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CURRENTS

Open Source 2019

Introduction

While open source may have been regarded as a "hobby" at one point, the widespread business impact of the open source community has become a foundational pillar of just about all the technology we interact with on a daily basis. The Linux Foundation finds that more than half of all companies are using open source for their commercial products and almost three-fourths are using it for internal purposes.

The market for open source is forecasted to exceed $32 billion USD by 2023.

Meanwhile, the market for open source is forecasted to exceed $32 billion USD by 2023 and more than 30 million developers have contributed to open source projects at some point.

Given the increased focus and rapidly evolving nature of the open source community, we've dedicated our seventh edition of DigitalOceans Currents, a seasonal report on developer trends, to the topic. For the second year in a row, we explore how the open source community is thinking, feeling and growing during its ongoing renaissance. To coincide with our sixth annual Hacktoberfest this past October, we surveyed more than 5800 respondents from around the world for their thoughts on the current state and the future of the open source community. We're excited to share these learnings with our developer community and the tech world at large.

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Key Findings

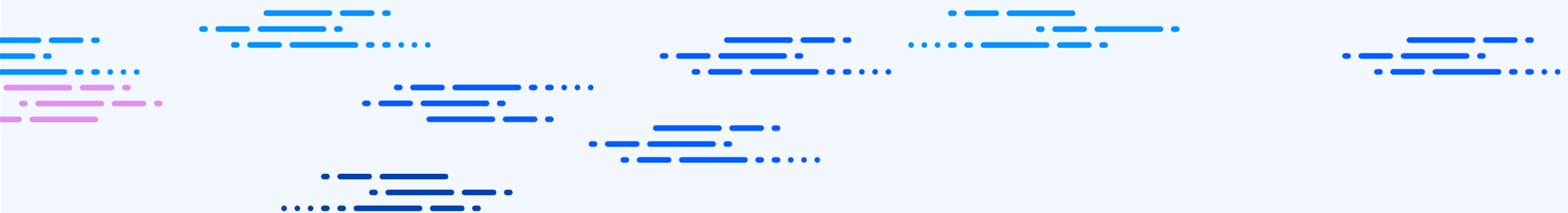### Optimism about the state and future of the open source community remains high.

Participation in open source increased 8% from last year's survey. Sixty percent said they had increased their involvement in open source and did so because they enjoyed it, wanted to learn new skills or found contributing to be fulfilling. These, we truly believe, are great reasons for doing anything! However, not everyone shares the positive outlook: one-third of respondents doubt the future sustainability of open source tech, citing lack of funding and support from large corporations as obstacles to future success.

There is still plenty of room for improvement when it comes to inclusivity.

While developers have good things to say about inclusivity and friendliness in open source, younger generations – especially women – feel relatively more out of place and less welcome. Only one-third of women rate the diversity of the community highly and a quarter rate it very badly. The next generation of open source developers wants a welcoming, inclusive environment — it's time for the community to rise to the challenge.

Opinions are still split on the big tech players and their effects on the open source environment.

Two-thirds of developers are either concerned about or unsure of big tech's involvement, even as 84% feel optimistic about the future of open source and 73% think the community is growing. Developers are concerned because they don't think big tech has good intentions since these companies abuse restrictive licenses for competitive advantages. Alphabet and Microsoft lead the pack when it comes to their perceived friendliness toward the open source community; Apple is viewed as distinctly unfriendly toward open source.

1 —

The Future of Open Source

Sentiments are extremely positive about the state of the open source community and its growth in the near future. A large portion of developers say they're increasing their involvement in open source and developers seem engaged and optimistic, citing enjoyment and learning as reasons they are part of the community. Sixty-three percent of our respondents say they participate in open source projects, an increase from 55% in last year's survey. Ninety-two percent say they're at least somewhat likely to continue contributing to open source projects — demonstrating that interest is high!

Levels of Open Source Participation and Underlying Reasons

Increased levels of open source participation 60%

Top 3 Reasons:

- **I enjoy working on open source projects.**
- **I want to learn new skills.**
- **I find it fulfilling to contribute.**

  Men cite personal enjoyment as biggest reason they're working with more open source projects.
  Women cite their desire to learn as the major driver for increased involvement, 79% vs. 68% of men.

Decreased levels of open source participation 14%

Top 3 Reasons:

- **It takes too much time to contribute.**
- **It's difficult to contribute.**
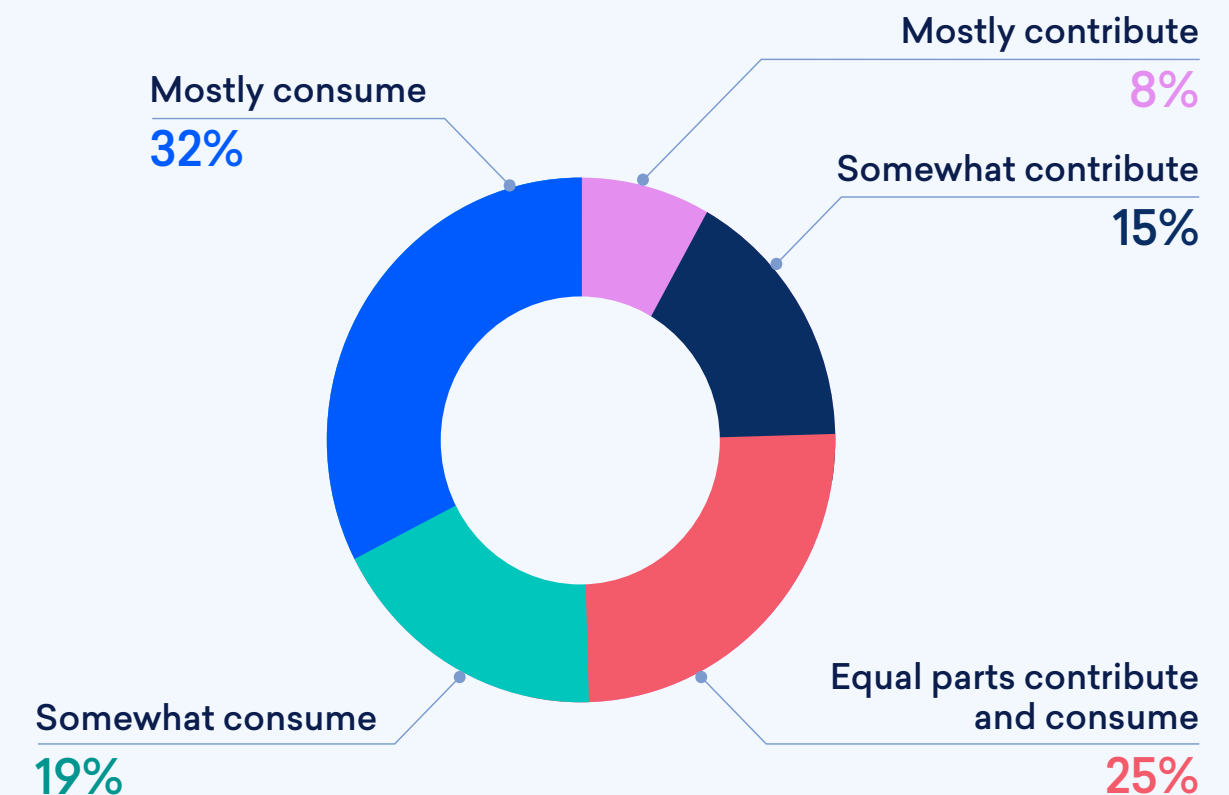- **I'm burnt out from contributing.**

  U.S. report highest amount of burnout, 26%, as a reason their involvement has declined.
  Developers over 45, more so than any other age group, say they've simply lost interest in open source.

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Most of those working on open source are continuing to increase their involvement, and doing so for some great reasons. As seen below, older developers seem to have lost interest in open source, further evidenced by their high levels of burnout as well as their pessimistic views on the future of the open source community. Their difference in engagement also shows up in the contributor/consumer breakdown (see graphic).

The road ahead seems brightly lit: 84% feel optimistic about the future of open source. **Younger respondents were the most optimistic about the growth of the community:** 76% of those under 34 think the community is growing compared to 57% of the older demographics. However, there remains a large amount of doubt and uncertainty about whether open source technology can continue to grow and evolve. Almost one third of respondents were unsure if open source tech was sustainable as it exists today.

How would you describe your level of open source involvement?

Mostly consume
32%

Mostly contribute
8%

Somewhat contribute
15%

Somewhat consume
19%

Equal parts contribute and consume
25%

Those under 25 are more likely to be contributors — 30% compared to 18% of other age groups; while those over 45 are most likely to be consumers — 66% compared to 53% of other age groups.

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Do you think open source technology is sustainable in its current form?

No
4.2%

Unsure
32.1%

Yes
63.8%
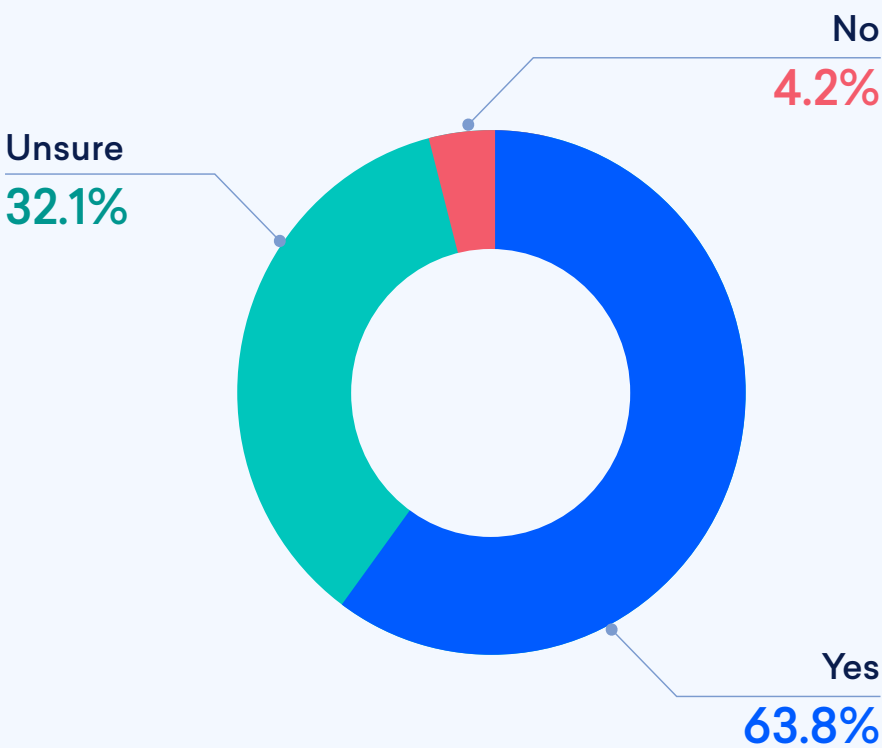
Why don't you think it's sustainable?
1. There is not enough funding for critical projects.
2. Large organizations do not sponsor projects.
3. There needs to be more participation.

Why do you think it's sustainable?
1. The community is dedicated to its existence.
2. The community is welcoming to new contributors.
3. Large organizations sponsor projects.

70% of Gen Z (under 25) agreed open source technology is sustainable in its current form, more than any other generation.

2 —

The Community of Open Source

There are disconnects in how different populations view the inclusivity and friendliness of the open source community. While the community is reported to be generally healthy, there is clearly some room for improvement, especially to welcome a new generation of open source developers.

Overall, a majority of respondents (58%) find the open source community to be friendly and/or inclusive, while only 18% say they've felt excluded by the community. However, the perceived inclusivity and friendliness of the open source community seems to depend highly on whom you ask, suggesting there are still groups that feel left out — and that means the community can still do better, especially for a younger, more diverse generation of developers.

Men's vs. Women's Perception of Open Source

Questions	Response(s)	Women	Men
Do you actively participate in open source projects?	Yes	49%	64%
What would make you likely to contribute to open source?	If the open source community was more inclusive	26%	16%
	If there were resources to help me get started	65%	49%
On a scale of 1-10: How would you rate the state of diversity in open source?	1-4: Poor to quite poor	25%	11%
	8-10: Very good or excellent	33%	45%
On a scale of 1-10: How important is diversity in the open source community to you personally?	8-10: Of utmost importance	75%	58%

As we see above, there are large gaps in perception between men and women, with women making up 9% of our respondents. Overall, only 44% rate the state of diversity in open source as "very good," suggesting the possibility that the open source community is unprepared or even unwelcoming for the more diverse population that makes up the next generation of open source developers.

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Generational Differences in Perception

Different generations have different views of the open source community. Gen Z devs value human connection and generally see the community as inclusive, collaborative, and friendly. Older Gen X and Boomers have had a different experience, perhaps because they've been involved in open source for the greater part of its history.

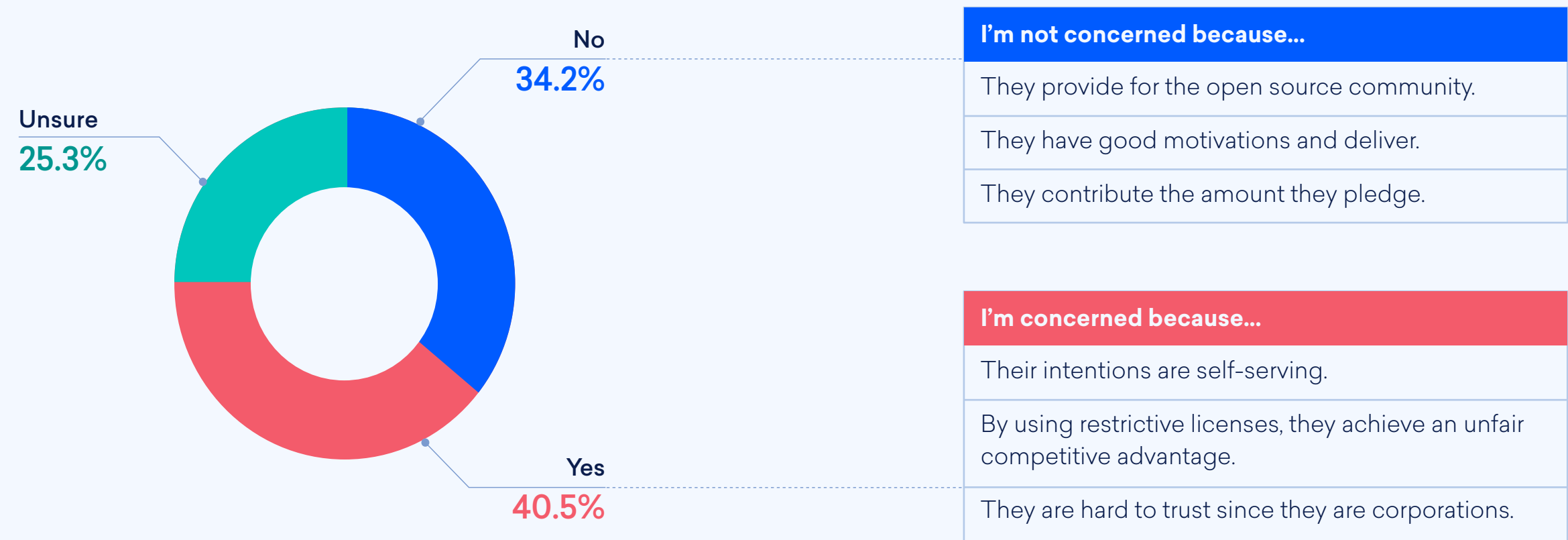|	Gen Z (under 25)	Older Gen X/Boomers (over 45)
The open source community is friendly and inclusive.	68%	42%
I've felt excluded by the community because of negative interactions.	23%	57%
I've felt excluded by the community because people were different from me.	38%	20%
I'd contribute more if there were resources to help me get started.	59%	42%
I'd contribute more if I knew the people in the community better.	48%	28%
My experience working with others is typically collaborative.	41%	23%

3 —

Responsibility and Big Tech in Open Source

The titans of tech have turned their market-moving gaze to the world of open source development and, like it or not, their movements cause seismic changes in the landscape. Microsoft's acquisition of Github finally feels to be settling in and they've continued down the path of open source with their acquisition of JClarity. IBM's largest-ever acquisition came just this year with Red Hat. The big tech players will continue to make their indelible impressions on the industry — how are developers responding and what are they thinking?

While there is optimism and excitement around what the big tech players can do for the ecosystem, doubt remains about their intentions, contributions and long-term commitment to open source projects and development. Thirty-eight percent think open source licensing by major tech companies hurts the community, saying that it goes against the nature of open source and restricts access to projects.

Are you concerned with the level of involvement from major tech players in open source?

No
34.2%

Unsure
25.3%

Yes
40.5%

I'm not concerned because...

They provide for the open source community.

They have good motivations and deliver.

They contribute the amount they pledge.

I'm concerned because...

Their intentions are self-serving.

By using restrictive licenses, they achieve an unfair competitive advantage.

They are hard to trust since they are corporations.

How would you describe the involvement of major players in tech with open source technology?

	Alphabet	Microsoft	facebook.	amazon	IBM	Apple
🙂 Extremely friendly	34%	26%	21%	12%	13%	7%
Somewhat friendly	43%	49%	39%	32%	28%	15%
😐 Indifferent	16%	15%	22%	36%	38%	29%
Somewhat unfriendly	5%	8%	11%	14%	13%	26%
☹ Extremely unfriendly	2%	3%	6%	6%	8%	24%

Generational Expectations for Open Source Maintenance

	Gen Z + Millennials	Gen X + Boomers
How often do you think large-scale, widely-depended-upon open source projects should be updated?	Once a week	As needed
How quickly should bugs in these large projects be fixed?	2-3 days	I expect them to be fixed, but I don't have a specific time frame in mind
Who should be responsible for maintaining open source projects?	The community	The project owner and core maintainers

Younger generations want a faster pace for updates and maintenance, reflecting their general enthusiasm for the work being done in open source. Older Gen X and Boomers, who report higher feelings of burnout, take a less hurried approach. There is even a slight difference in who these generations believe should be responsible for maintenance in open source. We expect this gap to only widen until the time that Gen Z and Millennials make up the greater part of the community. In the meantime, there seem to be some generational gaps that need to be addressed. While the older generations' attitudes towards big tech in open source could be construed as pessimism or distrust, it may just be a matter of experience — some have decades of veterancy compared to their younger colleagues. Overall, optimism remains high across age groups and younger generations can learn a lot from their more experienced community members.

4 —

India's Excitement for Open Source

There were more Indian respondents to this survey than any group, and their responses reflect a very different experience compared to American respondents. They are a young, energetic community with 97% of respondents being under 34. This younger group is enthusiastic and represents the next generation of open source.

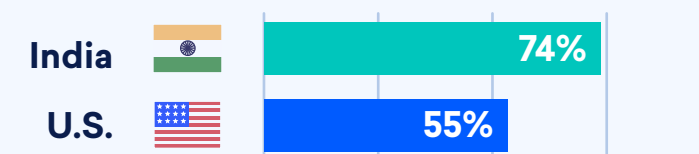## Indian respondents are participating more enthusiastically and tend to contribute more:

I'm very likely to contribute to open source projects in the future.

India — 74%
U.S. — 61%
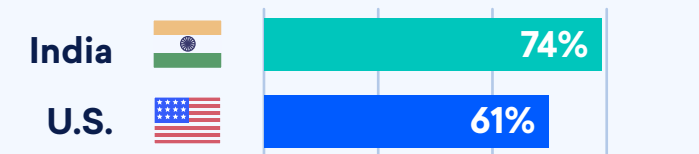
I actively participate in open source projects.

India — 71%
U.S. — 64%
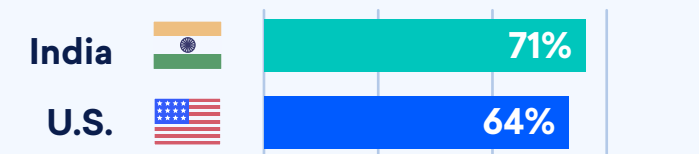
My level of participation in open source projects has increased over the last year.

India — 74%
U.S. — 55%

I contribute to open source projects more than I consume.
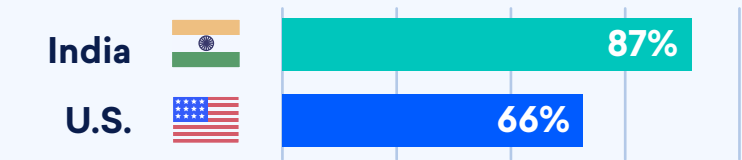
India — 42%
U.S. — 15%

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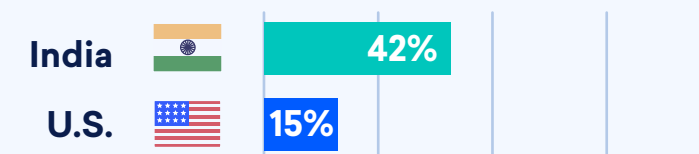
Indian respondents are more optimistic about the open source community and the future of open source:

I think open source is sustainable in its current form.
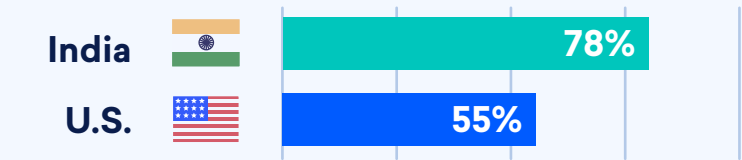
India — 78%
U.S. — 55%

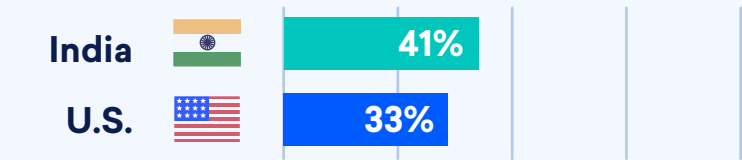The open source community is growing.

India — 87%
U.S. — 66%

The open source community is friendly and inclusive.
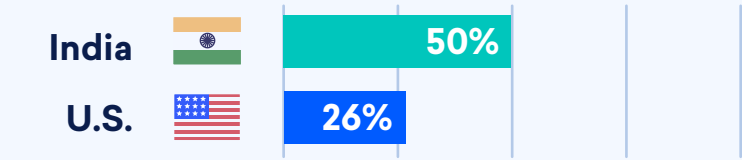
India — 76%
U.S. — 49%
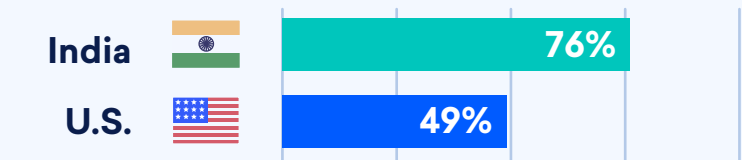
They also seem to be enjoying the open source experience more, reporting less burnout and recruiting more members to the party:

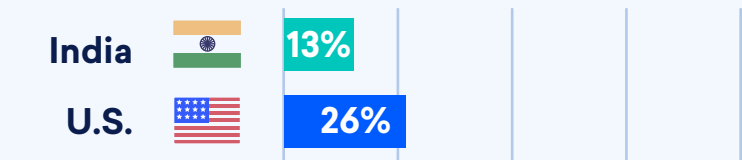I've actively recruited other devs to contribute to open source projects.

India — 41%
U.S. — 33%

My experience working on open source projects is typically collaborative (as opposed to driven more by individuals).

India — 50%
U.S. — 26%

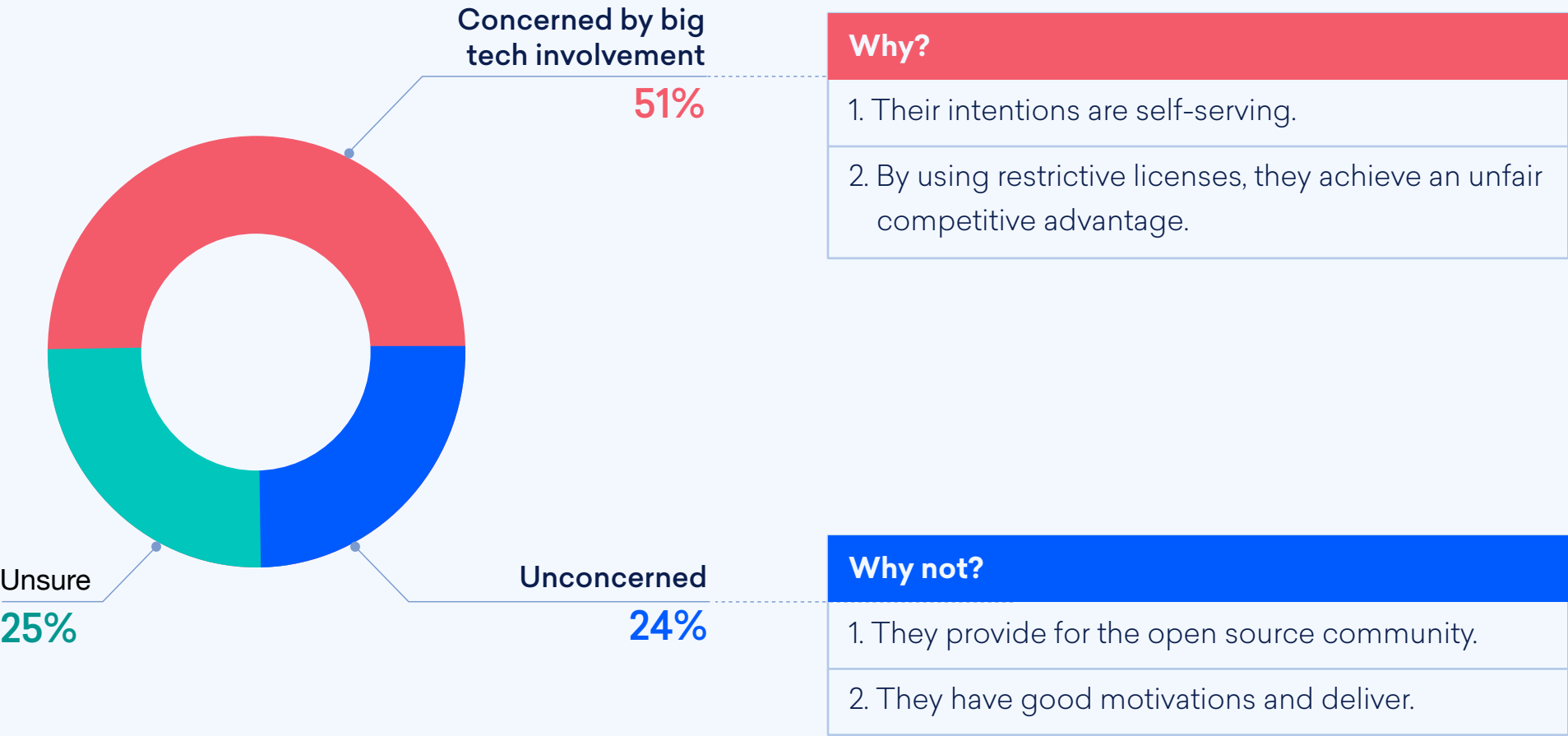I don't contribute as much because I'm burnt out.

India — 13%
U.S. — 26%

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Confidence and Doubts around Big Tech Players in Open Source

However, Indian respondents are the least trusting of the major tech players, with slightly more than half of respondents saying they are concerned by the level of involvement of the big tech players. In the U.S., only one-third say they are similarly concerned.

Concerned by big tech involvement
51%

Unsure
25%

Unconcerned
24%

Why?

1. Their intentions are self-serving.

2. By using restrictive licenses, they achieve an unfair competitive advantage.

Why not?

1. They provide for the open source community.
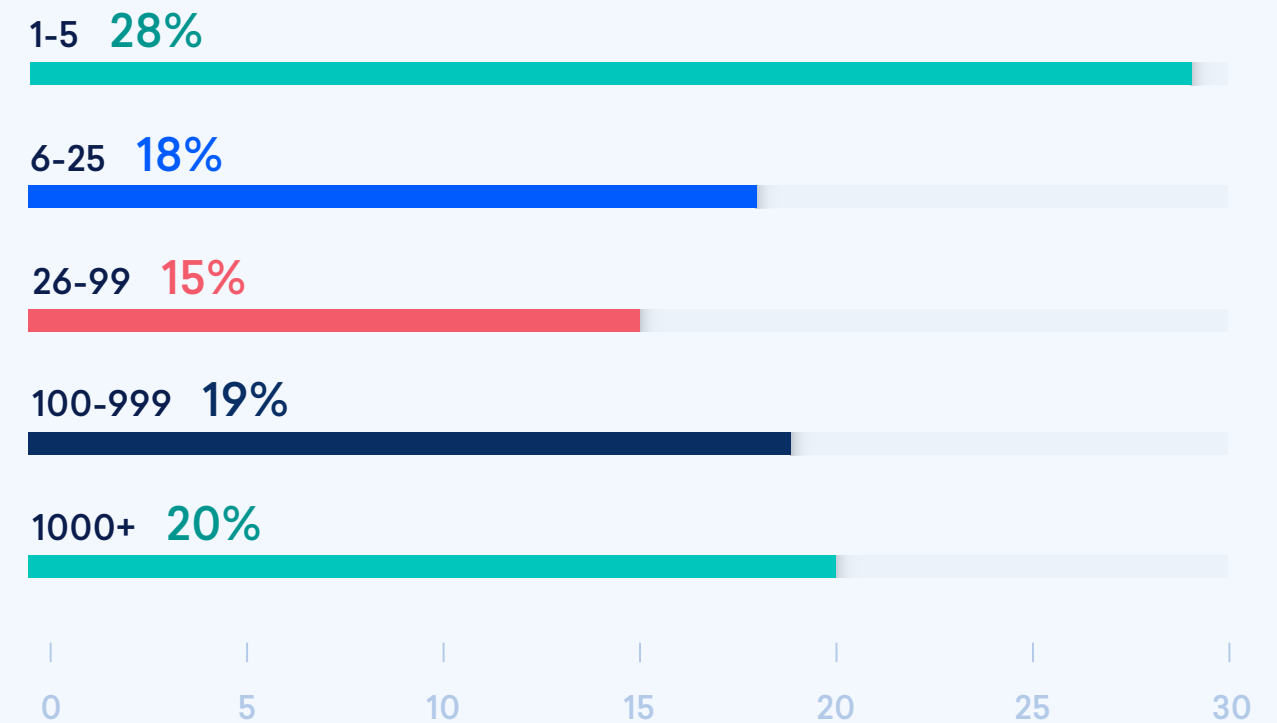
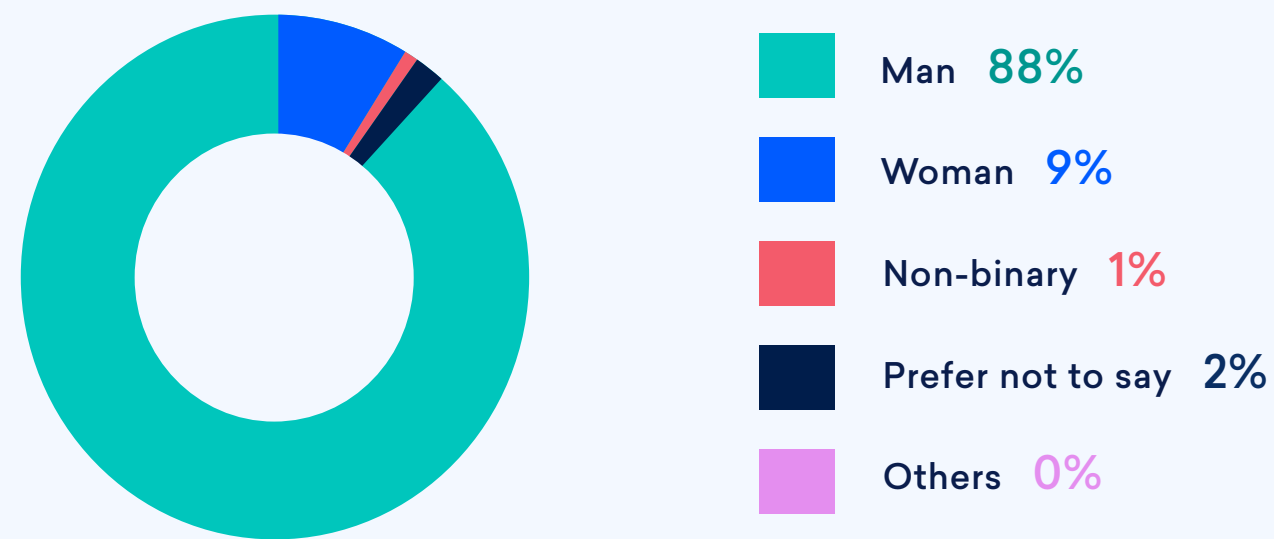2. They have good motivations and deliver.

5 —

Demographics

Of the 5,811 survey respondents, 60% self-identified as developers, 25% as students, and 8% as systems administrators. The rest identified as managers, technical support, or others.

What size is your company?

(number of employees)

1-5	**28%**
6-25	**18%**
26-99	**15%**
100-999	**19%**
1000+	**20%**

0   5   10   15   20   25   30

I identify as a...

Color	Category	Percentage
■ (teal)	Man	88%
■ (blue)	Woman	9%
■ (red)	Non-binary	1%
■ (navy)	Prefer not to say	2%
■ (pink)	Others	0%

About Currents

Trends in the developer community move quickly. As a developer-focused company, it's vital to keep up with the technologies and tools developers are interested in so we can help them achieve their goals. Currents is DigitalOcean's seasonal report on developer trends that we created to share knowledge with the community.

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