Adoption of New Technologies

Adoption of New Technologies

The biggest barrier developers face when adopting a new technology is broad interoperability across browsers, which is the same as last year. A close second is support for legacy browsers. Considering that having to support specific browsers is the overall number one frustration developers have when developing for the web, it's not surprising that barriers to adopting new technologies are related to browser compatibility.

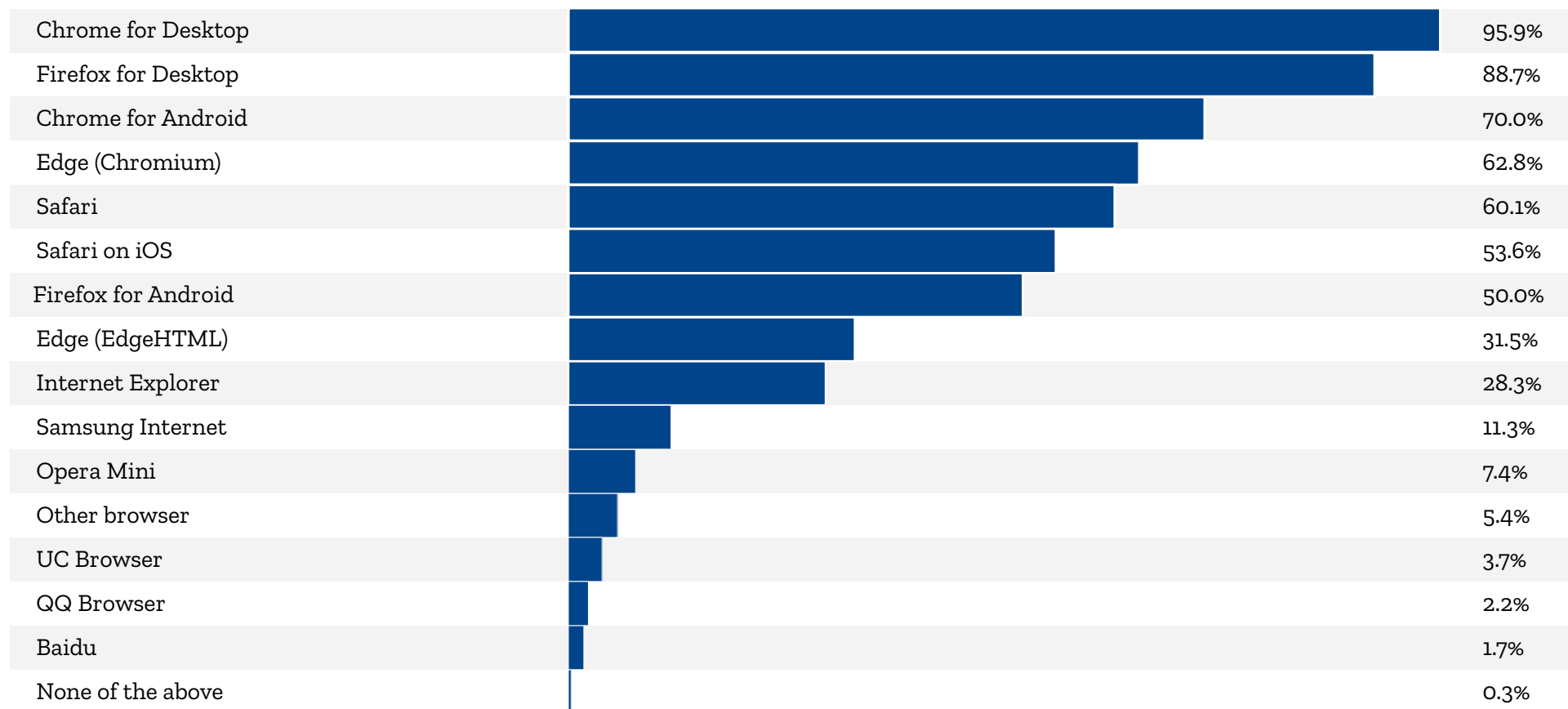New for this year was the answer, "Organizational approval."

Broad interoperability across browsers	24.9%
Support for legacy browsers	23.5%
Documentation and training	16.2%
Tooling support and dev ecosystem	11.9%
Finding out about the new technology	11.3%
Organization approval	8.9%
None of the above	3.3%

n = 5,526

Browsers

Browsers Developers' Support

Chrome and Firefox lead the pack in terms of browsers developers support, 97.5% and 88.6% respectively. Third is Safari at 59.6%.
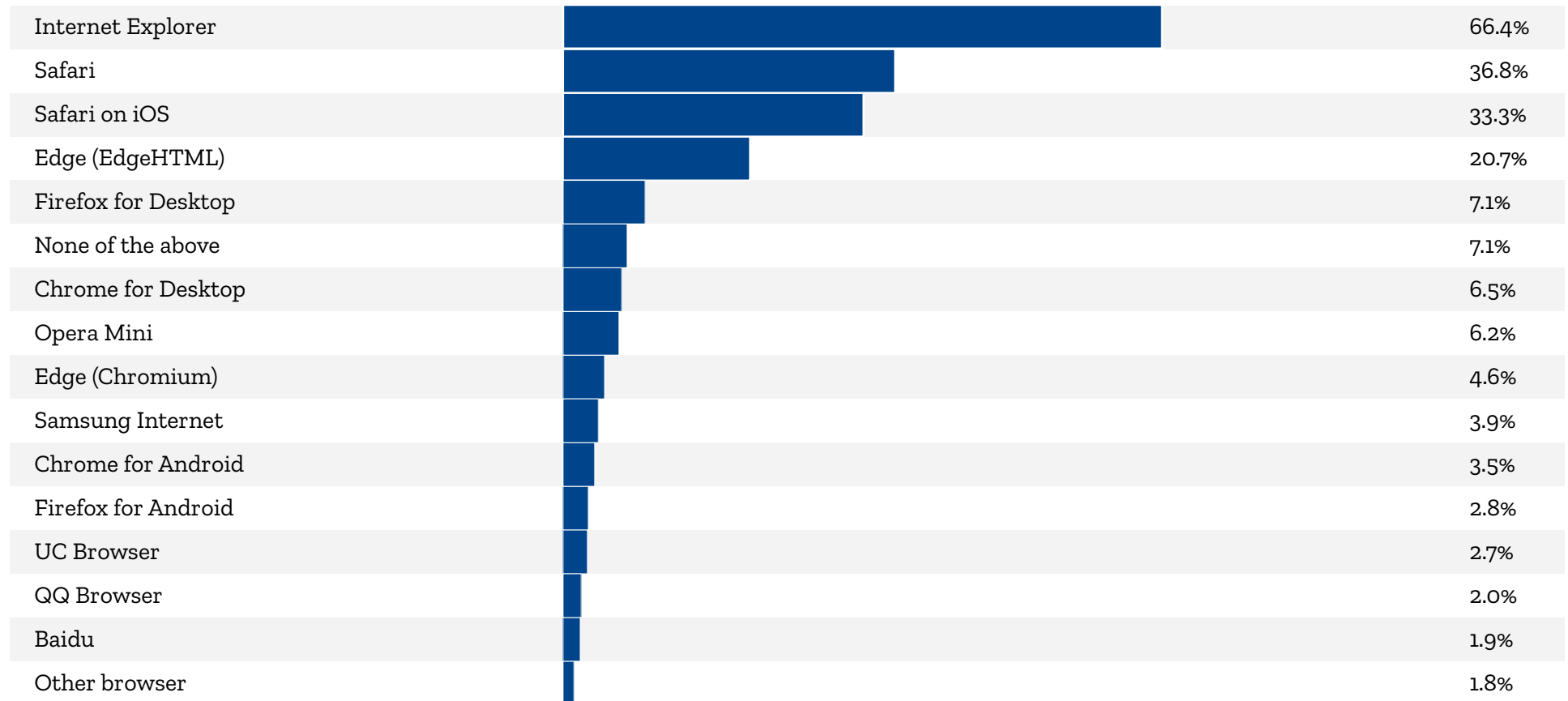
Browser	Percentage
Chrome for Desktop	95.9%
Firefox for Desktop	88.7%
Chrome for Android	70.0%
Edge (Chromium)	62.8%
Safari	60.1%
Safari on iOS	53.6%
Firefox for Android	50.0%
Edge (EdgeHTML)	31.5%
Internet Explorer	28.3%
Samsung Internet	11.3%
Opera Mini	7.4%
Other browser	5.4%
UC Browser	3.7%
QQ Browser	2.2%
Baidu	1.7%
None of the above	0.3%

n = 6,645

Browsers That Cause Issues

We asked developers to rank which browsers cause the most issues and they were allowed to select up to three.

Though Internet Explorer is only supported by 28.3% of respondents, it causes the most issues for developers. Safari and Safari on iOS were distant second and third contenders.

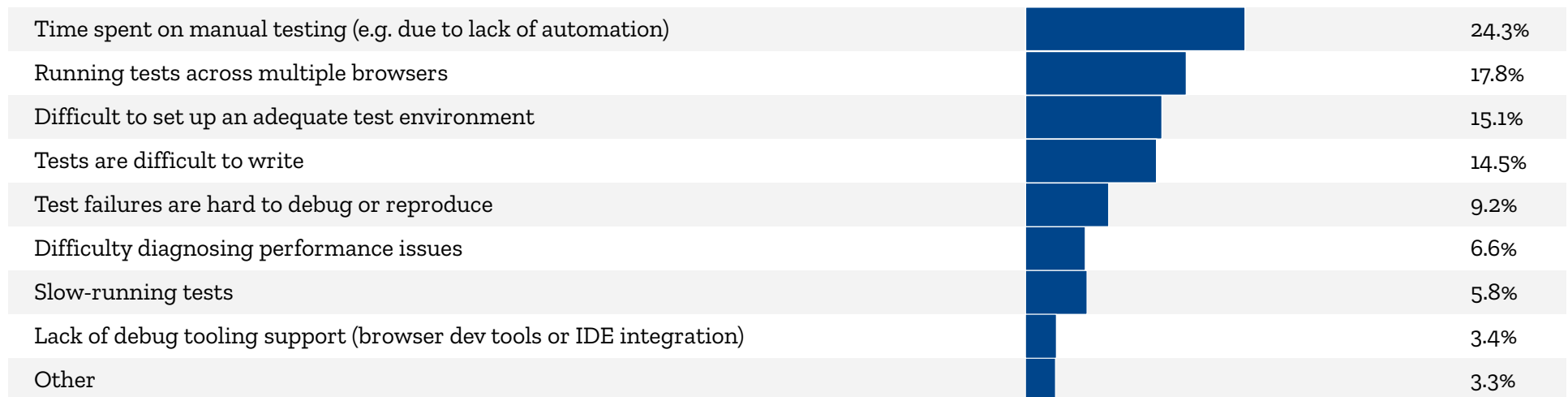| Browser	Percentage
Internet Explorer	66.4%
Safari	36.8%
Safari on iOS	33.3%
Edge (EdgeHTML)	20.7%
Firefox for Desktop	7.1%
None of the above	7.1%
Chrome for Desktop	6.5%
Opera Mini	6.2%
Edge (Chromium)	4.6%
Samsung Internet	3.9%
Chrome for Android	3.5%
Firefox for Android	2.8%
UC Browser	2.7%
QQ Browser	2.0%
Baidu	1.9%
Other browser	1.8%

n = 6,645

Web Testing

Web Testing

We added a new question this year, "What are the biggest pain points for you when it comes to web testing?" What motivated this addition was the need "Testing across browsers" which ranked #4 last year as well as this year. We wanted to understand more about this need and what some of the underlying issues might be. 7.5% of respondents said they don't have pain points with web testing. For those who did, the biggest pain point is the time spent on manual testing.

One way to interpret these results is that the need is not merely an echo of browser compatibility issues and having to test multiple browsers. That's part of it, but where tests are automated, the next difficulties are about cross-browser testing, and setting up the test environment. This wouldn't automatically improve if the browser compatibility problem got better.

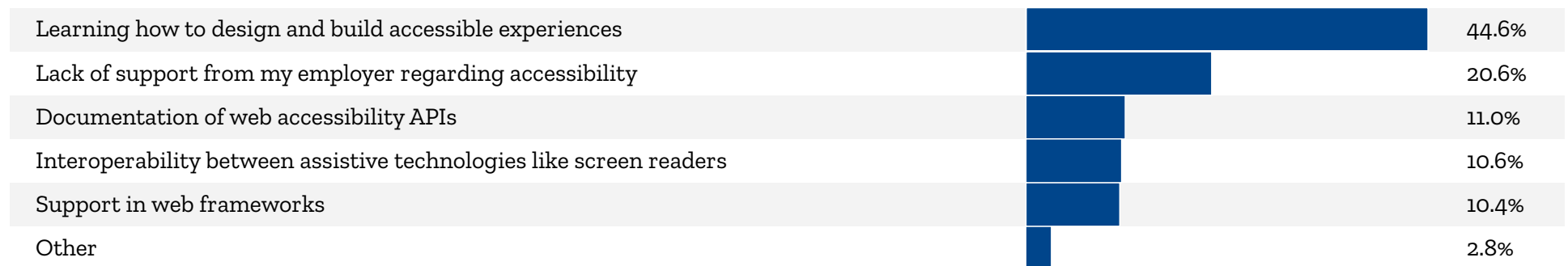|	
Time spent on manual testing (e.g. due to lack of automation)	24.3%
Running tests across multiple browsers	17.8%
Difficult to set up an adequate test environment	15.1%
Tests are difficult to write	14.5%
Test failures are hard to debug or reproduce	9.2%
Difficulty diagnosing performance issues	6.6%
Slow-running tests	5.8%
Lack of debug tooling support (browser dev tools or IDE integration)	3.4%
Other	3.3%

n =6,144

Accessibility

Accessibility

In the need rankings from last year, "Making sites accessible," ranked 24 out of 28. This year, it's 21 out of 28. In the needs section we noted that just because a need may not rank as the least frustrating within a set, that does not mean it causes the least frustration. It could imply that the respondent does not have experience with the subject matter or does not prioritize that subject within their work. We used accessibility as an example in last year's report based on the pilot interview findings. We learned that developers are not always given latitude to spend the necessary time on accessibility. Therefore, because they cannot spend the time on it, accessibility does not create frustration. If in the future, developers can spend more time on accessibility, then their perception of the frustration may change, and so would the ranking.

To get a better understanding of accessibility, we added a question to this year's survey. We asked, "What are the biggest pain points for you when it comes to web accessibility?" 16% of respondents said they don't have pain points with accessibility. For those who answered, the biggest pain point is learning how to design and build accessible experiences. The second pain point is a lack of support from my employer regarding accessibility.

Learning how to design and build accessible experiences	44.6%
Lack of support from my employer regarding accessibility	20.6%
Documentation of web accessibility APIs	11.0%
Interoperability between assistive technologies like screen readers	10.6%
Support in web frameworks	10.4%
Other	2.8%

n = 5,526