape the technology (and your product) as it evolves, which is why they want early access to beta releases, the opportunity to talk with the engineers, and access to development tools.

In terms of content, developers want to be able to use content in an experiment quickly, and the fastest way to do that is to have code samples and snippets packaged for such an experiment. Reducing the time to successful experimentation is key for a community, and these code examples and tutorials will be the fastest way to get there.

DEVELOPERS PREFER SELF-RELIANCE

Developers prefer to be self-reliant. That is why it is so important to provide a robust community with problem-solving tools and resources, including documentation, how-to content, and tutorials. Far and away, the vast majority of developers (79% in 2020) say that the last time they had a technical question or issue, they researched it and solved it themselves. If they reach out for help, it is first to a developer colleague in their organization, then a developer colleague in an online community and finally to the technical support professional at the software company. Through this behavior, they demonstrate one of the most compelling reasons for a developer community: To deflect external support cases or increase internal developer productivity. If developers have ready access to the necessary resources, they will resolve most issues for themselves and lessen the burden on the software vendor’s technical support team – a support team they would rather not call anyhow.

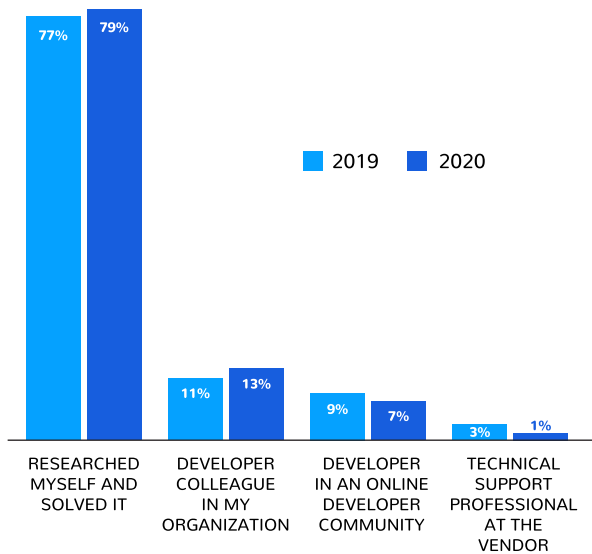


Figure 8: How Developers Solve a Coding Problem

Developers are self-sufficient above all else. Their love of learning and solving problems means that they will almost always try to solve it themselves before asking for help. However, when a developer does want help with a problem, their preference is to request that help from a fellow developer (whether at their same company or through an online community) as they value the opinions of their peers above all else.

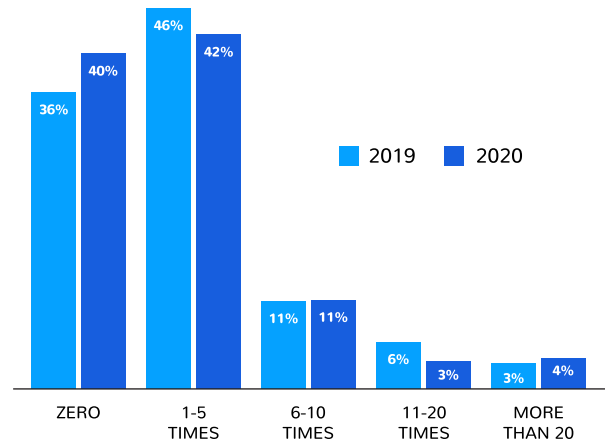


Figure 9: How Often Do Developers Reach Out For Technical Support?

WHAT DEVELOPERS HAVE TO SAY ABOUT PRODUCTIVITY

Management’s ongoing focus on improving developer productivity is not lost on the developers on their teams. A substantial majority (71%) either agree or strongly agree with the statement that “It is a priority for my company’s upper management to increase the productivity of its developers.” This sentiment has been consistent over the past two years.

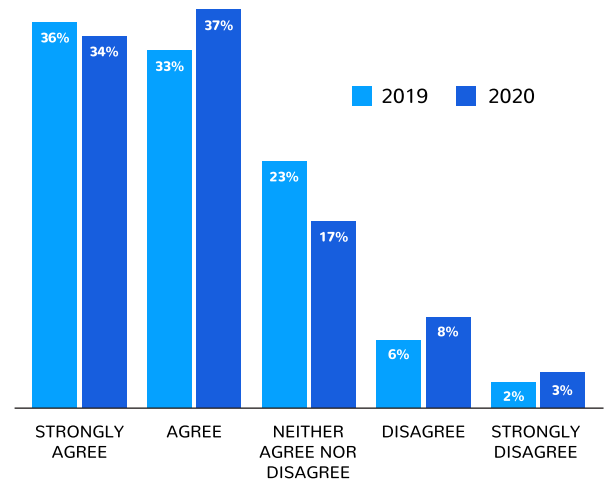


Figure 10: Is Productivity a Priority for Management?

Since developer productivity is as priority, what do developers believe are the major obstacles to productivity? Their response - maintaining legacy systems and eliminating technical debt tops the list with 52% choosing it as the number one thing that hurts their productivity. They suggest that improvements need to be made to their internal organization’s processes, citing obstacles such as internal bureaucracy (51%), leadership’s prioritization of projects and tasks (46%), and too many meetings and administrative work (37%).

TOP BLOCKERS TO DEVELOPER PRODUCTIVITY	PERCENT
Maintenance of legacy systems/technical debt	52%
Internal bureaucracy	51%
Leadership’s prioritization of projects and tasks	46%
Lack of proper training	42%
Too many meetings, too much administrative work	37%
Lack of skilled talent	35%
Poor project management	34%
Not enough staff	32%
Lack of needed tools	30%
Poor staff management	24%
Building custom technology	22%
Limited access to technical support or knowledge leaders	21%
Network/system security policies/restrictions	20%

Developers told us they would like to increase by 50% their time spent on working on new software (from 22% to 31%) and working on new design/new architecture (from 13% to 20%). On the other side, they would like to cut in half the time they spend on code maintenance (from 18% to 9%), on operational tasks (from 11% to 7%), and meetings and administrative work (from 12% to 6%).

	PAST 7 DAYS	IDEAL WEEK
Working on new software	22%	31%
Working on new design/new architecture	13%	20%
Improving existing code	13%	14%
Collaboration & problem-solving	11%	13%
Maintenance	18%	9%
Operational tasks	11%	9%
Meetings & administrative work	12%	6%



WHERE DEVELOPERS THINK THEIR TIME SHOULD BE SPENT

To understand where productivity improvements could be realized, we asked developers to review their tasks over the prior seven days and allocate their time spent by type of task. Then we asked them what their ideal time allocation would be. Not surprisingly, the ideal and the actual don’t match. However, they are not as far apart as one might expect. Developers understood that all the task categories have a role to play in the execution of their jobs. So they don’t look to do away with any tasks, just re-balance the allocation.

It’s no surprise that developers want to spend the majority of their time writing new software and working on new designs. Software innovation is stifled by aging product architectures and structures, which are typically caused by the evolution of technology around a product without sufficient investment in advancing the codebase.

For example, the proliferation of cloud computing made monolithic application architectures less performant in the cloud. This means that companies wishing to move to elastically scalable, services-based, cloud implementations need to re-architect these monolithic applications to make that move to the new cloud-based technology stack. This is considered “technical debt.”

The way software is written and deployed has evolved as well. We want to say that companies are using agile principles, but very few companies are using this methodology as it was intended. Managers and company leadership hear that agile will make releases faster but forget to realize or communicate that the technical debt in their business is so high that it is limiting innovation and must be invested in first. It’s not sexy to continue to support technical debt, but it must be paid in order to move a product forward at a speed that will keep it relevant in market and support mission critical operations in your business or with your customers.

Proper agile practices lead to the third reason being null and void. If the development team is properly included in the decision-making process, then it won’t be “their” prioritization ... it will be “our” prioritization of projects and tasks. It is critical to involve and engage your developers when making technology decisions as they are some of the highest-paid, smartest employees in your business, and they enjoy and want to help you solve problems.

CONCLUSION

The data from our survey and the analysis in this report tell us that developers are the most important demographic on the planet right now, and they will be the ones we rely on to solve some of our most difficult technical problems. As we seek to find ways to help developers continually learn, solve problems faster, and increase productivity, we need to provide ways that developers can connect together through community. These communities we build are essential to the fabric of a developer's professional life. Active community participation is already widespread, frequent, and global. If you want to engage developers, whether internally within your own organization or those that use your products and services, a robust developer community is a necessity. Developers expect it and actively use communities to advance their work, their learning, and their lives in building software. To connect with them, you must meet them on their turf - in both the communities that you build for them and the third-party communities where they congregate.

As you seek to build your developer community in 2020, it is important to see how valuable a community is to your organization. Developer communities can be both inside your community (for your own developers) and outside your organization (for developers using your products). As the world continues to flatten and remote work is growing more prolific than ever, we need great tools that help foster collaboration and connectedness over great distances and allow the knowledge that is shared to be captured so others can benefit.

If you already have a community in place, then keep up the momentum! In 2020, put your focus on growth and maturation of your community. Set some solid growth and engagement milestones and throw a celebration when you hit them. Focus on returning value to your company by tracking hard ROI metrics like cases deflected, product usage, and question-to-answer time, as these will show the company leadership that community is essential.

If you don't have a community for your developers yet, we would encourage you to get one set up this year. Go look at your competitors' websites and see if they have one – if they do, then you are already light years behind them. Partner with an organization that has community in their blood and is passionate about helping developers learn and grow. Get started now. The ever-increasing speed at which technology is progressing isn't going to slow down, and companies that cannot attract developers through community will fall behind and become irrelevant.

