



# How to measure & improve your Mobile DevOps maturity

Shopping edition: the world's first benchmarks from 1600+ teams



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## Why use this guide

Understanding the level of a team's Mobile DevOps performance and maturity alludes many, if not most, organizations.

We see there as being two chief reasons for this.

One, we haven't had a standardized set of metrics that are fine-tuned for the singular challenges faced by mobile teams. And two, no one has put in the effort to survey and benchmark mobile teams against those metrics. Enter MODAS – the Mobile DevOps Assessment.

Using this guide will:

Highlight the DevOps performance metrics that are likely to drive the most business impact for your mobile team.

Provide a way of setting a performance benchmark for your team that's quick and easy to get started with.

Reveal how your team compares to other teams in your niche – which is to say, mobile shopping.

Lead your team on a path to improvement by not only showing which areas of mobile app delivery you should improve, but provide resources to make the change a reality.

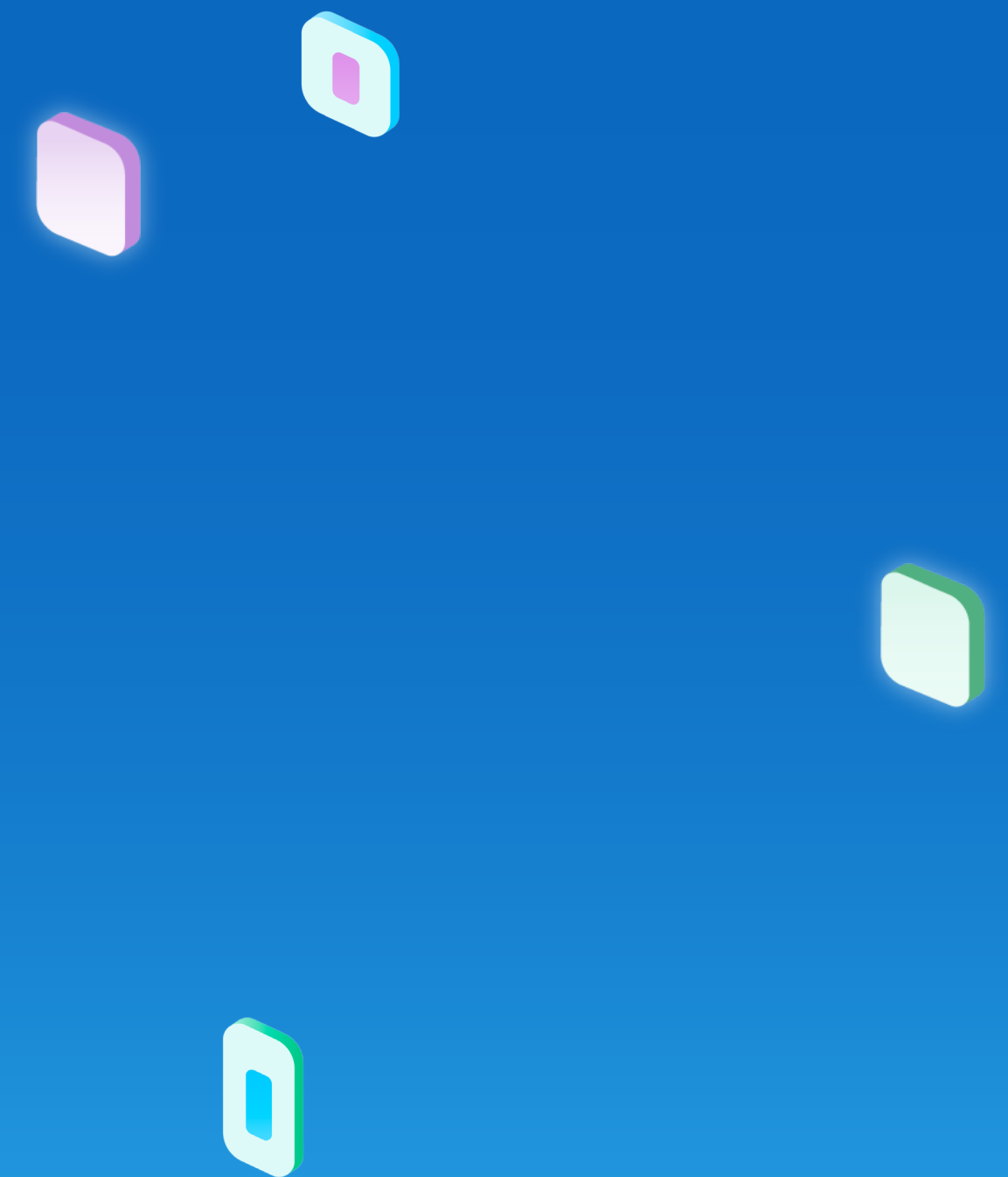
## How to use this guide

The results and resources within this guide are interesting by themselves. But we recommend that you and your team take the MODAS assessment first.

[This link will take you to the MODAS assessment](#)

Comparing your own results with the following benchmarks will show you where your team could stand to improve. And once you know those areas – as defined by the stages of MODAS – you can use the resources section of this guide to help you go further.

And if you would prefer to discuss your results and find out how you can improve, [you can contact our team](#) – one of our experts would be more than happy to assist.





# Understanding the MODAS metrics



# MODAS: Assessing Mobile DevOps performance, productivity, and maturity

MODAS is the first assessment of its kind, designed specifically for the challenges and opportunities that face mobile teams.

We have split the app delivery process into four key stages – Creation, Testing, Deployment, and Monitoring. And we have added a fifth, Collaboration, which spans the entire process.

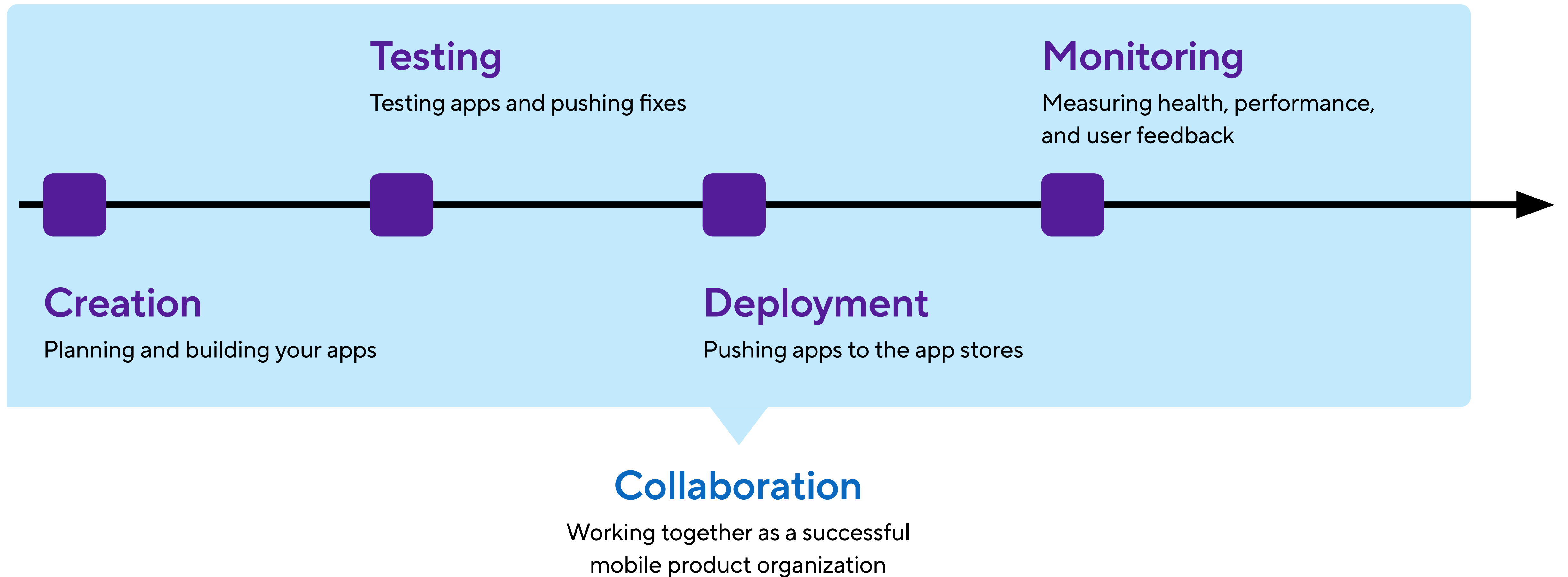
For us at Bitrise, the first step of this journey was [releasing the survey](#). We have now had over 1600 teams provide responses to the survey.

The next step is analysing that data to highlight what performance marks out a high performer from a low performer, as we do in this report specifically for shopping teams.

Following this, we will be delving even deeper, highlighting the specific processes, tools, and attitudes that cause high performance. We look forward to sharing this with you later in the year.



## The MODAS stages







# The MODAS benchmarks

In this section, we focus on the five key performance measures of MODAS – the first question within each section of the assessment.

We will show you what makes a team an average performer and what makes them a top performer. And, we have also presented other interesting insights from shopping respondents – taken from the supplementary questions across each stage.



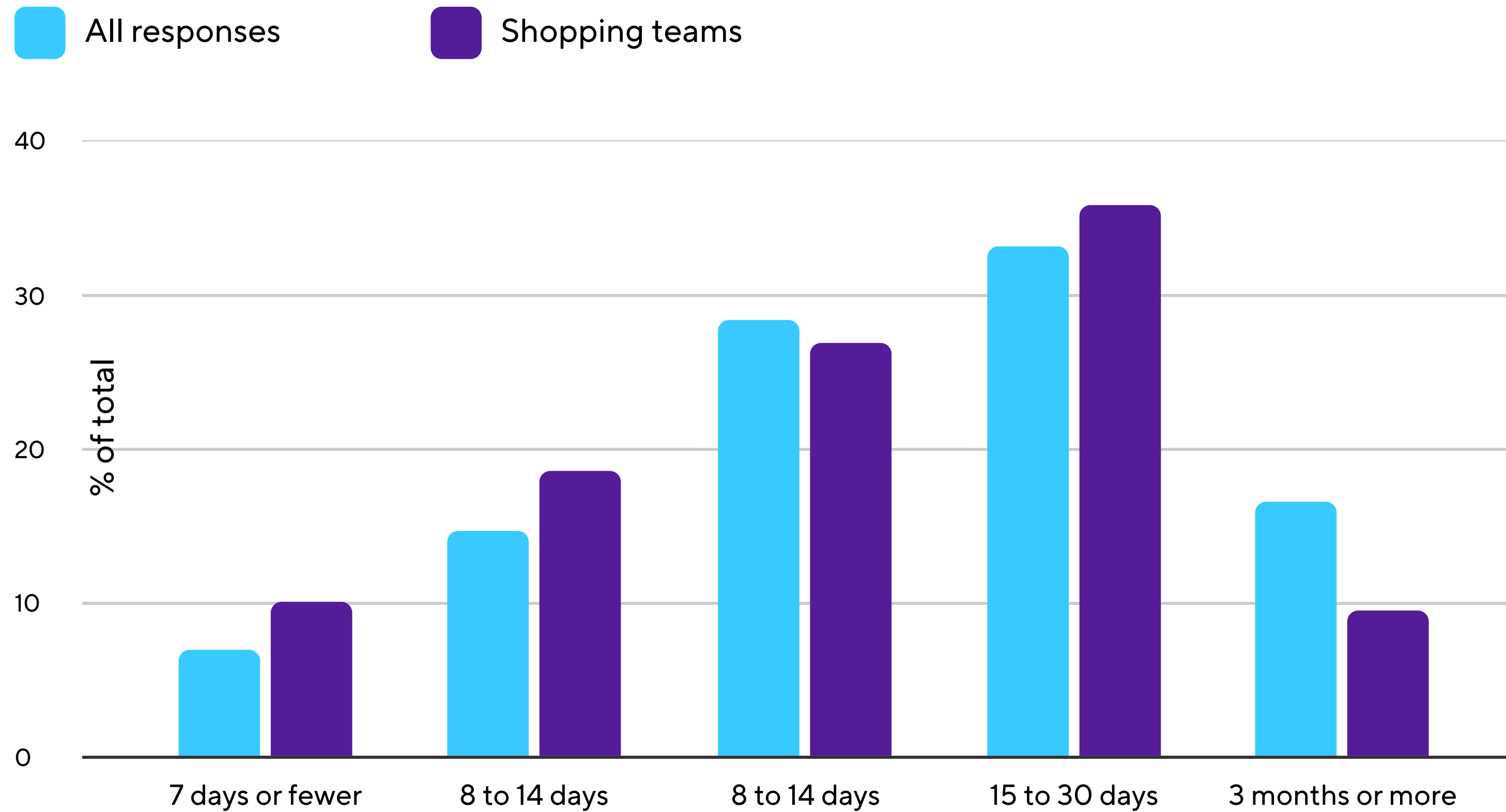
# The MODAS benchmarks:

## The results at a glance

MODAS stage	Key KPI question	Average performance within shopping	High performance within shopping
Creation	How long does it take for a scoped feature to be deployed to the app stores?	31 to 90 days	<b>14 days or fewer</b>
Testing	Approximately what share of your releases are hotfixes?	25%	<b>Less than 10%</b>
Deployment	How frequently do you deploy new versions of your app to the app stores?	Every 15 to 30 days	<b>14 days or fewer</b>
Monitoring	How long does it take, when necessary, to release a bug fix after launching a new version of your app?	2-3 days	<b>Less than 24 hours</b>
Collaboration	On a scale of 1-10, how would you rate the level of collaboration across your Mobile Product Organization?	7	<b>9 or higher</b>

## Creation:

How long does it take for a scoped feature to be deployed to the app stores?



High performance

14 days or fewer

Average performance

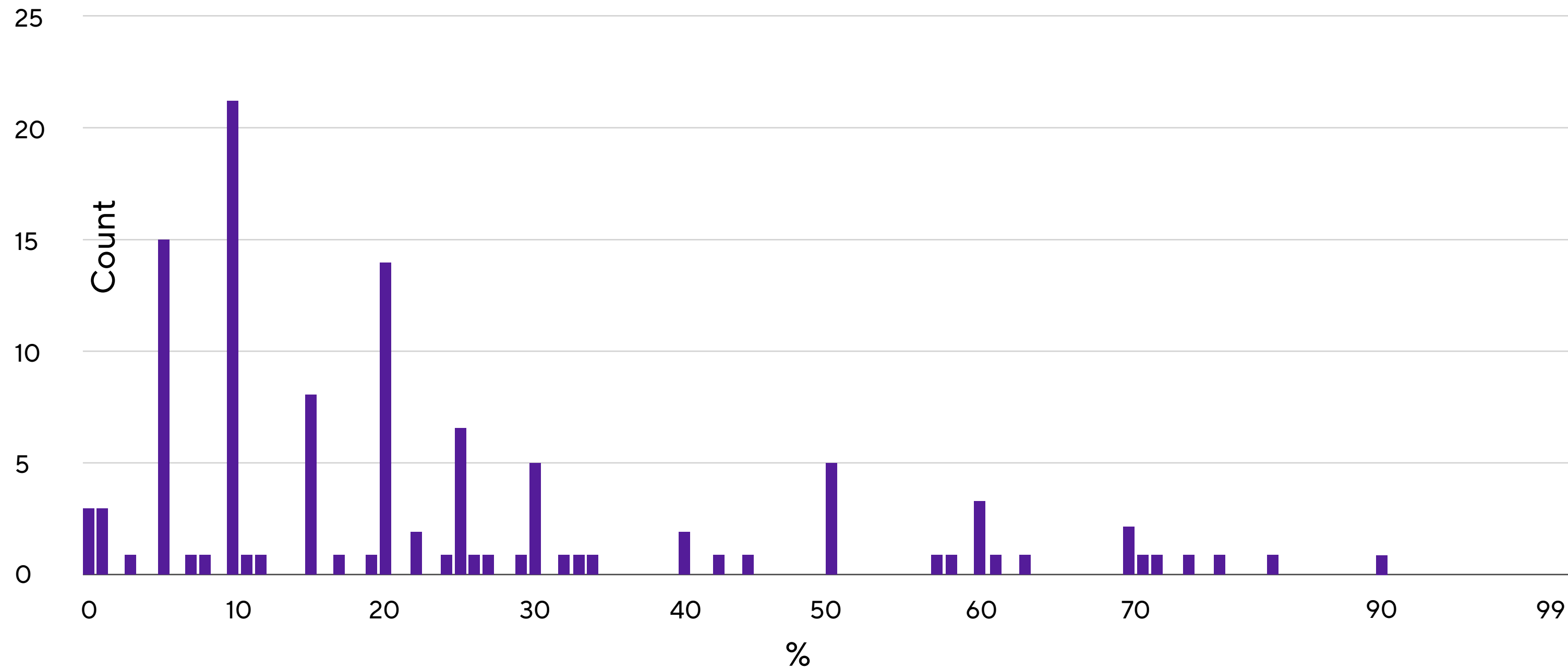
31 to 90 days

Other insights from shopping teams:

- **React Native** is the **most popular cross-platform framework** used by **25.7%** of teams, followed by Flutter at 17.7%.
- **32.1%** of teams manage **backwards compatibility via forced upgrading**, while the majority at 54.5% use graceful degradation.
- **35.7%** of teams use **code generation tools**, higher than non-shopping teams at 30.8%.

# Testing:

Approximately what share of your releases are hotfixes?



High performance	Less than 10%
Average performance	25%

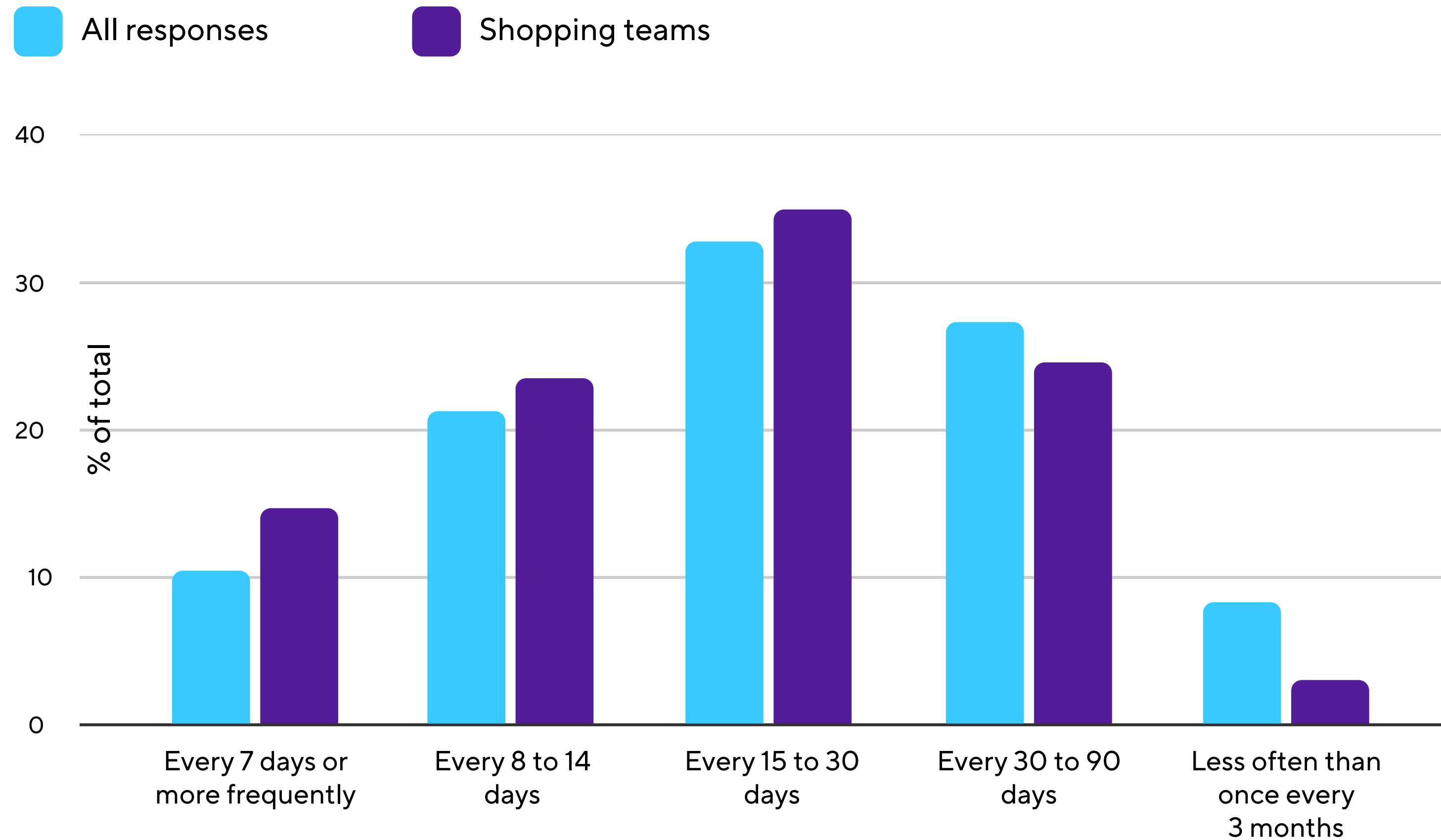
Other insights from shopping teams:

- **67.3%** of teams spend **less than 30% of their engineering hours on testing an RC**, while 20.4% devote 30-59% of their hours to testing.
- Just **11.5%** of teams said they **test as many devices as possible** with a **device farm**, with 38.1% saying they test the most commonly used devices in their user base
- Shopping teams performed the average amount of static security analyses when compared with other groups, but **the number is still surprisingly small at 37%**.
- The most common testing framework is XCTest / XCUITest at 42.9%, followed by Espresso (38.4%), Appium (20.5%).
- However, **14.3% of teams said they used no testing framework.**



## Deployment:

How frequently do you deploy new versions of your app to the app stores?



High performance

14 days or fewer

Average performance

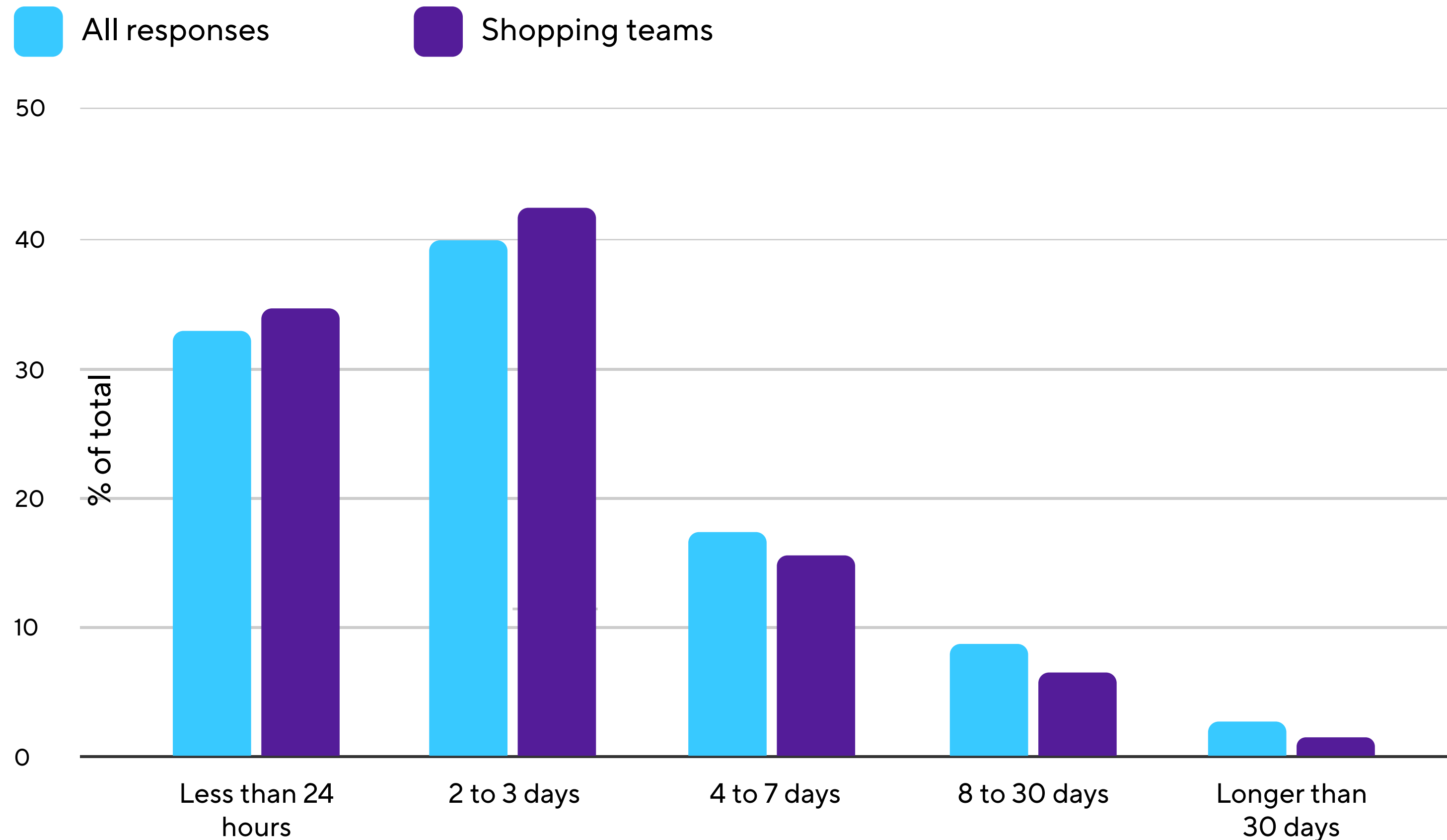
Every 15 to 30 days

Other insights from shopping teams:

- **45.1%** of teams said that their **release approval process was mostly or entirely manual** (and only 6.2% have it fully automated)
- **39.8%** of teams say it takes **several days to go through their internal release validation process** (while 19.5% have got it down to less than an hour)
- Just **30.6%** of teams use the **release train model**
- **38.5%** of teams think that their **release frequency is unsatisfactory**

## Monitoring:

How long does it take, when necessary, to release a bug fix after launching a new version of your app?



High performance

Less than 24 hours

Average performance

2 to 3 days

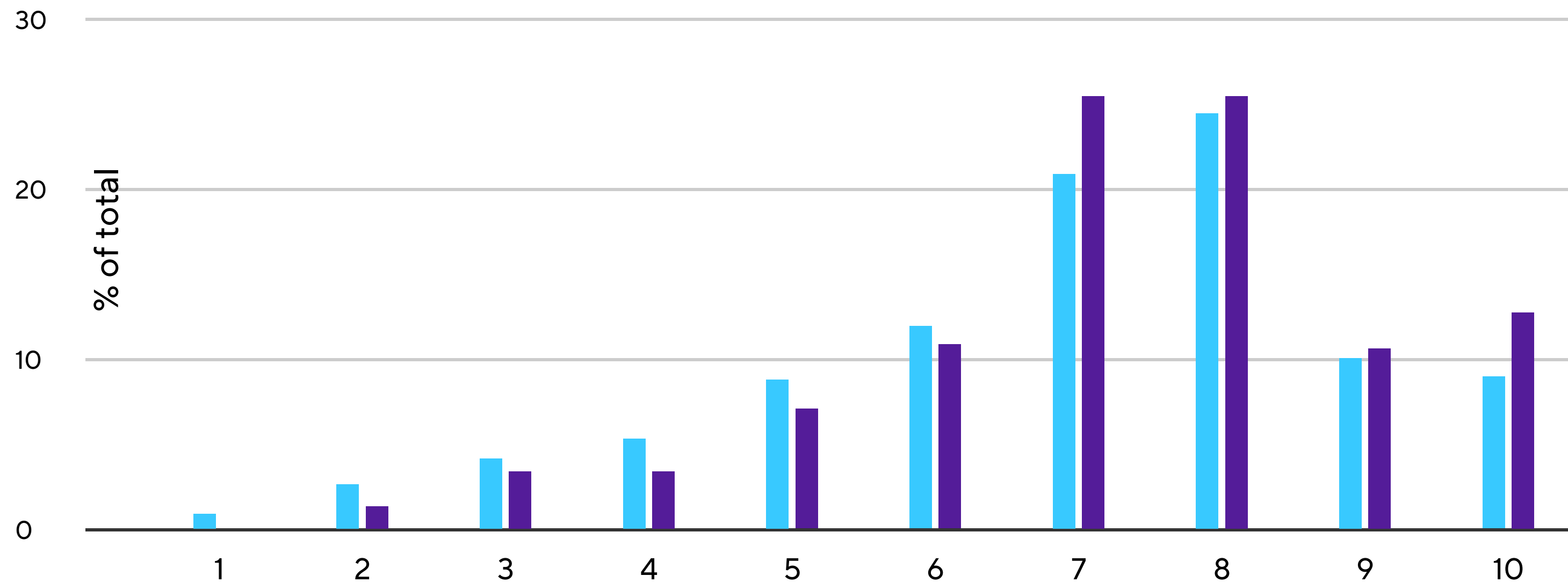
Other insights from shopping teams:

- Only **38.9%** of teams have their **app cold startup time under 2 seconds**
- Only **61.8%** of teams do some form of **app performance monitoring**
- Only **44.5%** of teams **monitor their app size**
- It therefore comes as little surprise that **58% of teams said that their monitoring processes were insufficient**

# Collaboration:

How well does your Mobile Product Organization collaborate on a scale of 1-10?

■ All responses      ■ Shopping teams



High performance	9 or higher
Average performance	7

Other insights from shopping teams:

- **20.4%** of teams don't have the features and functionality of their **iOS and Android apps in sync**
- Only **50.9%** of teams say they have **cross-functional teams** working together on projects spanning multiple teams.
- Only **32.1%** have a **formalized planning process**
- **Shopping teams were more likely** than non-shopping teams to have **dedicated mobile platform team** at **73.9%** (compared to 61.6%)







## Resources to help your team improve

Once you and your team have taken the MODAS assessment, compare your results to the benchmarks in the previous section. This will highlight the areas in which you can improve.

This section will help with that question of “what next?” For each of the five stages of MODAS, we have gathered a small selection of useful resources (from us as well as elsewhere) to help with your progress.





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Resources to help your  
team improve



## #1 Creation

- **Success Story:** How **Tag Heuer** used Bitrise to build high-quality, crash-free apps for their smart watches from scratch. [Read the story](#)
- “How Uber Deals with Large iOS App Size” [Read their engineering blog](#)
- **Bitrise Blog:** Bitrise Blog: Accelerate your e-commerce mobile development through Mobile DevOps Read the blog [Read the blog](#)
- **Bitrise Blog:** What was the force upgrade process at Uber? [Read the blog](#)
- Top 7 takeaways for Android App Bundles. [Watch the Android Dev Summit video](#)
- **Mobile DevOps is a thing!** Building mobile infrastructure with Russell Stephens. [Listen to the podcast](#)

## The TAG Heuer experience: combining sport, luxury, and technology

The Tag Heuer Connected team builds different native apps for Wear OS and their iOS and Android companion apps, providing a quality user experience that combines sport and luxury smart watches.

The team adopted Bitrise early on in their app development journey, providing them with a **straightforward CI/CD platform** that allows them to easily manage teams, monitor different accesses, and quickly onboard new team members.

Bitrise has helped them make their engineers' day-to-day work much easier, allowing them to focus on creating innovative new features and functionalities for users.

With Bitrise, they have:

- **Eliminated** the need for a dedicated person to **maintain the CI**
- Streamlined the process of **distributing new app versions and features** to the QA team
- Visibility to **pinpoint and fix issues early** and easily

“All of our apps are practically free of crashes and receive consistently high user ratings in the app stores.”

- Benoit Goby, Principal Engineer

[Read the full success story](#)



**TAGHeuer**  
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## #2 Testing

- **Success Story:** How **Ibotta** used Bitrise to introduce full automation, allowing rapid builds, tests, and releases. [Read the story](#)
- “How Uber Deals with Large iOS App Size”.  
[Read their engineering blog](#)
- **Bitrise Blog:** 19 automated mobile testing resources to take you from beginner to expert. [Read the blog](#)
- **Bitrise Blog:** How to increase speed and stability in mobile shopping apps. [Read the blog](#)
- Top advantages of automated testing.  
[Watch the video with Bitrise’s Moataz Nabil](#)
- **Mobile DevOps is a thing!** All about test automation: best practices with Angie Jones from Applitools. [Listen to the podcast](#)





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## #3 Deployment

- **Success Story:** How **Vestiaire Collective** used Bitrise to improve their app in order to scale efficiently and expand worldwide. [Read the story](#)
- Bitrise Blog: Our top 5 takeaways from the mobile team at **Vestiaire Collective** [Read the blog](#)
- **Bitrise Blog:** From development to production: seven tips to optimize mobile app deployments. [Read the blog](#)
- “From Development to Production: Tips to Optimise Android App Deployments”. [Watch Moataz Nabil’s talk from droidcon Italy](#)
- **Mobile DevOps is a thing!** Mastering continuous deployment with Keegan Rush. [Listen to the podcast](#)

## The fast and safe way to scale Vestiaire Collective for a global user base

Vestiaire Collective is a leading global platform for desirable pre-loved fashion, which has grown from its Paris headquarters to locations around the world from Hong Kong to New York. Their catalog of over 3 million items shifted from a web-based business model to a mobile-first approach three years ago.

The need for a **cloud-based, mobile-specific CI/CD solution** that could help them scale transparently and efficiently led them to Bitrise. The shift allowed them to save significant amounts of time to focus on delivering improvements for a highly polished app for millions of users worldwide.

Since switching to Bitrise, they have successfully **decreased pipeline times by 50%**. Bitrise has benefited the team in many ways:

- **Easy-to-use interface** improves developer experience
- Automated testing and deployment **frees up developers to be more productive**
- Visibility to **pinpoint and fix issues early** and easily

“We need to remain pragmatic and efficient. Bitrise’s main benefit is the flexibility and the safety it brings to our processes and managing our CI/CD pipeline – it scales easily and transparently.”

- Rémi Bouchez, Head of Mobile Engineering

[Read the full success story](#)

# Vestiaire Collective







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## #4 Monitoring

- Leveraging Mobile Infrastructure with Data-Driven Decisions. [Read Spotify's engineering blog](#)
- **Bitrise Blog:** Take your mobile monitoring to the next level [Read the blog](#)
- **Bitrise Blog:** How to boost app engagement with mobile application performance monitoring (APM). [Read the blog](#)
- **Build Insights Pro:** Introducing Bitrise's own CI/CD Performance Monitoring Tool. [Watch the video with Bitrise's Colin Hemmings](#)
- **Mobile DevOps is a thing!** App Performance Monitoring with Rasmus Larsson. [Listen to the podcast](#)





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Resources to help your  
team improve



## #5 Collaboration

- **Success Story:** How **Wallapop** used Bitrise to build better CI processes, accelerate app development, and onboard new team members easily.  
[Read the story](#)
- **Bitrise Blog:** At which point do you need a platform team?  
[Read the blog](#)
- Why do you need a mobile platform team?  
[Watch the video with Bitrise's Moataz Nabil](#)
- **Mobile DevOps is a thing!** Remote work and Mobile DevOps with Joe Birch [Listen to the podcast](#)





## A recap: (and what to do now)

You now know how the average mobile shopping team performs across five key Mobile DevOps performance metrics. You also know what marks out a high performer.

You will also, hopefully, know what your own team's benchmarks are and have highlighted the areas where your team needs to improve.

**Now it's time to make those improvements.**

The resources we've offered throughout this guide are just a start. While not intended to be comprehensive, they should provide you with inspiration and nudge you in beneficial directions.

They also only scratch the surface of our library of [blogs](#), [podcasts](#), [videos](#), [webinars](#), and [whitepaper reports](#).



**Bitrise is a Mobile DevOps platform build around industry-leading mobile CI/CD and DevOps tooling.** Bitrise ensures confidence, velocity, and continuous improvement across the entire cycle of app value creation, delivery, and realization.

On Bitrise, teams easily release and maintain high-quality apps through automation, rapid iteration, and improvement in the development process. **As a result, apps deliver more impact for the business, while teams scale quickly and efficiently.**

**Founded by mobile developers, Bitrise is trusted by more than 6,000 mobile product organizations worldwide,** including Rakuten, WISE, Bose, Virgin Mobile, Grindr, Compass, Mozilla, Philips Hue, and Marks & Spencer. Bitrise now counts 200+ people across continents, and has raised close to \$100M in funding to date from investors like Insights Partners, Partech, Y Combinator, and more.

[www.bitrise.io](http://www.bitrise.io)



Mobile engineers behind some of the most popular apps rely on Bitrise to streamline their build, test, and deployment processes. By eliminating manual tasks like maintenance, fixing errors, and performance upgrades, we help customers iterate faster, release with confidence, and build apps that are used and loved by millions of users around the world.

**Trusted by the world's most sophisticated mobile teams**



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**wallapop**