hackerearth

STATE OF DEVELOPER RECRUITMENT 2020
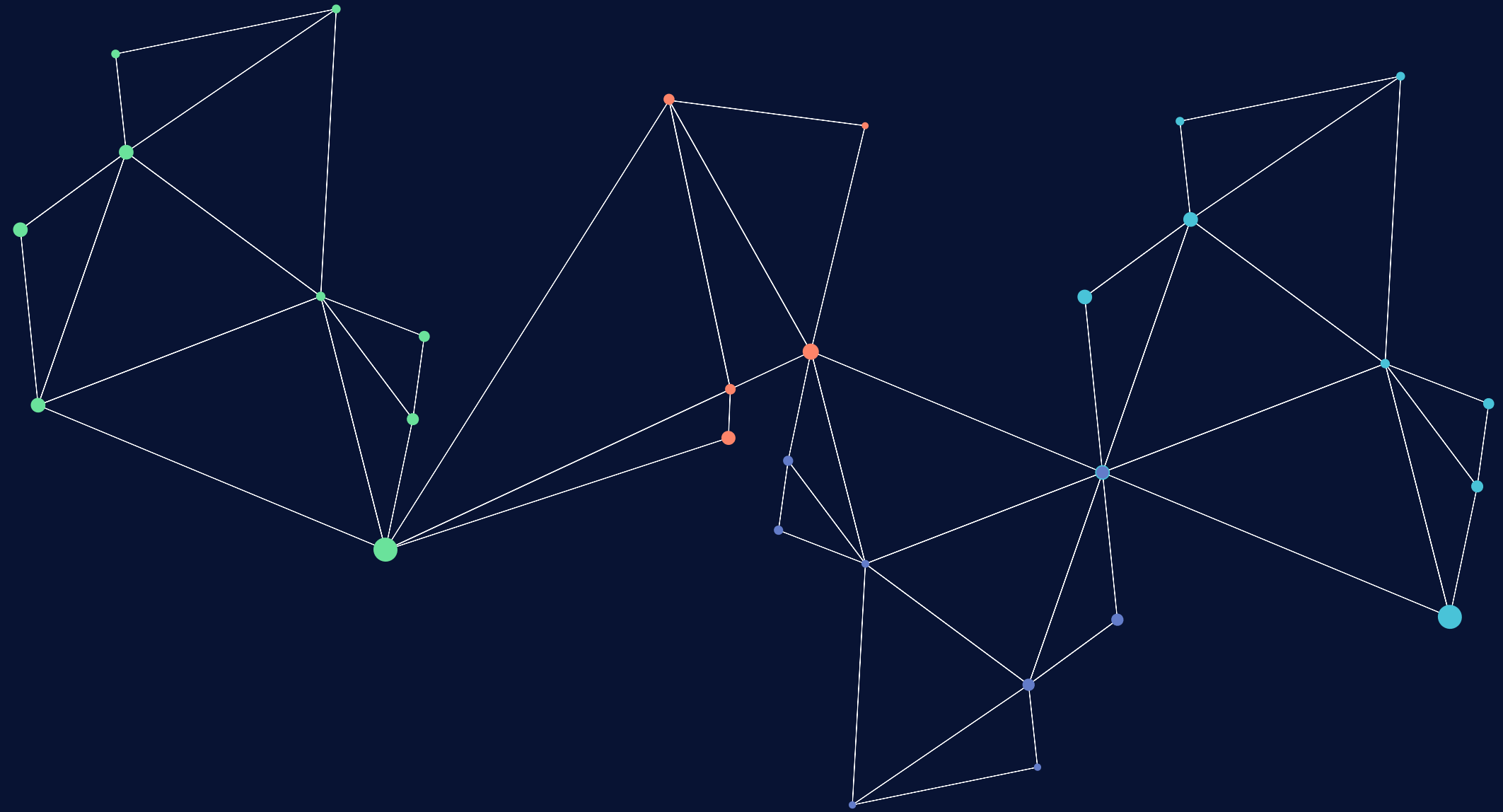
CHAPTERS

|	
00	**BEFORE WE BEGIN...**
01	**SOURCING**
02	**EVALUATING ASSESSMENTS**
03	**ACING THE INTERVIEW**
04	**CHALLENGES IN TECH HIRING**
05	**A PEEK AT 2021**
06	**CONCLUSION**
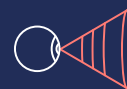
BEFORE
WE BEGIN...
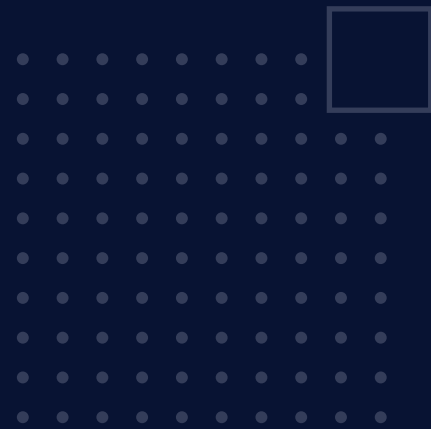
2020 has been a landslide of a year. So much that we had counted upon to be permanent has washed away. In the field of developer recruiting, this has meant an erasure of outdated practices, a breaking down of geographical boundaries, and a new-found belief in the adage that skills trump all else. Some of these practices were already on their way out, true; but COVID-19 has undeniably hastened their exit.

As a company that is intricately involved in the global tech recruitment process, it was important for us to know how conversations around hiring tech talent have changed during this year, and what it portends for the upcoming decade. It is our mission to measure and organize the world's technical skill data, and with the Developer Recruitment Survey 2020, we bring you crucial insights from your peers that will help you find solid ground in this swiftly-changing landscape.

If you are reading this; we know that 2020 has been a doozy, but it will get better. If this report helps you in that journey - even a tiny bit - please don't forget to share it with others like you, and send some karma points our way.

Sachin Gupta
CEO, HackerEarth
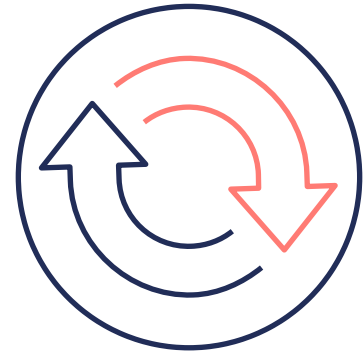
'Things have changed', said every recruiter and hiring manager we spoke with during this year. Processes, policies, people - everything has undergone a complete overhaul. But by how much? How incisive were the upheavals brought about by COVID?

We asked over 2500 recruiters and hiring managers to help us distill this shift into hard facts.

The Developer Recruitment Survey 2020 is made up of responses from over 1200 recruiters, and 800 hiring managers in the tech world. Here's an introduction to the kind folks who took our global survey:
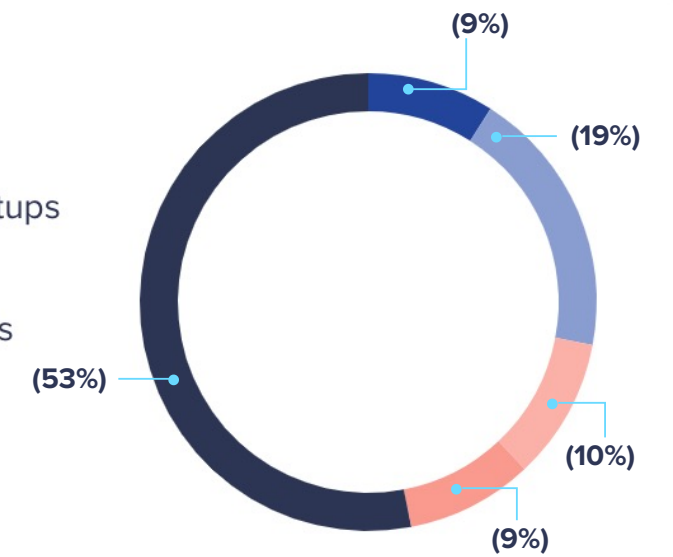
Who They Are

- Technical Recruiters
- Hiring Managers

(40%)
(60%)
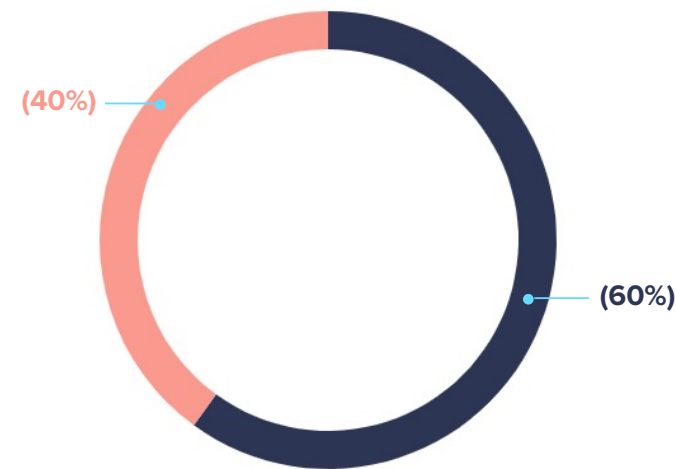
Where They Work

- Early-Stage Startups
- Growth-Stage Startups
- Small to Medium Businesses
- Middle Market
- Enterprises

(9%)
(19%)
(53%)
(10%)
(9%)

CHAPTER 1: SOURCING
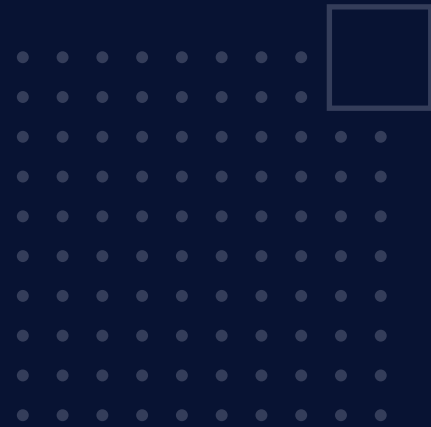
According to a US Labor Department statistic, about 58 million people in the country had sought unemployment benefits between April-October 2020. India, too, saw sweeping job cuts during the months of lockdown. The EU labor market shrank by a record amount in the second quarter, as the number of people in employment fell by 5.5 million - including 4.5 million job losses in the eurozone.

The pandemic affected jobs across the globe. Did it also affect how our tech recruiters were hiring? Let's find out.

About 30% of recruiters say their talent pool increased post-COVID.
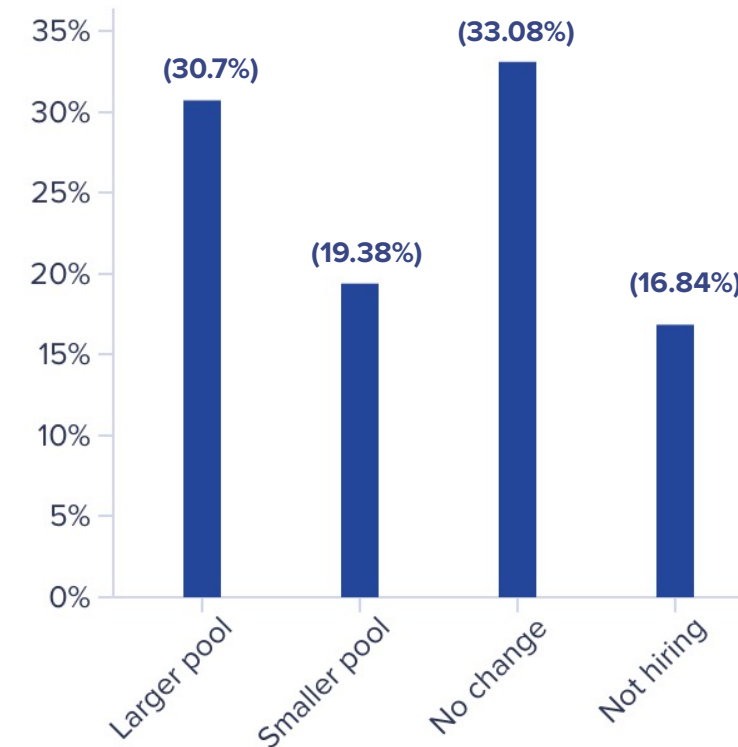
While the majority (33.08%) say that they couldn't see a significant uptick in their candidate pool, we can see the effects of remote hiring come into play here. The second significant cohort - 30.7% - is of respondents who said that remote hiring had increased their sourcing funnel.

LinkedIn and internal referrals were the channels of choice when sourcing. Job portals and careers pages have also been significant contributors to job applications this year.

Size of Candidate Pool

Category	Percentage
Larger pool	(30.7%)
Smaller pool	(19.38%)
No change	(33.08%)
Not hiring	(16.84%)

Candidate Sourcing Channels

- (4.6%)
- (4.3%)
- (6.9%)
- (25.7%)
- (7.8%)
- (13.2%)
- (20.7%)
- (16.9%)

- ■ LinkedIn
- ■ Job portals
- ■ Internal referrals
- ■ Careers page
- ■ Online developer communities
- ■ University recruiting
- ■ Hackathons
- ■ Advertisements
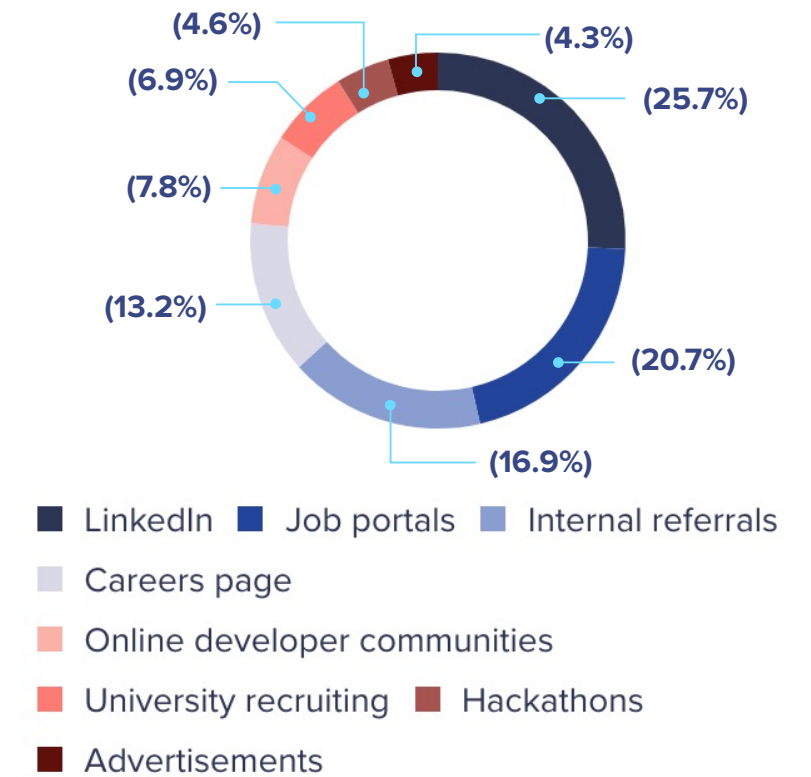
Hackathons are the preferred way to engage with developers.

Regardless of company size, most recruiters say that hackathons have proven to be an effective mode of engagement. Despite the pandemic, virtual hackathons have been effective in both hiring as well as internal engagement.

Coding contests and workshops were the other popular methods of engaging with the community this year.

HackerEarth helps 1,000+ enterprises drive innovation with best-in-class virtual hackathons.

Learn more

How Recruiters Engaged With the Community

Category	Percentage
Hackathon	(32.1%)
Webinar	(16.2%)
Workshop	(22.3%)
Coding Contest	(27.4%)
Other	(2%)
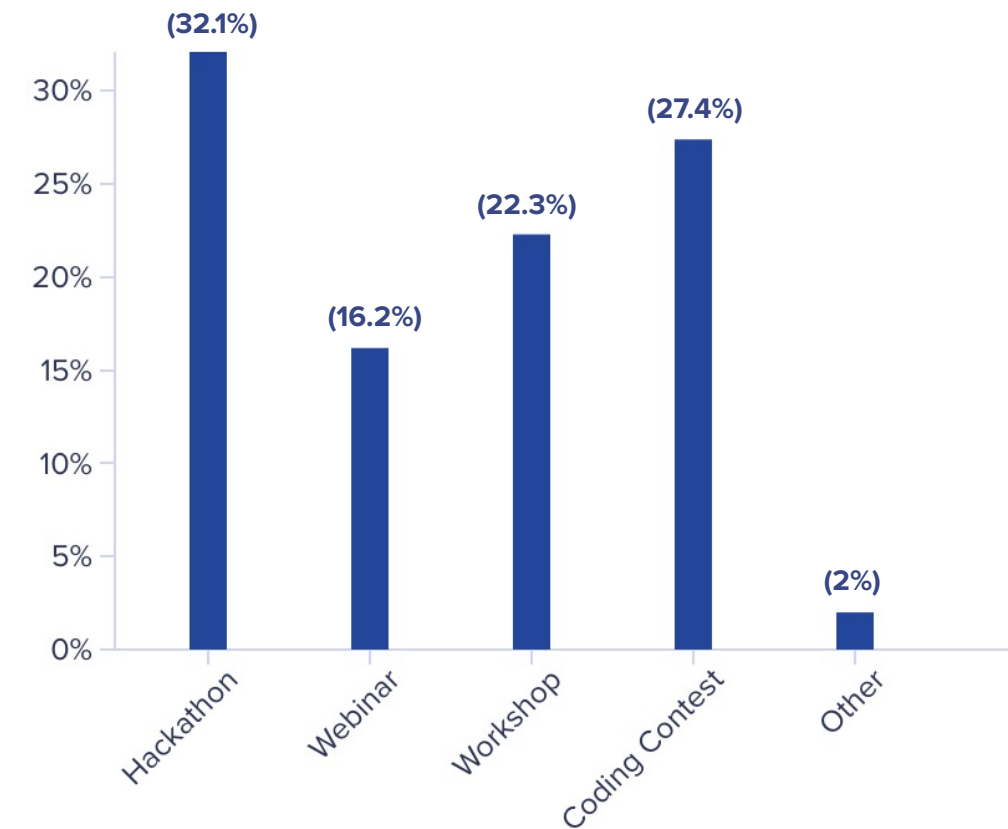
Diversity hiring
has been a priority for most.

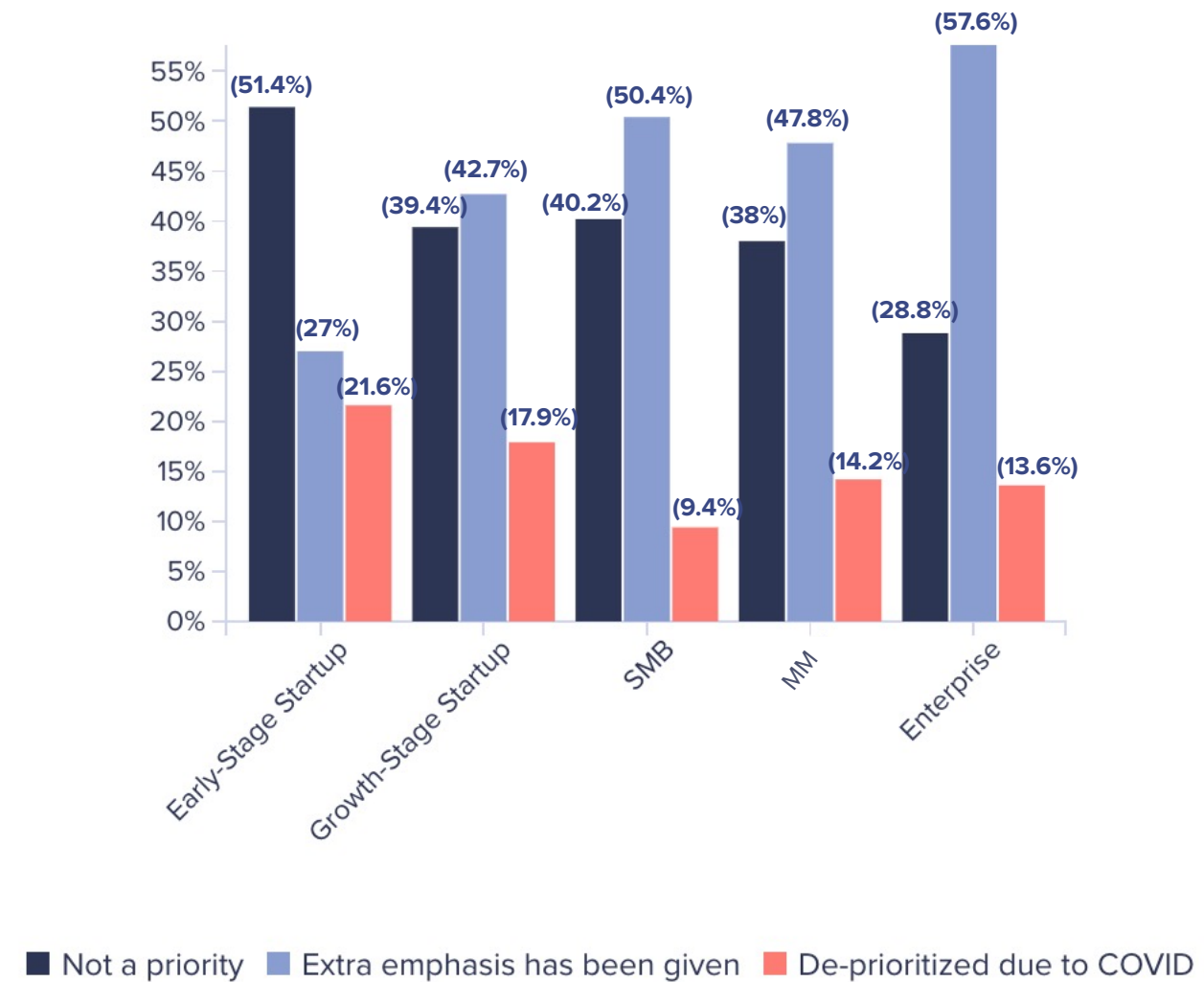It was impossible to stay blind to the topic of diversity and inclusion in 2020. Except for recruiters from early-stage startups, most respondents said that they had prioritized diversity in tech hiring despite COVID-related constraints.

Over 47% of millennials want to work at diverse companies but tech's lack of diversity and unconscious bias have always been a problem. Hopefully, 2020 will help companies make strides in the right direction.

Prioritizing Diversity in Tech Hiring

Category	Not a priority	Extra emphasis has been given	De-prioritized due to COVID
Early-Stage Startup	(51.4%)	(27%)	(21.6%)
Growth-Stage Startup	(39.4%)	(42.7%)	(17.9%)
SMB	(40.2%)	(50.4%)	(9.4%)
MM	(38%)	(47.8%)	(14.2%)
Enterprise	(28.8%)	(57.6%)	(13.6%)

■ Not a priority ■ Extra emphasis has been given ■ De-prioritized due to COVID
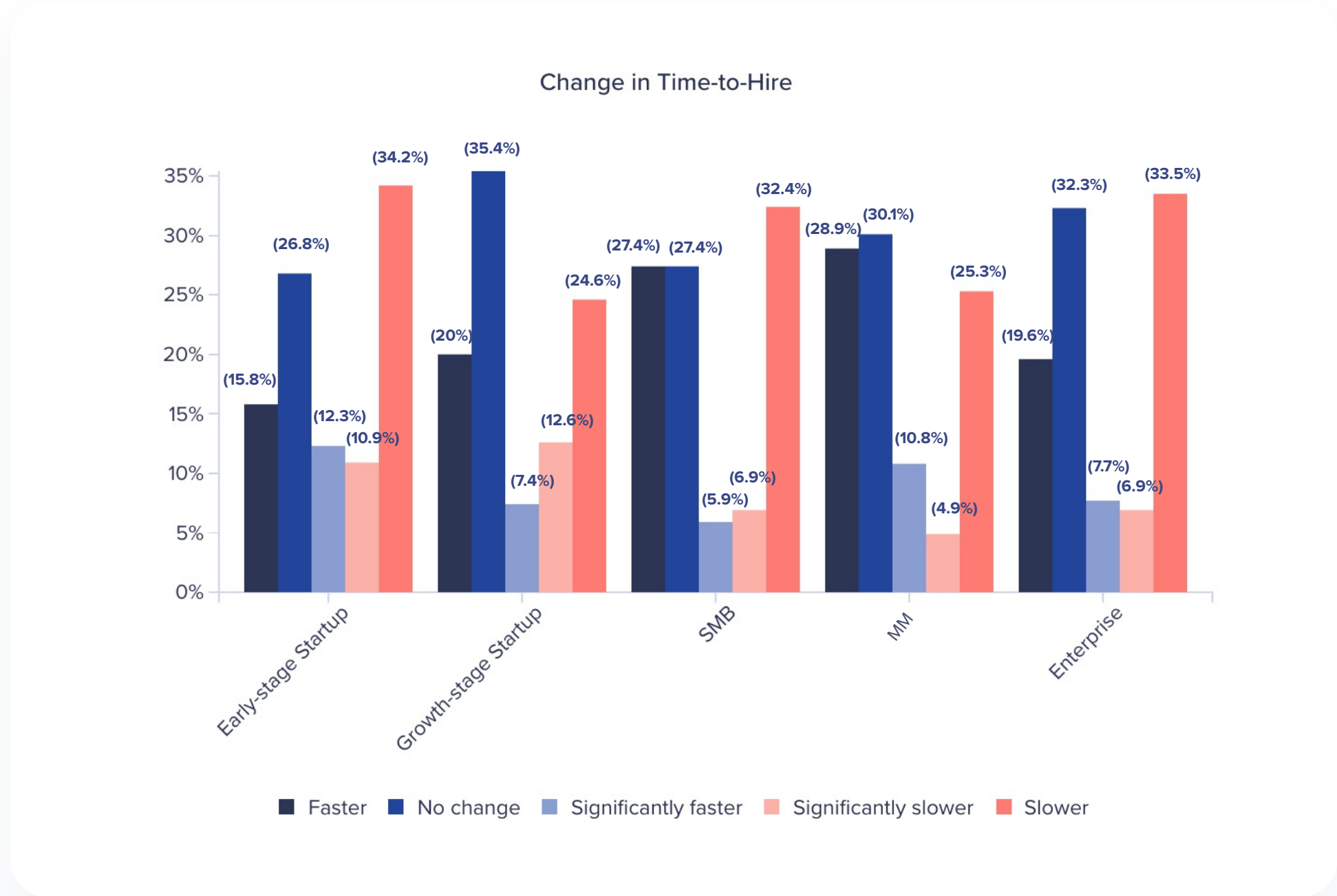
Time-to-Hire remains unchanged for most recruiters, post-COVID.

Across the board, most recruiters say that their Time-to-Hire (TTH) remained unaffected despite the pandemic. However, a significant number of recruiters in enterprises said that it took longer to hire the right talent, post-COVID.

As companies continue to identify unique priorities based on the new needs of employees and customers, they need skilled developers who can enable both change and transformation. With COVID and the need to augment traditional human interaction, finding the right talent will be even more important for recruiters.

Change in Time-to-Hire

Legend: Faster, No change, Significantly faster, Significantly slower, Slower

Early-stage Startup: (15.8%), (26.8%), (12.3%), (10.9%), (34.2%)
Growth-stage Startup: (20%), (35.4%), (7.4%), (12.6%), (24.6%)
SMB: (27.4%), (27.4%), (5.9%), (6.9%), (32.4%)
MM: (28.9%), (30.1%), (10.8%), (4.9%), (25.3%)
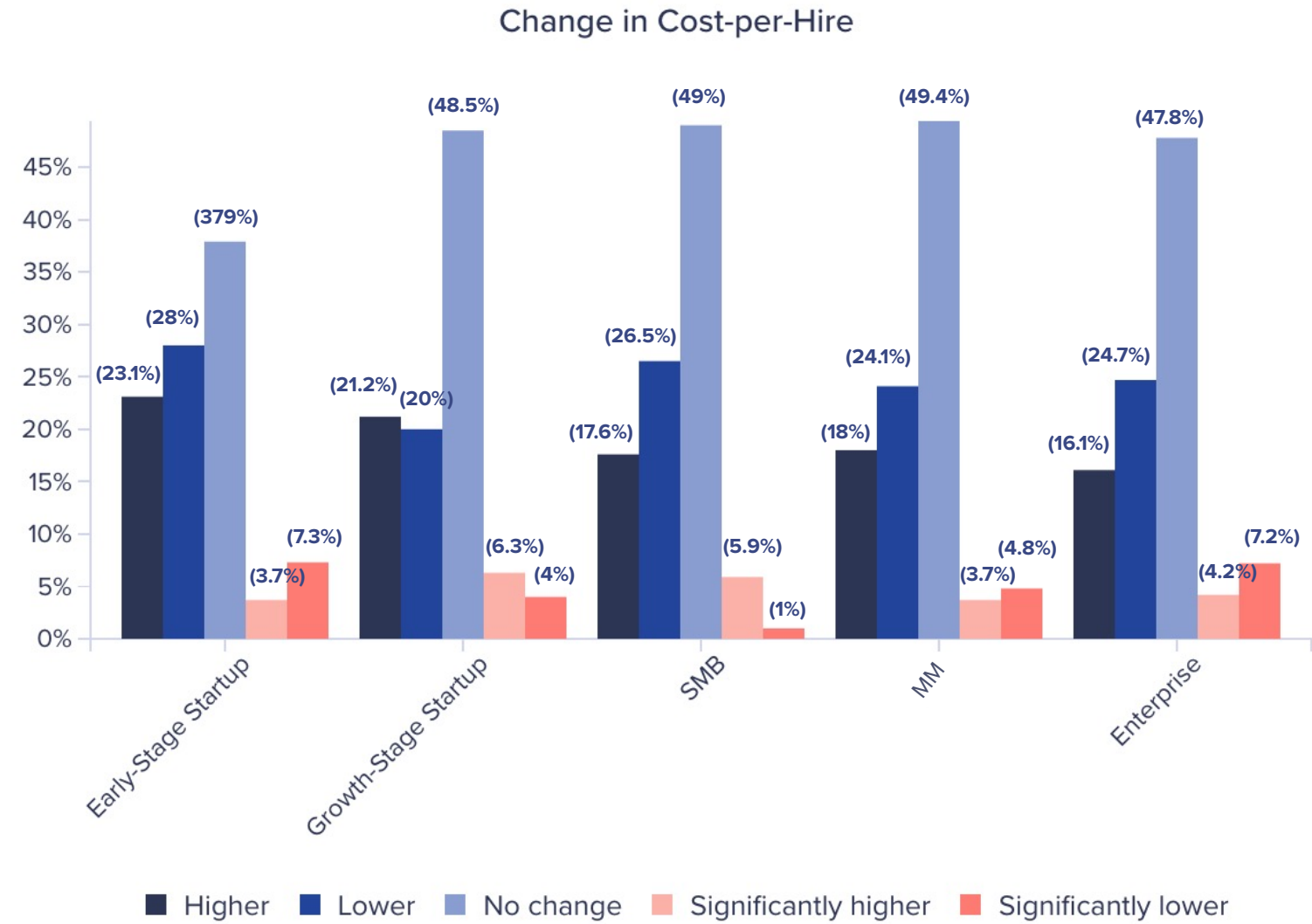Enterprise: (19.6%), (32.3%), (7.7%), (6.9%), (33.5%)

Cost-per-Hire remains unchanged due to COVID.

Most recruiters working in enterprises said that they saw no change in their Cost-per-Hire (CPH), presumably because they have the right processes and tools in place; thus avoiding delays and extra costs.
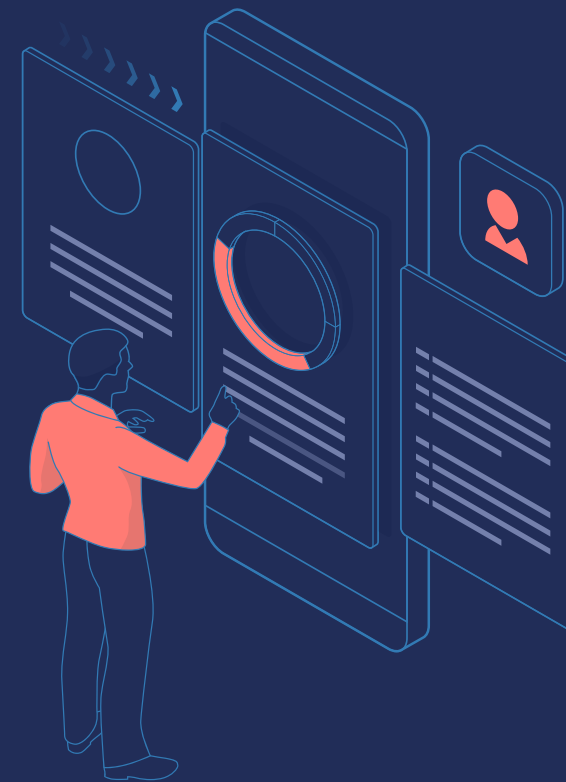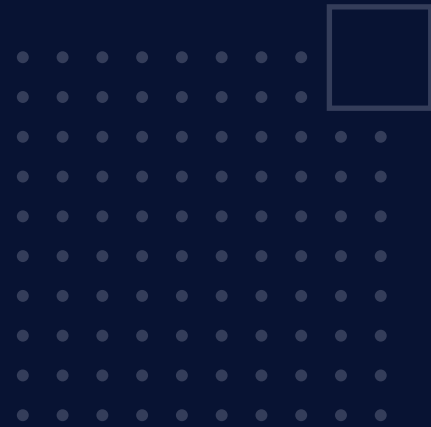
A significant number of respondents across other company sizes said that their Cost-per-Hire had decreased this year. This could be attributed to the adoption of newer, non-traditional methods of tech recruitment. Adopting remote hiring techniques has definitely made processes more cost-effective.

Change in Cost-per-Hire

	Higher	Lower	No change	Significantly higher	Significantly lower
Early-Stage Startup	(23.1%)	(28%)	(379%)	(3.7%)	(7.3%)
Growth-Stage Startup	(21.2%)	(20%)	(48.5%)	(6.3%)	(4%)
SMB	(17.6%)	(26.5%)	(49%)	(5.9%)	(1%)
MM	(18%)	(24.1%)	(49.4%)	(3.7%)	(4.8%)
Enterprise	(16.1%)	(24.7%)	(47.8%)	(4.2%)	(7.2%)

- Higher
- Lower
- No change
- Significantly higher
- Significantly lower

CHAPTER 2: EVALUATING ASSESSMENTS

We have come a long way from the days when drawing an inverted binary tree on paper was the benchmark of a candidate's coding abilities. The HackerEarth Assessments platform, for instance, gives users an in-depth analysis of every assessment taken so that they can make better hiring decisions.

We know though that not every hiring manager has the same requirement, hence we decided to ask them outright how they went about evaluating technical assessments.

Here's what we found out.

Hiring Managers actively look for problem solving skills in junior developers and system design in seasoned candidates.

Different skill sets are prioritized for developers with different degrees of experience. For candidates with over 6 years' experience, System Architecture becomes a valuable skill. Problem solving, however, remains a desired skill across all experience levels.
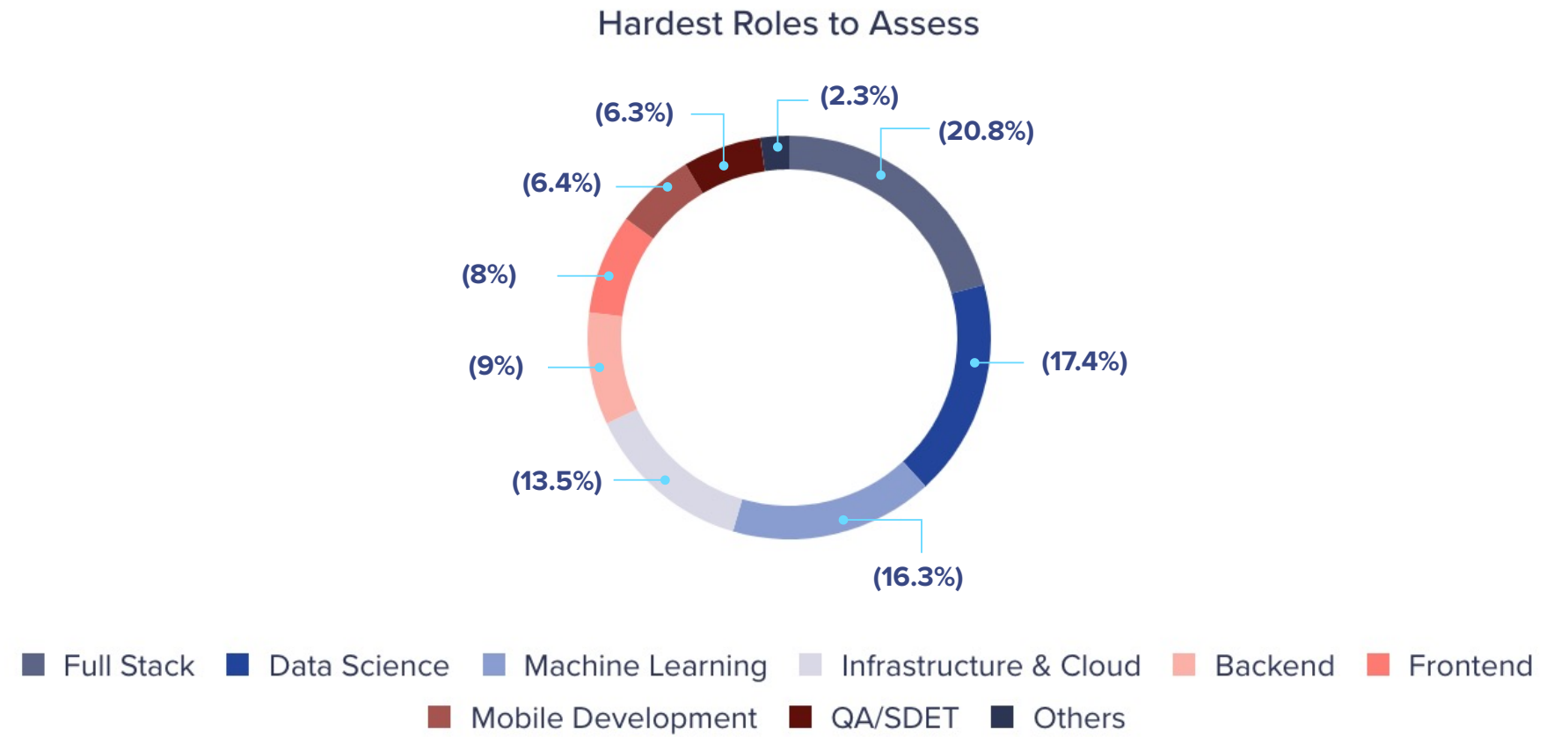
What Hiring Managers Look for in an Engineer
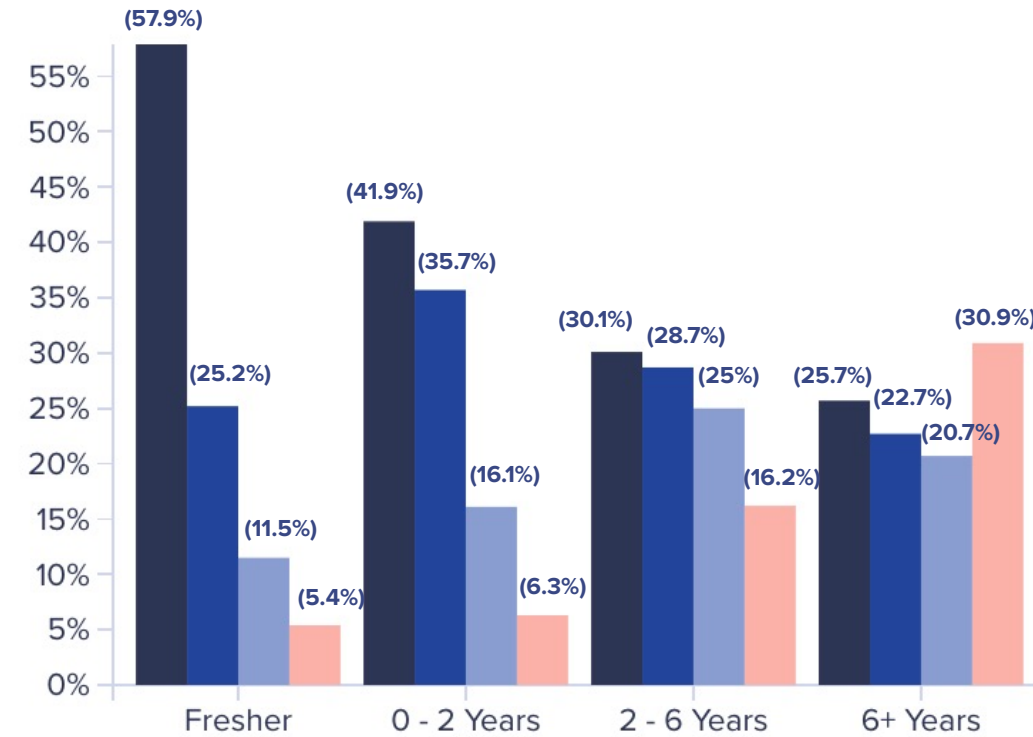
Legend:
- ■ Problem Solving
- ■ Code Quality
- ■ Low Level System Design
- ■ System Architecture Design

Data values:

Fresher: Problem Solving (57.9%), Code Quality (25.2%), Low Level System Design (11.5%), System Architecture Design (5.4%)

0 - 2 Years: Problem Solving (41.9%), Code Quality (35.7%), Low Level System Design (16.1%), System Architecture Design (6.3%)

2 - 6 Years: Problem Solving (30.1%), Code Quality (28.7%), Low Level System Design (25%), System Architecture Design (16.2%)

6+ Years: Problem Solving (25.7%), Code Quality (22.7%), Low Level System Design (20.7%), System Architecture Design (30.9%)

Full Stack is the hardest role to assess.

Evaluating a candidate's coding skills is hard, both with and without a tool. According to our analysis, Full Stack, Data Science, and Machine Learning roles topped the charts.

Reason: these roles are an amalgamation of multiple skills, and creating customized tests and accurate assessment parameters for each can be difficult.

Hardest Roles to Assess

(6.3%) (2.3%) (20.8%)
(6.4%)
(8%)   (17.4%)
(9%)
(13.5%)
(16.3%)

■ Full Stack ■ Data Science ■ Machine Learning ■ Infrastructure & Cloud ■ Backend ■ Frontend
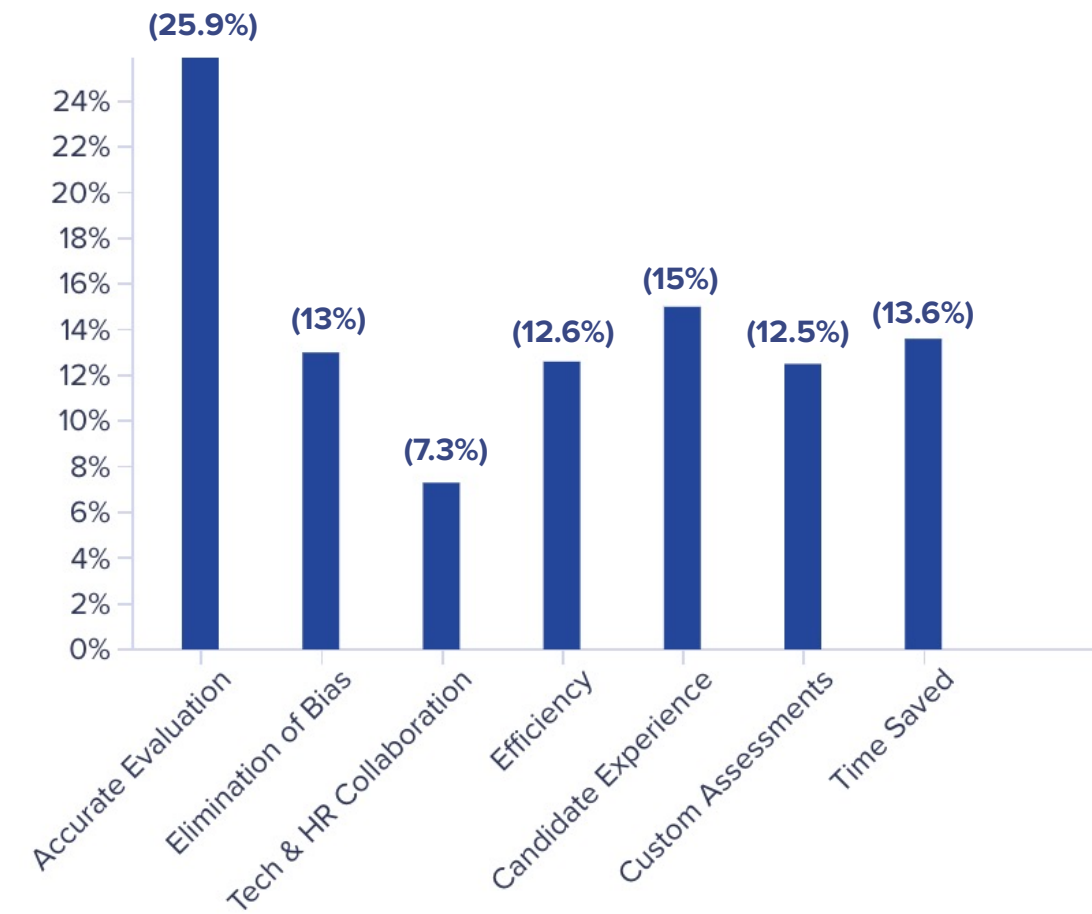■ Mobile Development ■ QA/SDET ■ Others

Accuracy in evaluation is the most important capability of an assessment tool.

Accuracy in evaluation is an important criteria for hiring managers who use a virtual assessment platform for tech hiring.

They also swear by its power to save time in logistics and travel, eliminate unconscious bias, and improve overall candidate experience.

The Most Important Capability of an Assessment Tool
(What the Users Say)

Bar chart values:
- Accurate Evaluation: (25.9%)
- Elimination of Bias: (13%)
- Tech & HR Collaboration: (7.3%)
- Efficiency: (12.6%)
- Candidate Experience: (15%)
- Custom Assessments: (12.5%)
- Time Saved: (13.6%)

Accuracy in evaluation is the prime reason for non-users to make the switch.

As previously stated, non-users say that accuracy remains the top reason to switch over to an assessment tool, but they'd also consider using a tool to eliminate bias and standardize their hiring.
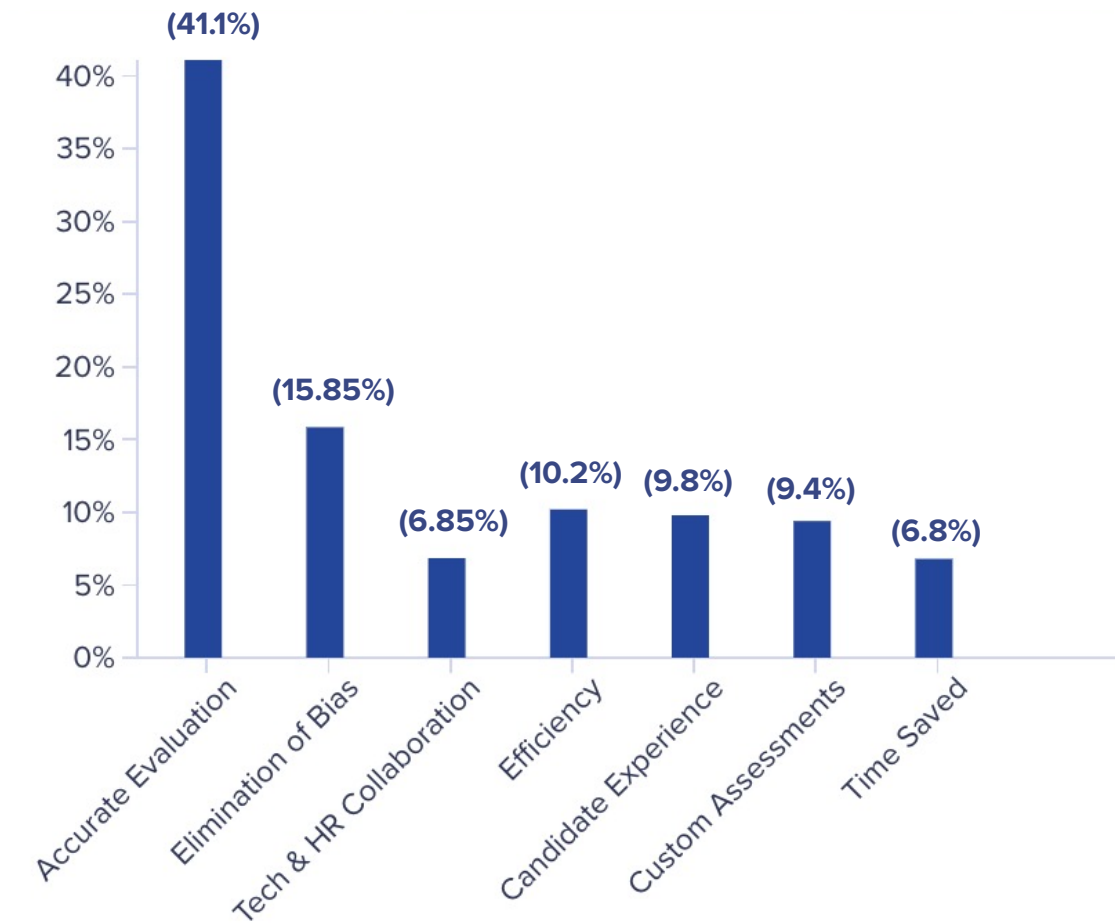
In India, 13% of the respondents chose bias-free hiring as their main reason to use an assessment tool.

Thinking of switching over to an assessment tool?
Switch over to HackerEarth: the most accurate assessment tool on the market.

Learn more

The Most Important Capability of an Assessment Tool
(What Non-Users Want)

Bar chart data:
- Accurate Evaluation: (41.1%)
- Elimination of Bias: (15.85%)
- Tech & HR Collaboration: (6.85%)
- Efficiency: (10.2%)
- Candidate Experience: (9.8%)
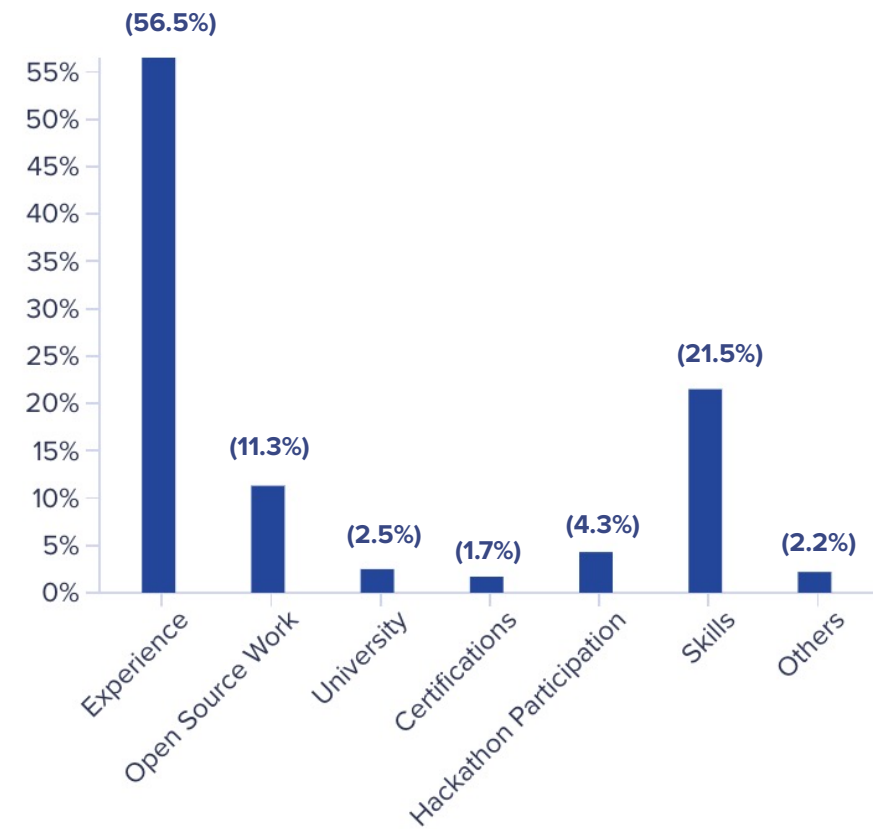- Custom Assessments: (9.4%)
- Time Saved: (6.8%)

In the absence of a coding assessment platform, recruiters look at skills and experience to screen developers.
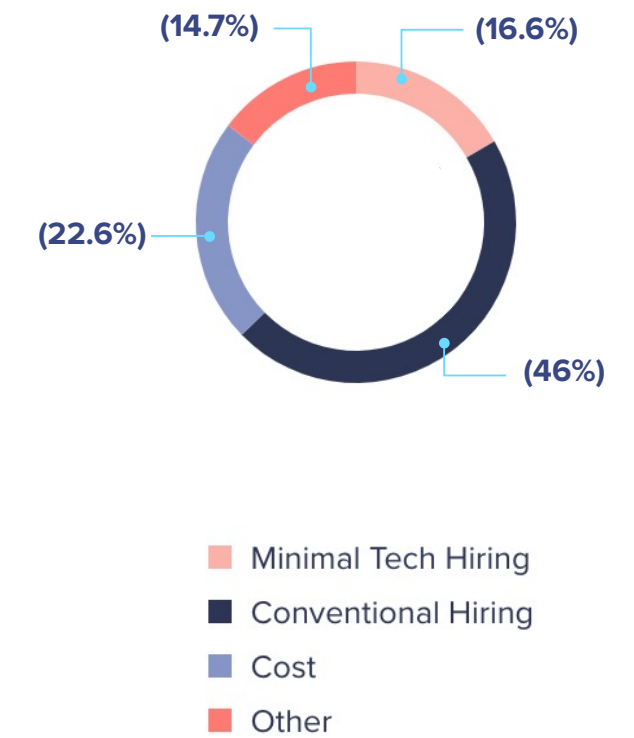
We were, however, thrilled to see that for most recruiters a candidate's pedigree ranked low on the radar, and skill-based hiring has been gaining popularity with 21.5% of recruiters choosing this over other options.

COVID has accelerated the shift towards remote hiring tools. Of the respondents who weren't using an assessment tool before COVID, 42% have now become adopters. In India, this figure increases to 47%.
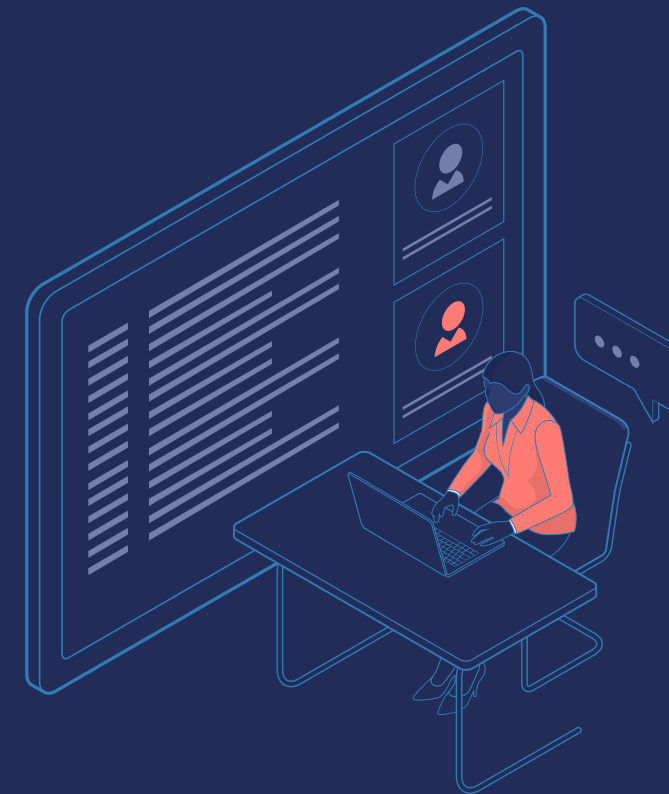
What Recruiters Look for During Initial Screening

- Experience (56.5%)
- Open Source Work (11.3%)
- University (2.5%)
- Certifications (1.7%)
- Hackathon Participation (4.3%)
- Skills (21.5%)
- Others (2.2%)

Reasons for Not Using an Assessment Tool

- (14.7%)
- (16.6%)
- (22.6%)
- (46%)

Legend:
- Minimal Tech Hiring
- Conventional Hiring
- Cost
- Other

CHAPTER 3:
ACING
THE INTERVIEW

After a thorough screening and assessment process comes the dreaded interview. Tech interviews are known to be strenuous and intense. Interviewers are known to ask candidates everything from work experience to their Netflix watch list. Google's current CEO Sundar Pichai famously went through nine rounds of interviews in 2014 before getting hired as SVP of Product Management.

We wanted to get inside the minds of the managers taking these interviews in the era of COVID. What has changed, and what remains the same? Read on for our key takeaways.

Video conferencing platforms are the most popular method for conducting coding interviews remotely.
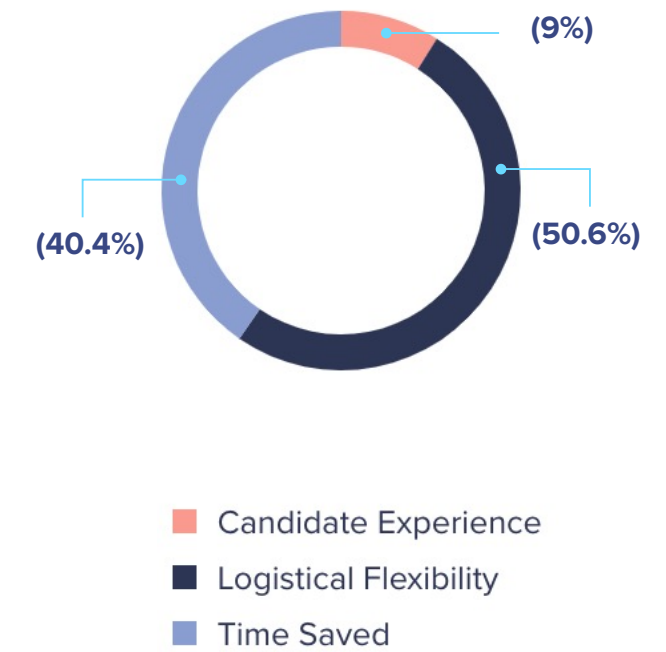
Video conferencing software like Zoom have been a favorite for conducting interviews, but they lack built-in code editing features. Meaning that most tech hiring managers had no way to assess a candidate's coding capabilities in real time. An encouraging trend here is the uptick in managers who prefer coding interview tools over other methods. Hiring managers seem to love the flexibility that coding interview tools offer, both in terms of logistics as well as time saved.

It's no wonder, given that these tools, with their built-in features like pair-programming and real-time code editing, are tailor-made to enhance interview quality and candidate experience.

How Coding Interviews Are Conducted Remotely

- Virtual Conferencing: (77.8%)
- Online Text Editors: (5.9%)
- Coding Interview Tools: (11.1%)
- Others: (5.2%)
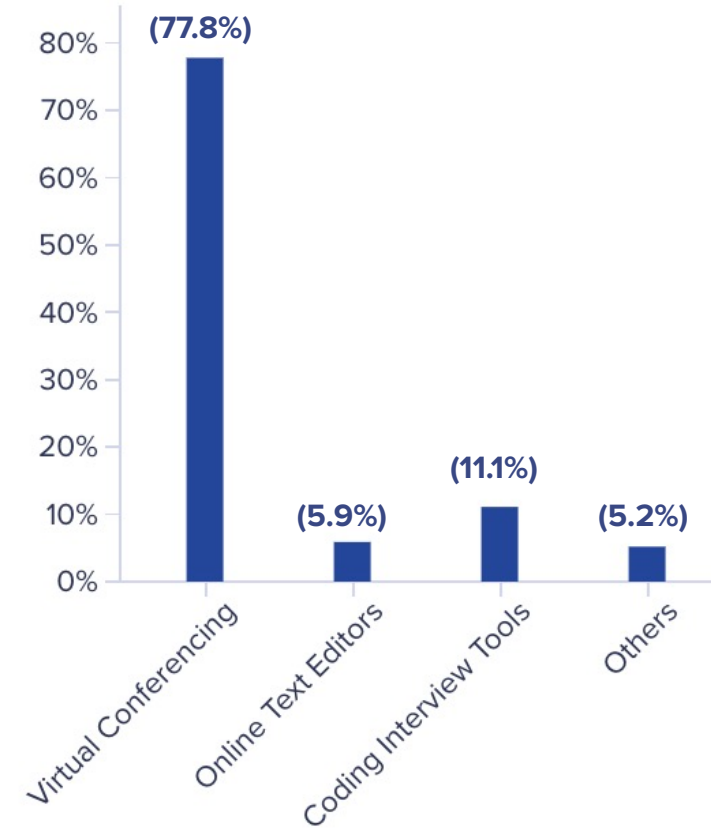
Benefits of Remote Interviews

- (9%) Candidate Experience
- (50.6%) Logistical Flexibility
- (40.4%) Time Saved

Collaborative code editing is the top reason to make the switch to coding interview tools.

Both recruiters and hiring managers attest that collaborative code editors are a huge benefit of coding interview tools, and see value in their developer-friendly user experience. Further, most managers look for good communication skills, a nice temperament, and culture fit. Yes, despite COVID, culture fit remains a priority while hiring tech talent.

Benefits of Pair Programming
(As per Recruiters)

- Draw-on-Screen
- Code Editor with Video Call
- Collaborative Code Editor
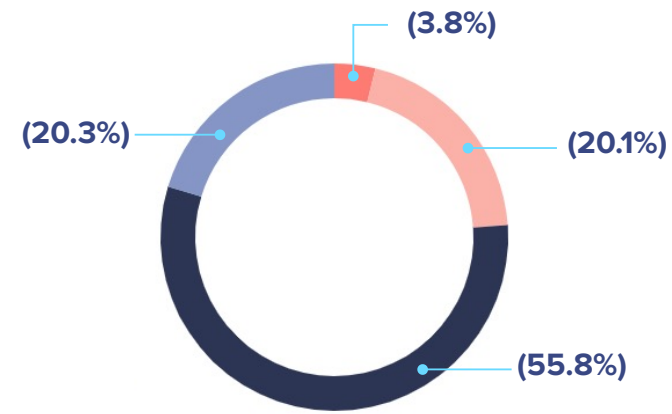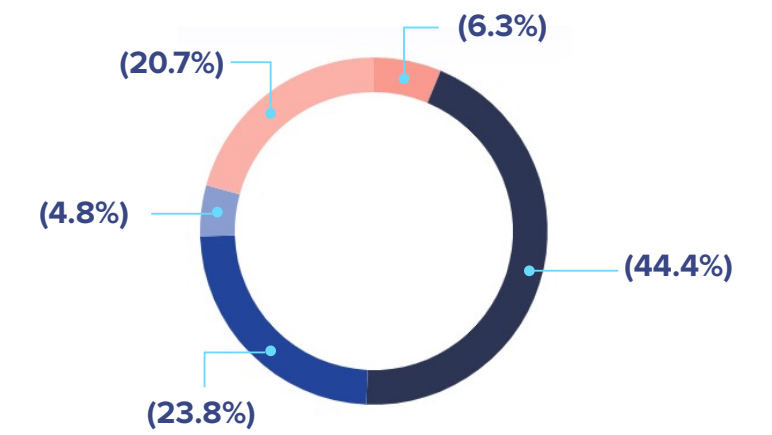- Dev-focused UX

(1.9%)
(19.1%)
(22.1%)
(56.9%)
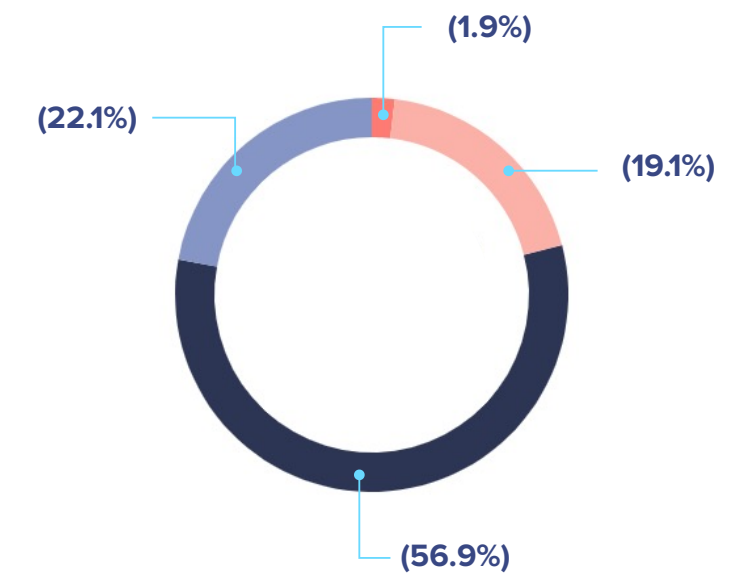
Over 15,000 remote coding interviews have been conducted on HackerEarth's FaceCode since March 2020!

Learn more

Benefits of Pair Programming
(As per Hiring Managers)

(3.8%)

(20.1%)

(20.3%)

(55.8%)

- Draw-on-Screen
- Code Editor with Video Call
- Collaborative Code Editor
- Dev-focused UX

Soft Skills That Hiring Managers Look For

(6.3%)

(20.7%)

(44.4%)

(4.8%)

(23.8%)

- Body Language
- Communication
- Culture Fit
- Other
- Temperament

CHAPTER 4:
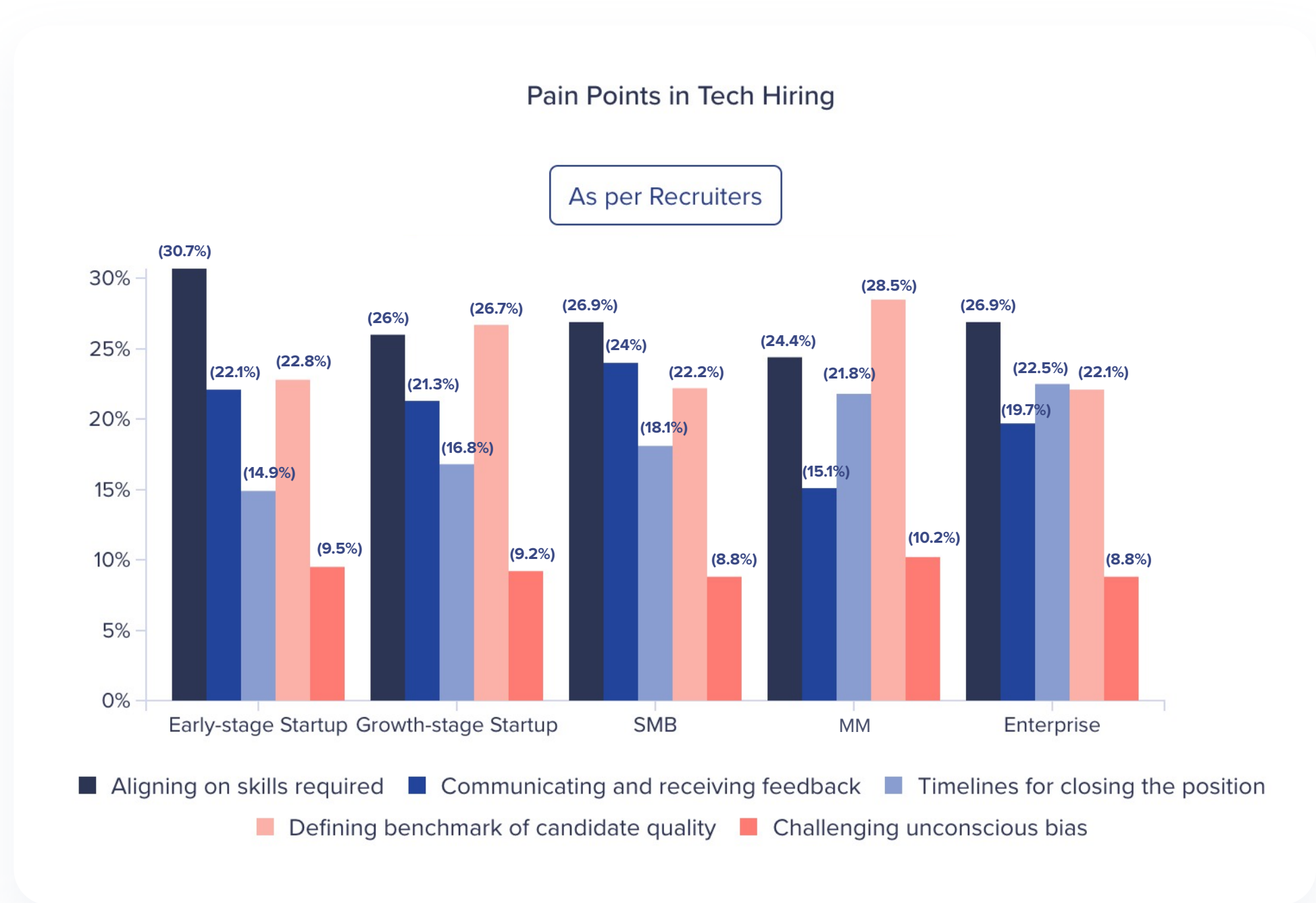# CHALLENGES
IN TECH HIRING

A healthy tech team can be created only when both recruiters and hiring managers have the same expectations with regard to skill, time, and standardized benchmarks. While hiring developers has never been easy, COVID has definitely made it trickier. Expectations have a way of getting lost in translation over text and calls and creating hiring benchmarks gets ever more difficult.

This is what we learned about the biggest challenges tech recruiters and hiring managers have faced this year.

Aligning on required skills is the biggest pain point for recruiters and hiring managers.
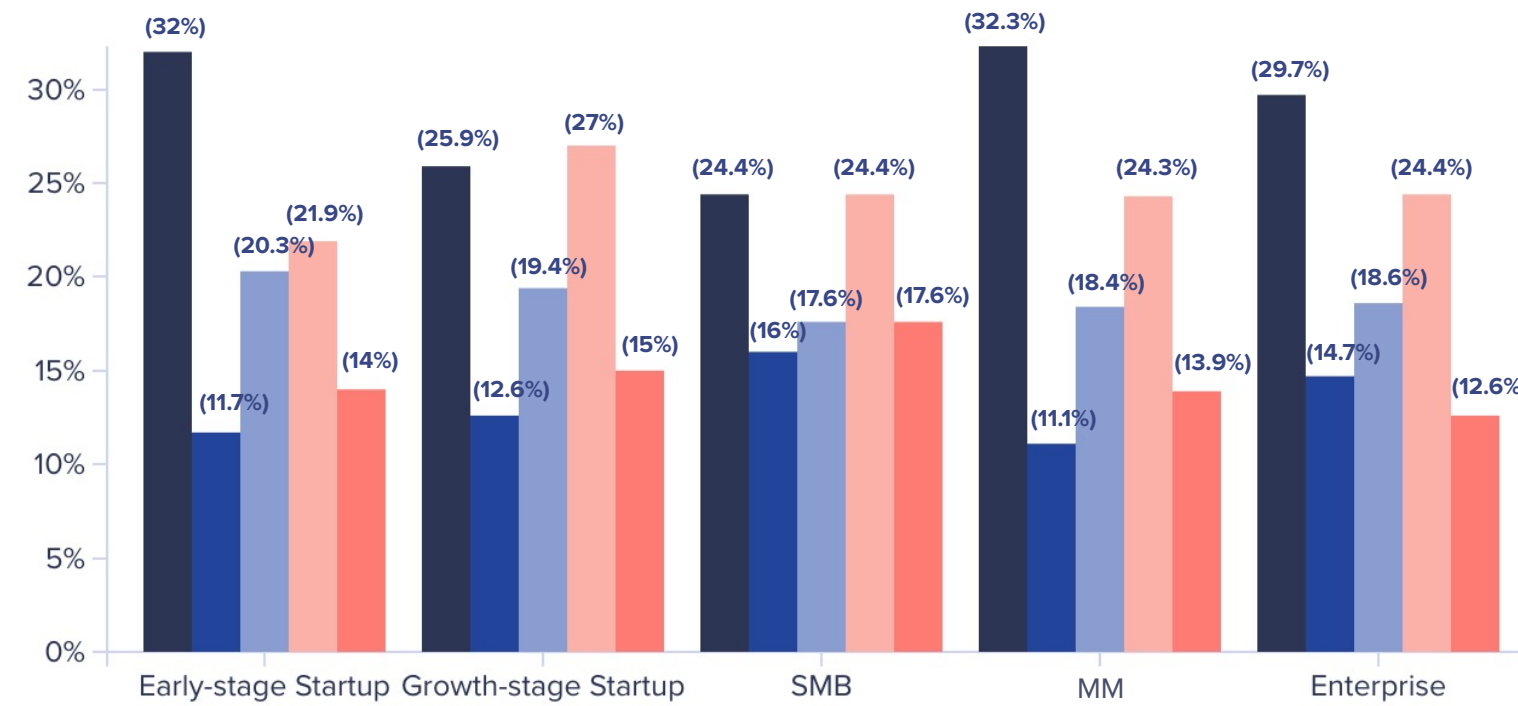
Finding common ground with the hiring manager has always been a sore issue for recruiters. They say that aligning necessary skill sets for a role, as well as defining a benchmark for candidate quality are the most difficult parts of the process. Communication, too, seems to be a problem for recruiters and hiring managers alike.

Pain Points in Tech Hiring

As per Recruiters

	Early-stage Startup	Growth-stage Startup	SMB	MM	Enterprise
Aligning on skills required	30.7%	26%	26.9%	24.4%	26.9%
Communicating and receiving feedback	22.1%	21.3%	24%	15.1%	19.7%
Timelines for closing the position	14.9%	16.8%	18.1%	21.8%	22.5%
Defining benchmark of candidate quality	22.8%	26.7%	22.2%	28.5%	22.1%
Challenging unconscious bias	9.5%	9.2%	8.8%	10.2%	8.8%

■ Aligning on skills required   ■ Communicating and receiving feedback   ■ Timelines for closing the position

■ Defining benchmark of candidate quality   ■ Challenging unconscious bias

Pain Points in Tech Hiring

As per Hiring Managers

■ Aligning on skills required ■ Communicating and receiving feedback ■ Timelines for closing the position

■ Defining benchmark of candidate quality ■ Challenging unconscious bias

Across the board, sourcing remains the foremost challenge for all tech recruiters.

Although the difficulties associated with all the challenges presented to them were prominent, Sourcing seems to be the most difficult.

Candidates ghosting once an offer is rolled out is also a huge concern, alongside aligning with all stakeholders on role expectations and short hiring timelines.

About 16.75% of respondents also called out eliminating unconscious bias as a key issue.

The Main Hiring Challenges

(22.6%)
(20.5%)
(20.2%)
(20%)
(16.8%)

- Candidates Ghosting
- Sourcing
- Expectation Alignment
- Tackling Bias
- Short Hiring Timelines
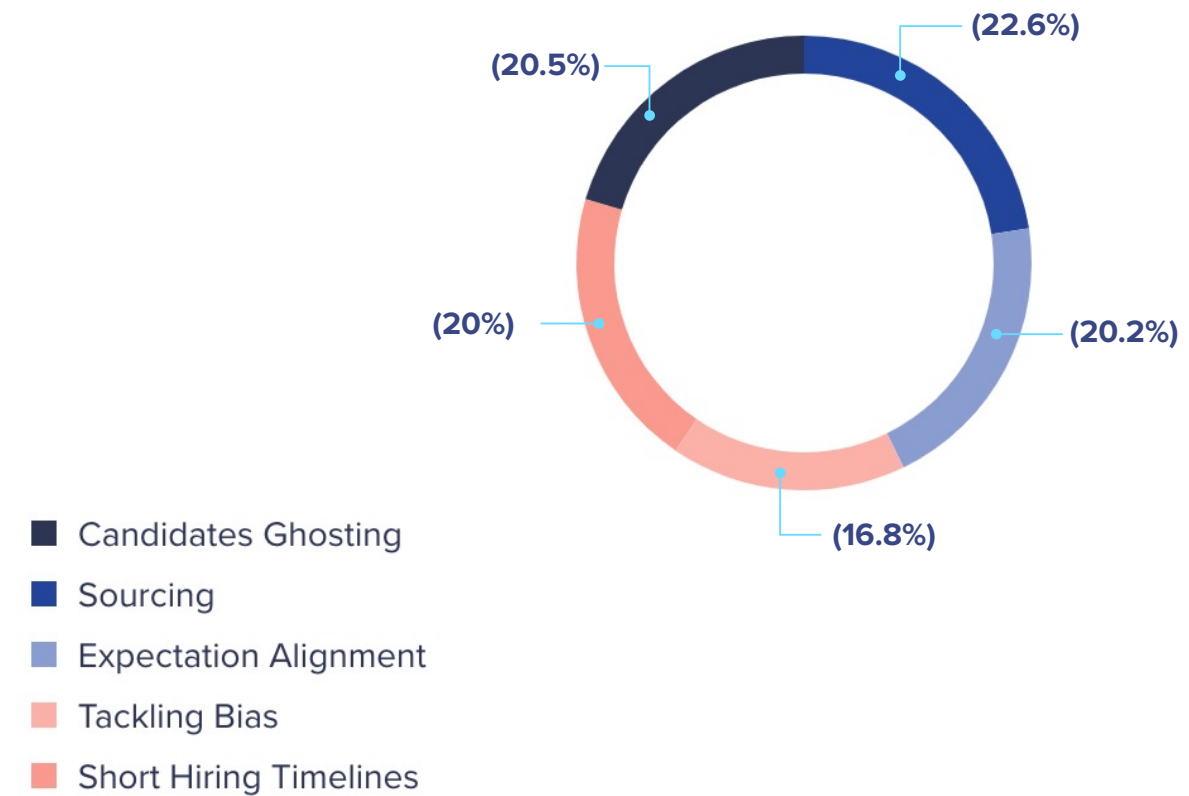
Dealing with bias in tech hiring

With COVID, there is a renewed awareness about the unconscious biases prevalent in our society; and by extrapolation, in our workplaces. It is a well-known fact that tech hiring is riddled with such biases.

Developers from non-Ivy league colleges face a lack of opportunities when looking for jobs. The percentage of African-American employees in tech remains low*, even in the big companies.

African-American Employees in Big Tech

2.9%	3.8%	4.4%	4.5%	6%
salesforce	facebook	slack	Microsoft	twitter

This number decreases further when we look at those in leadership roles. Research shows that 1 in every 5 women experience gender discrimination during hiring.

Source: *LA Times **PWC

Hiring managers still believe in 'knowing' their candidates before an interview.

We asked hiring managers how comfortable they were with blind recruiting practices. **Across the board, blind hiring seems not to have too many takers as most managers think personal information helps break the ice in tech interviews.**

Our take: HackerEarth has always believed in skills being the most important currency in the tech world. We stand by skill-based, objective tech hiring which allows every developer a fair chance, and encourage bling recruiting practices as a step forward in the right direction.

The Importance of PII

(41.9%)   (21.7%)

(36.4%)

■ Not Important
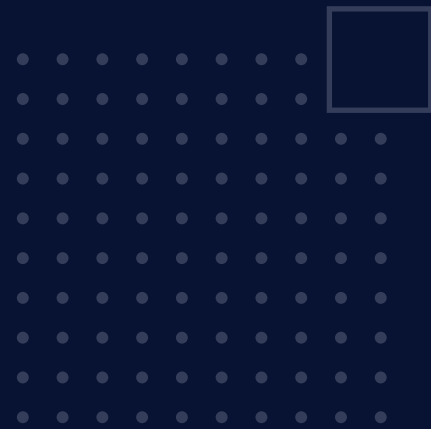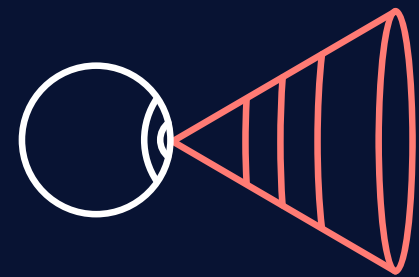■ It helps
■ Very important
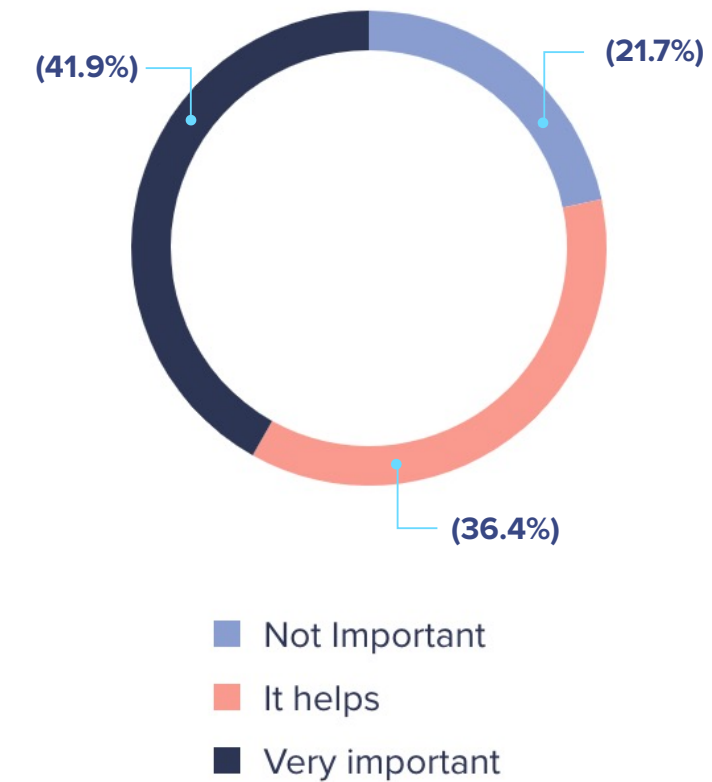
Companies believe in actively training recruiters to recognize and remove unconscious biases.

In the hiring process, bias seeps in when we prefer one candidate over another based solely on first impressions. A hiring manager's preference for personal information captured on a candidate's resume can be a breeding ground for unconscious biases, but thankfully our recruiters say that they are aware of how real the threat is. When asked about how they challenge these biases, the overwhelming majority said that they train hiring managers to recognize their personal prejudices and hire objectively .

How Recruiters Deal With Bias

Bar chart titled "How Recruiters Deal With Bias" with categories:
- Have Plans: (16.6%)
- Have a Process: (32%)
- Actively Trained: (33.3%)
- Relies on Tools: (16.8%)
- Others: (1.3%)

Y-axis: 0%, 5%, 10%, 15%, 20%, 25%, 30%
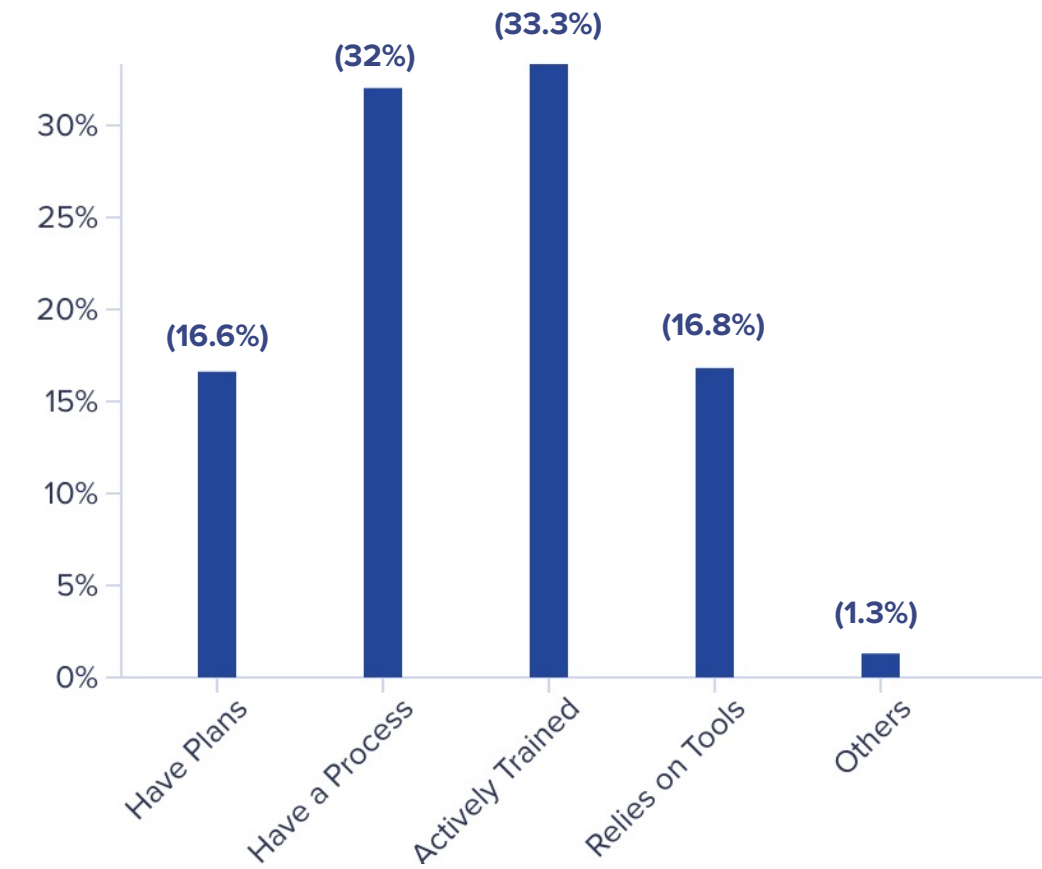
CHAPTER 5: A PEEK AT 2021

Many tech companies have had it hard with layoffs, policy changes, and hiring in 2020. In the new year we hope to leave the worst behind and move forward as a collective. Tech hiring, which was on pause for most of 2020, is expected to surge with 60-70% of organizations getting back to pre-COVID-19 hiring levels by the beginning of 2021.

What roles will they be hiring for? What do they see happening in the tech world in the coming decade? We unpack their predictions in this chapter.

AI (Artificial Intelligence) and ML (Machine Learning) would be the most in-demand skills.

This is in tune with the trends we have seen so far. With growing opportunities for AI and ML specialists in industries as diverse as banking, fintech, public safety, and healthcare, there will be a surge in these roles in the coming days. Our respondents think 2021 will be the year.

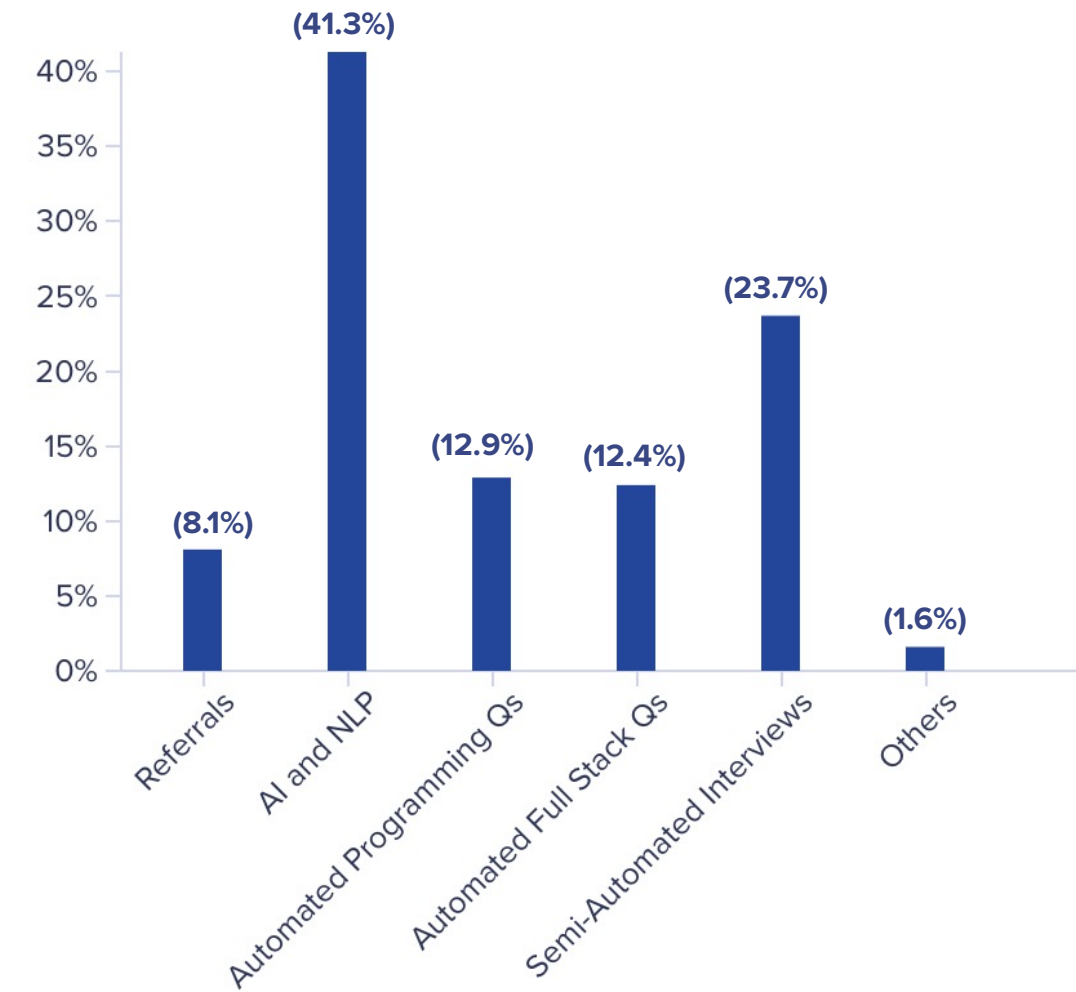

In-Demand Tech Skills - 2021
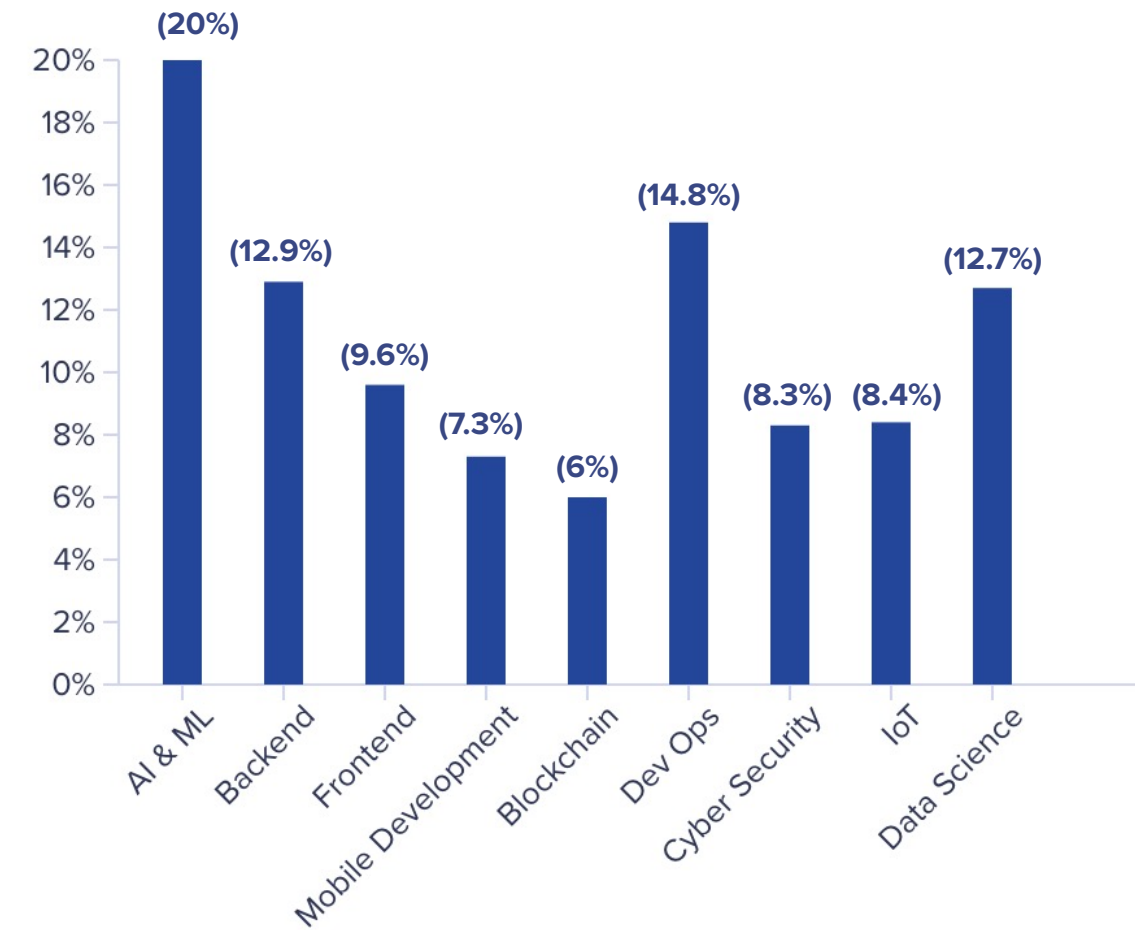
AI, Natural Language Programming, and automation will become a norm in tech hiring.

Our survey has reiterated the fact that manual practices in tech hiring only lead to more loopholes, inefficiency, and challenges for both recruiters and hiring managers. The shift to automation that began a few years ago will now include AI and NLP-based tools with the potential to remove subconscious biases from the hiring process, and save time while screening and assessing.
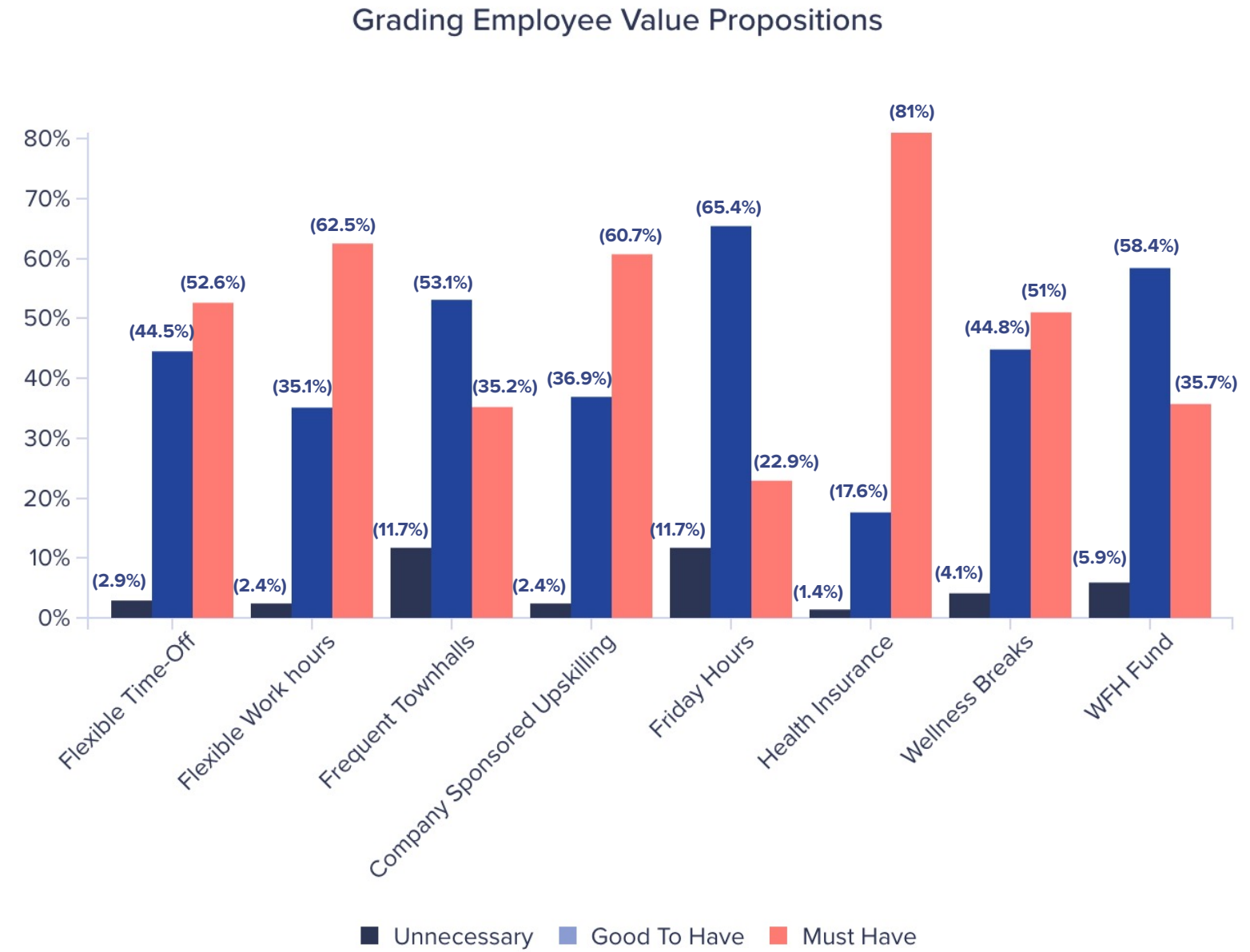
Trends in Hiring Tools - 2021

Bar chart showing:
- Referrals: (8.1%)
- AI and NLP: (41.3%)
- Automated Programming Qs: (12.9%)
- Automated Full Stack Qs: (12.4%)
- Semi-Automated Interviews: (23.7%)
- Others: (1.6%)

Health insurance and flexible work hours will be in-demand perks due to the pandemic.

COVID has changed the nature of perks and EVPs which companies can use to attract talent. While a work-from-home fund and wellness breaks are good to have, recruiters said that more developers were asking about upskilling opportunities than before - proving once more that skills are the only currency in the tech world.

Grading Employee Value Propositions

Bar chart showing percentages for Unnecessary, Good To Have, and Must Have across categories:

- Flexible Time-Off: (2.9%), (44.5%), (52.6%)
- Flexible Work hours: (2.4%), (35.1%), (62.5%)
- Frequent Townhalls: (11.7%), (53.1%), (35.2%)
- Company Sponsored Upskilling: (2.4%), (36.9%), (60.7%)
- Friday Hours: (11.7%), (65.4%), (22.9%)
- Health Insurance: (1.4%), (17.6%), (81%)
- Wellness Breaks: (4.1%), (44.8%), (51%)
- WFH Fund: (5.9%), (58.4%), (35.7%)

■ Unnecessary   ■ Good To Have   ■ Must Have

Coding platforms and bootcamps will continue to be the preferred ways of upskilling.

This echoes what we found in our Developer Survey, earlier in 2020. As tech stacks grow and change frequently, it will become even more important for managers to keep a continuous check on their team's skills before organizing customized bootcamps or coding challenges.

HackerEarth's Learning and Development platform can help you identify skill gaps, and suggest learning paths so that your team can stay ahead of the curve.

Learn more

The Best Ways To Upskill
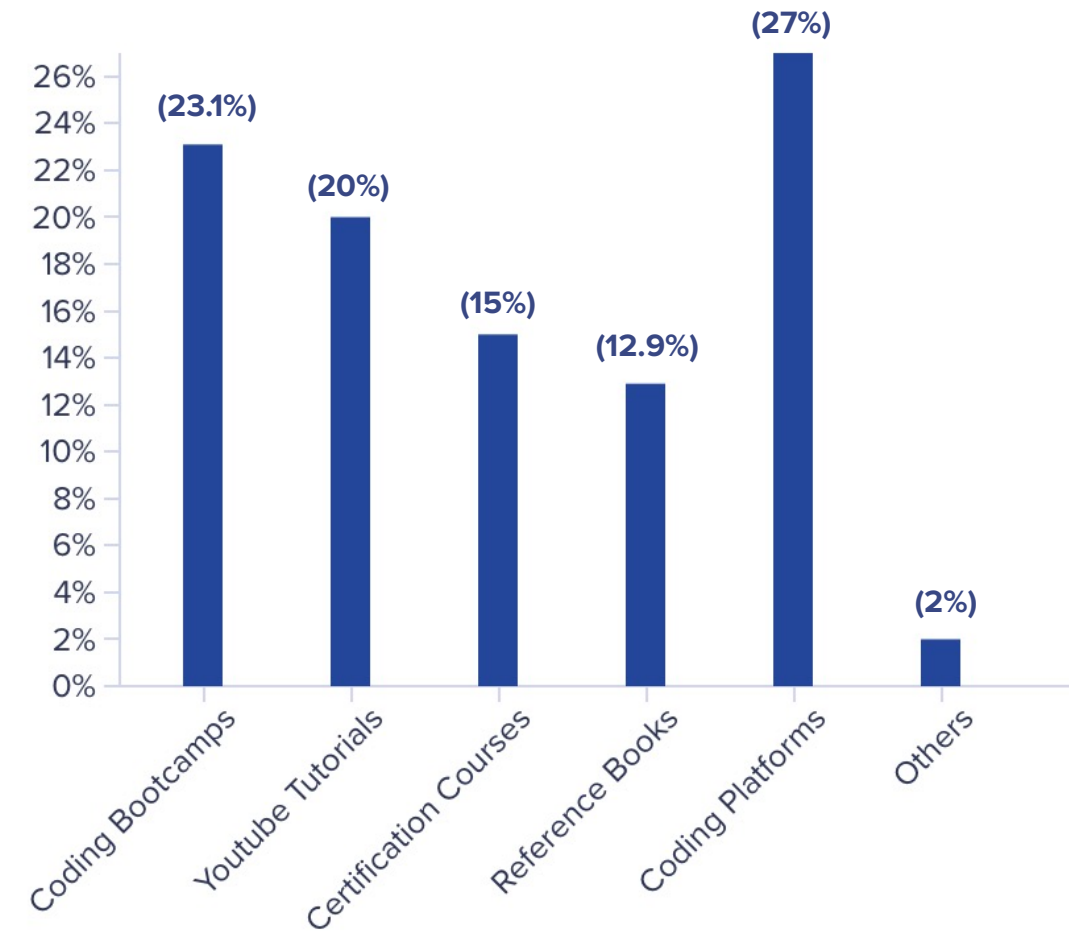
CHAPTER 6: CONCLUSION
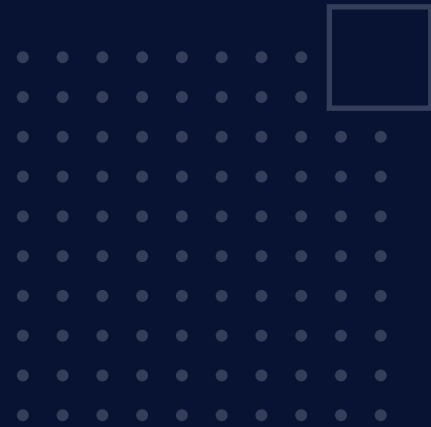
Organizations will be in a completely different hiring environment in 2021. They will face a surge in hiring as they look to make up for lost time. As this survey shows, many organizations have seen the benefits of remote hiring, and many could even keep remote interviews a part of their hiring process well after the pandemic.

There's now a bigger pool of talent that can work from anywhere, and assessing them remotely has never been easier. This will open up a more diverse pool of talent, and the skills needed will shift as new platforms gain momentum. Organizations will also need to shift focus from just improving virtual assessments to creating a more robust and comprehensive Learning and Development programs to retain and engage remote employees.

It will not be enough for hiring managers to provide their recruiting team with a checklist. Keeping communication lines open, and staying aware of the end-to-end latency in the talent pipeline needs to become a habit. In a world as swiftly changing as tech, it will be even more important to keep alive the conversations around mental health and overall wellness sparked by COVID; even when normalcy returns.

And if 2020 was but a dream...

If fantasies came alive, where would tech recruiters work from?Amsterdam, hands down! (no prizes for guessing why) Paris is a close second, with Venice close on its heels.

(14.4%)
(15.2%)
(2.1%)
(2.6%)
(5.6%)
(6.9%)
(18.5%)
(26.2%)
(3.4%)
(5.2%)
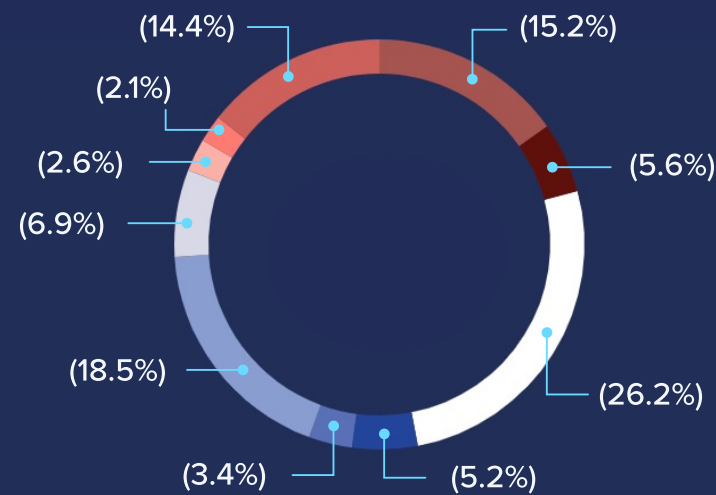
■ Venice ■ Machu Picchu □ Amsterdam
■ Amalfi Coast ■ Krabi ■ Paris
■ Miho no Matsubara ■ Cape Town
■ Da Nang City ■ Bali

The ideal 'superhero' coding colleague? Iron Man won over Batman, Professor Hulk, and even Forge!

(1.1%)
(4.1%)
(5.1%)
(14.3%)
(7.1%)
(13.2%)
(5.2%)
(49.9%)
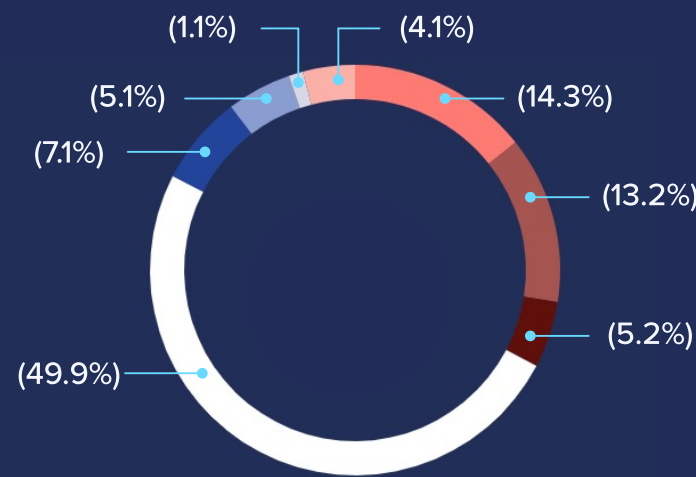
■ Professor Hulk ■ Batman ■ Alfred
□ Iron Man ■ Black Panther ■ Mr. Fantastic
■ Forge ■ Other

In real life though, the kind folks in tech stil resort to a good cup of coffee to beat their coding blues. For them a good vacation is Java by the C-side, eh?

(5.9%)
(21%)
(26.3%)
(7.3%)
(7.5%)
(11.6%)
(12.6%)
(7.8%)
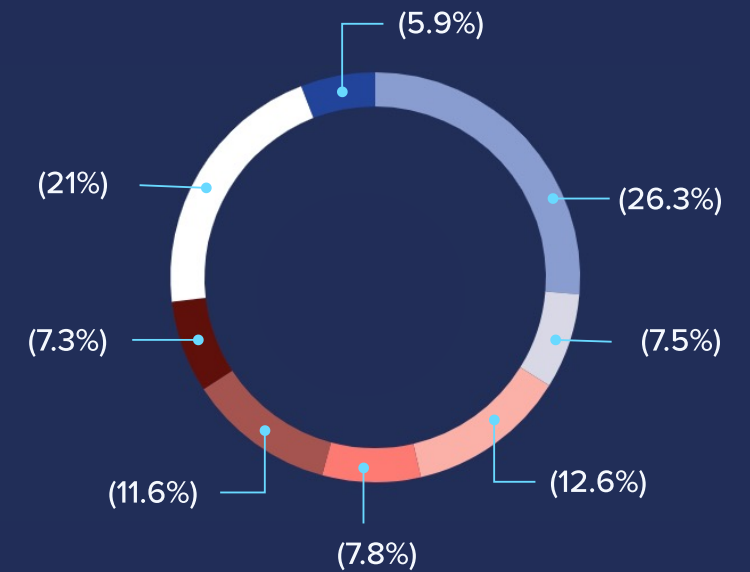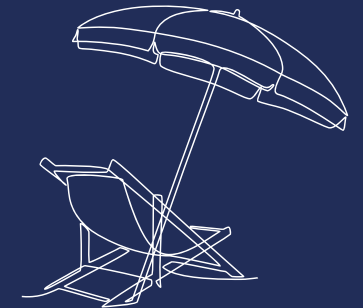
■ Coffee □ Food ■ Exercise
■ Netflix and Chill ■ Music ■ Meditation
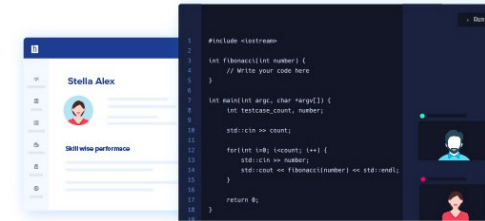□ Doing Nothing ■ Video Games

For developers

Practice programming, prepare for interviews, and level up your coding skills with a community of 5M+ developers
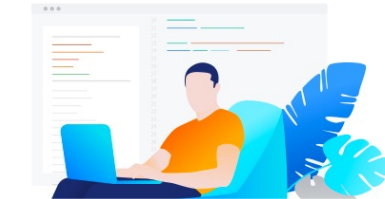
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EBOOK

The definitive guide to hiring a C++ developer

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Assess

Accurately assess tech talent remotely

Interview

Effortlessly conduct remote coding interviews

Upskill

Keep your tech teams ahead of the curve

Engage

Host virtual hackathons to engage internal and external talent