What would happen if you ran your test suite 10 times in a row for every build?

What are some benefits your team would realize if your build times were cut in half? If they doubled?

https://conversations.dora.dev/

DORA
DEVOPS RESEARCH & ASSESSMENT

Google Cloud

Accelerate

Introduction to DORA

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Gold Sponsors

BROADCOM SOFTWARE SLEUTH Deloitte.

change lead-time

Imagine cutting the **change lead-time** in half.

*How would doing so impact your **team**?*

Imagine cutting the **change lead-time** in half.

*How would doing so impact your **customers**?*

Imagine cutting the **change lead-time** in half.

What's stopping you?

Steve McGhee

Reliability Advocate

@stevemcghee

smcghee@google.com

He/Him

Well, this is how things are done around here.

If something breaks...


You need to restart your computer. Hold down the Power button for several seconds or press the Restart button.
Veuillez redémarrer votre ordinateur. Maintenez la touche de démarrage enfoncée pendant plusieurs secondes ou bien appuyez sur le bouton de réinitialisation.
Sie müssen Ihren Computer neu starten. Halten Sie dazu die Einschalttaste einige Sekunden gedrückt oder drücken Sie die Neustart-Taste.
コンピュータを再起動する必要があります。パワーボタンを数秒間押し続けるか、リセットボタンを押してください。

When something breaks...

Failure leads to scapegoating

It was not my fault!

Failure leads to scapegoating

It was not my fault!

Failure leads to justice

Justice must be served!

Failure leads to scapegoating

It was not my fault!

Failure leads to justice

Justice must be served!

Failure leads to inquiry

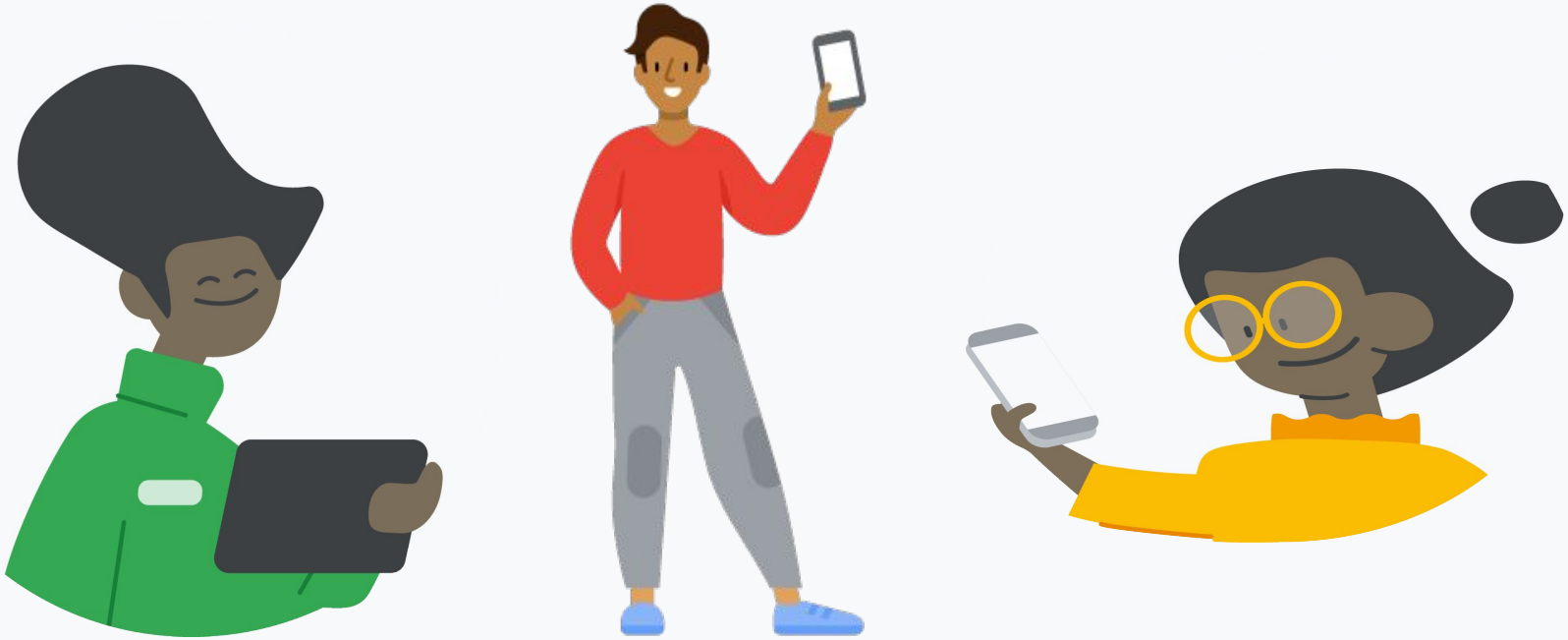
Let's investigate the system!

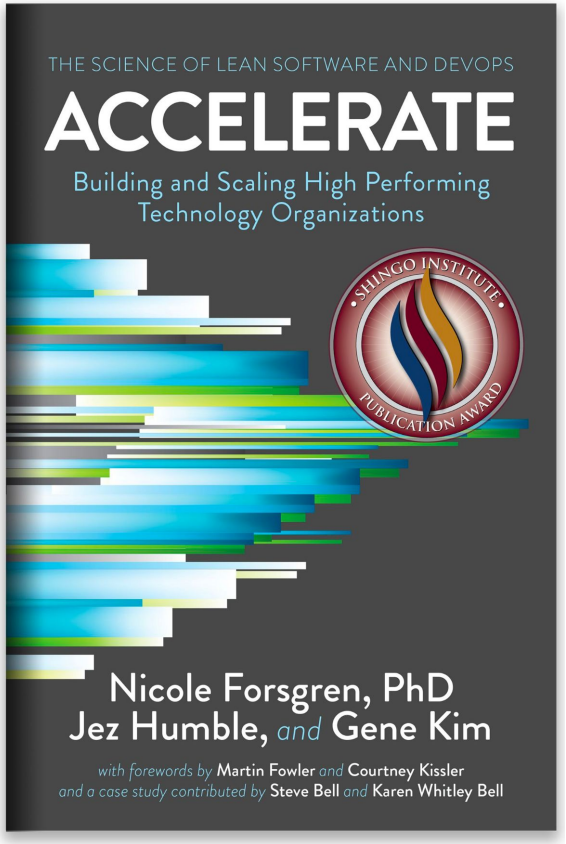
Why DORA?

“We’re no longer an airline. We’re a software company with wings.”

Veresh Sita
CIO, Alaska Airlines

Technology enables great user experience, which drives business value





Accelerate

- **Delivery** of goods and services to delight their customers
- **Engagement** with the market to detect and understand customer demand
- **Anticipation** of compliance and regulatory changes that impact their systems
- **Response** to potential risks such as security threats or changes in the economy

Forsgren, N., Humble, J., & Kim, G. (2018). *Accelerate: The science behind devops: Building and scaling high performing technology organizations.* IT Revolution.

ROI

How can your organization optimize value delivery from investment in technology and technologists?

Assessment

How are you doing today?

Prioritization

What should you focus on next?

Feedback

Fast cycles for continuous improvement

organizational muscle + institutional culture

Get Better at Getting Better


DORA
Digital
Operational
Resilience
Act


DORA
Downtown Tipp City Partnership
Designated Outdoor Refreshment Area


DORA
DESIGNATED OUTDOOR REFRESHMENT AREA
MINERVA, OHIO


DESIGNATED OUTDOOR
DORA
REFRESHMENT AREA
MARIETTA, OH


DORA
DESIGNATED OUTDOOR REFRESHMENT AREA
Bucyrus, Ohio


DORA
DESIGNATED | OUTDOOR | REFRESHMENT | AREA
WOOSTER • OHIO


DORA
DEVOPS RESEARCH & ASSESSMENT

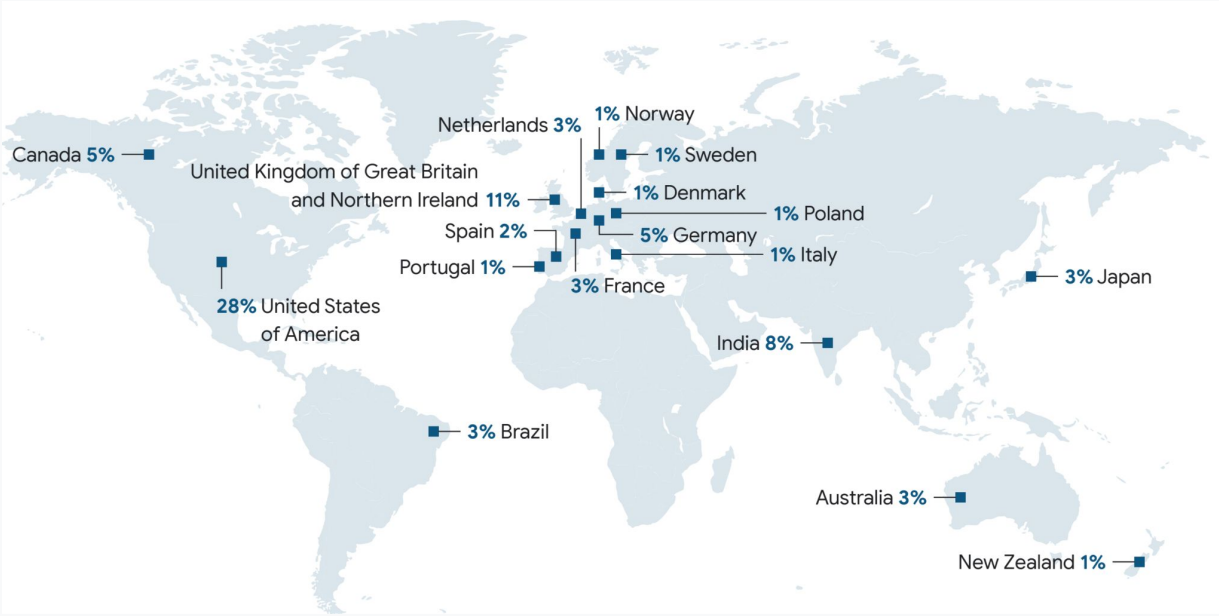

DORA
IMPROVING TECHNOLOGY-DRIVEN TEAMS


DORA
GET BETTER AT GETTING BETTER

Research by DORA

Research

Over **36,000 professionals** have participated in DORA research surveys since 2014



2023 respondent demographics

Data

Want to participate in an upcoming study?
Join **dora.community** for announcements!

A small sample of the information we anonymously collect as part of our research:

- My team can deploy and release our product or service on demand, independently of other services it depends upon
- On my team, we can make large-scale changes to the design of our system without depending on other teams to make changes in their systems
- The cloud my product or service runs on serves multiple teams and applications, with compute and infrastructure resources dynamically assigned and re-assigned based on demand
- We can deploy our system to production, or to end users, at any time, on demand
- Code commits result in an automated build of the software
- What is the principal industry of your organization?
- Technical documentation is updated as changes are made
- Failures are treated primarily as opportunities to improve the system
- Reliability reviews are performed throughout the development process for all major features on the applications I work on
- Build metadata (e.g., dependencies, build process, build environment) about an artifact includes all build parameters
- For the primary application or service you work on, how often does your organization deploy code to production or release it to end users?
- I feel burned out from my work.
- Our org has processes in place to identify and document all security requirements for the software our organization develops or acquires (including third-party and open source)
- Most of the people that were on this team 12 months ago are still on the team today
- There are fewer than three active branches on the application's code repo
- Our application configurations are in a version control system
- Currently, how inflexible or flexible is your company with regard to employee work arrangements (e.g., voluntary work from home, full-time remote work, hybrid schedules, etc.)?
- Cross-functional collaboration is encouraged and rewarded

01. On my team, information is actively sought

02. Messengers are not punished when they deliver news of failures or other bad news

03. On my team, responsibilities are shared

04. On my team, cross-functional collaboration is encouraged and rewarded

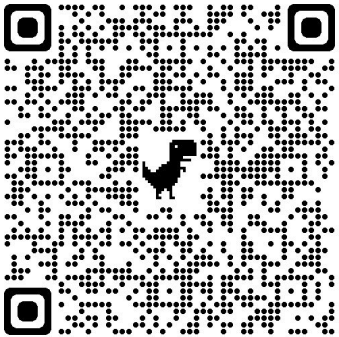
05. On my team, failures are treated primarily as opportunities to improve the system

06. On my team, new ideas are welcomed

1 2 3 4 5 6 7

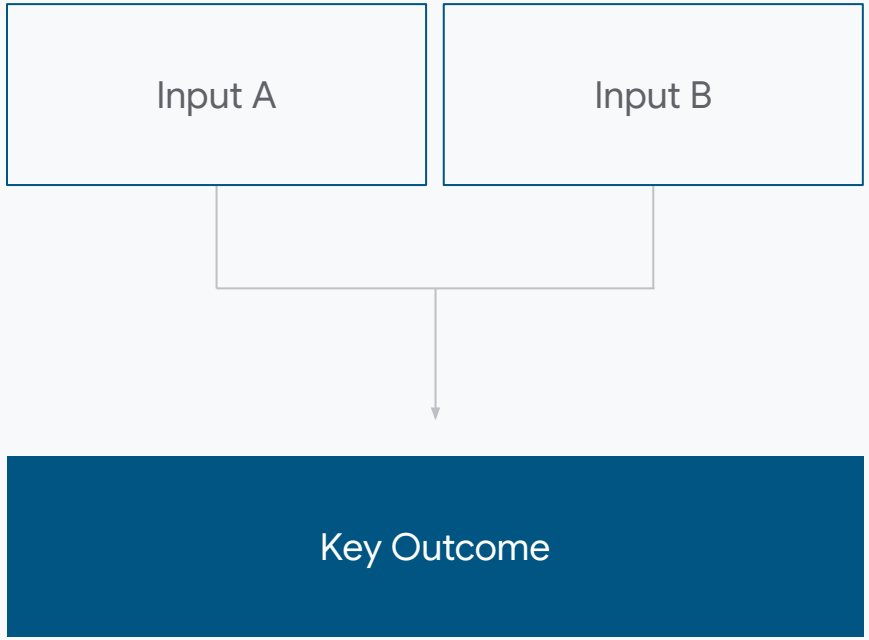
Strongly Disagree

Strongly agree

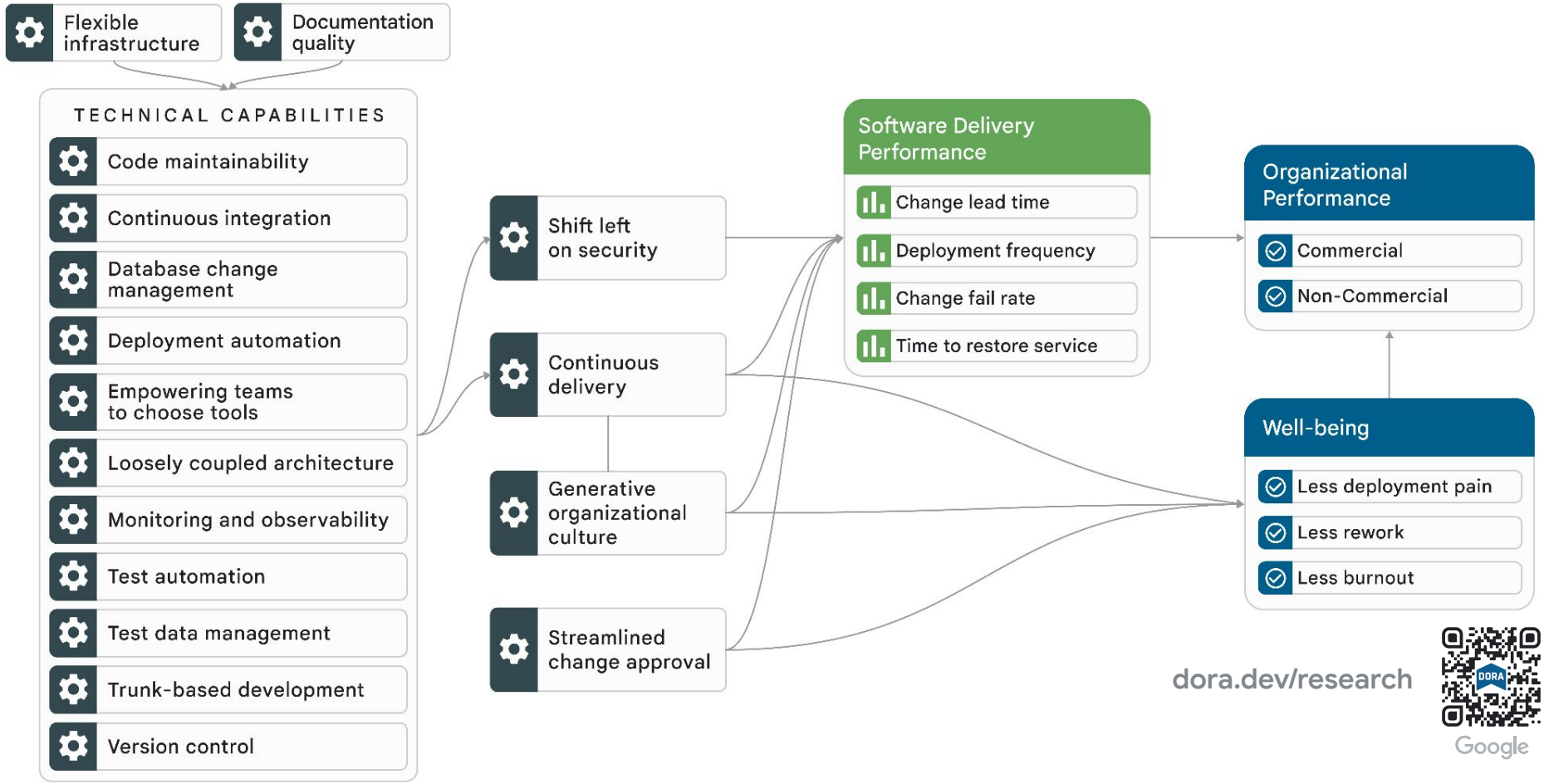


Analysis

Predictive analysis by DORA



capabilities → predict → performance → predicts → outcomes



Download the report at

dora.dev/report

Technology drives value and innovation

Measuring Software Delivery Performance

Measuring Software Delivery Performance

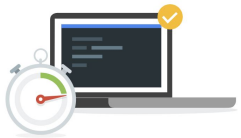
Throughput

Measuring Software Delivery Performance

Throughput

Stability

Measuring Software Delivery Performance



Lead time for changes

How long does it take to go from code committed to code successfully running in production?

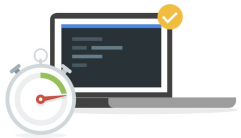
Deployment frequency

How often does your organization deploy code to production or release it to end users?

Throughput

Stability

Measuring Software Delivery Performance



Lead time for changes

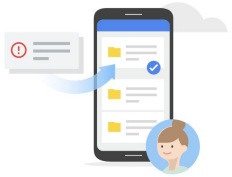
How long does it take to go from code committed to code successfully running in production?

Deployment frequency

How often does your organization deploy code to production or release it to end users?

Change fail rate

What percentage of changes to production or releases to users result in degraded service?



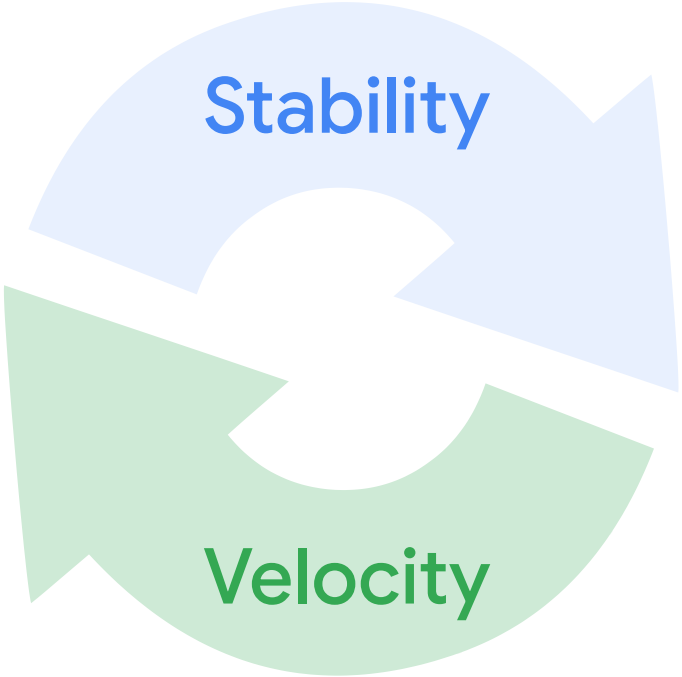
Time to restore service

How long does it generally take to restore service when a service incident or a defect that impacts users occurs?

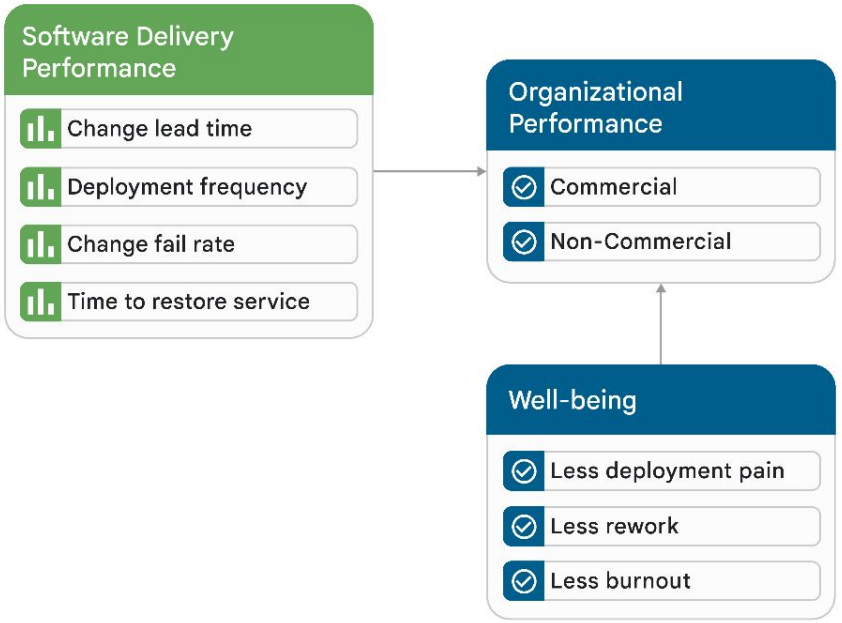
Throughput

Stability

DORA.dev

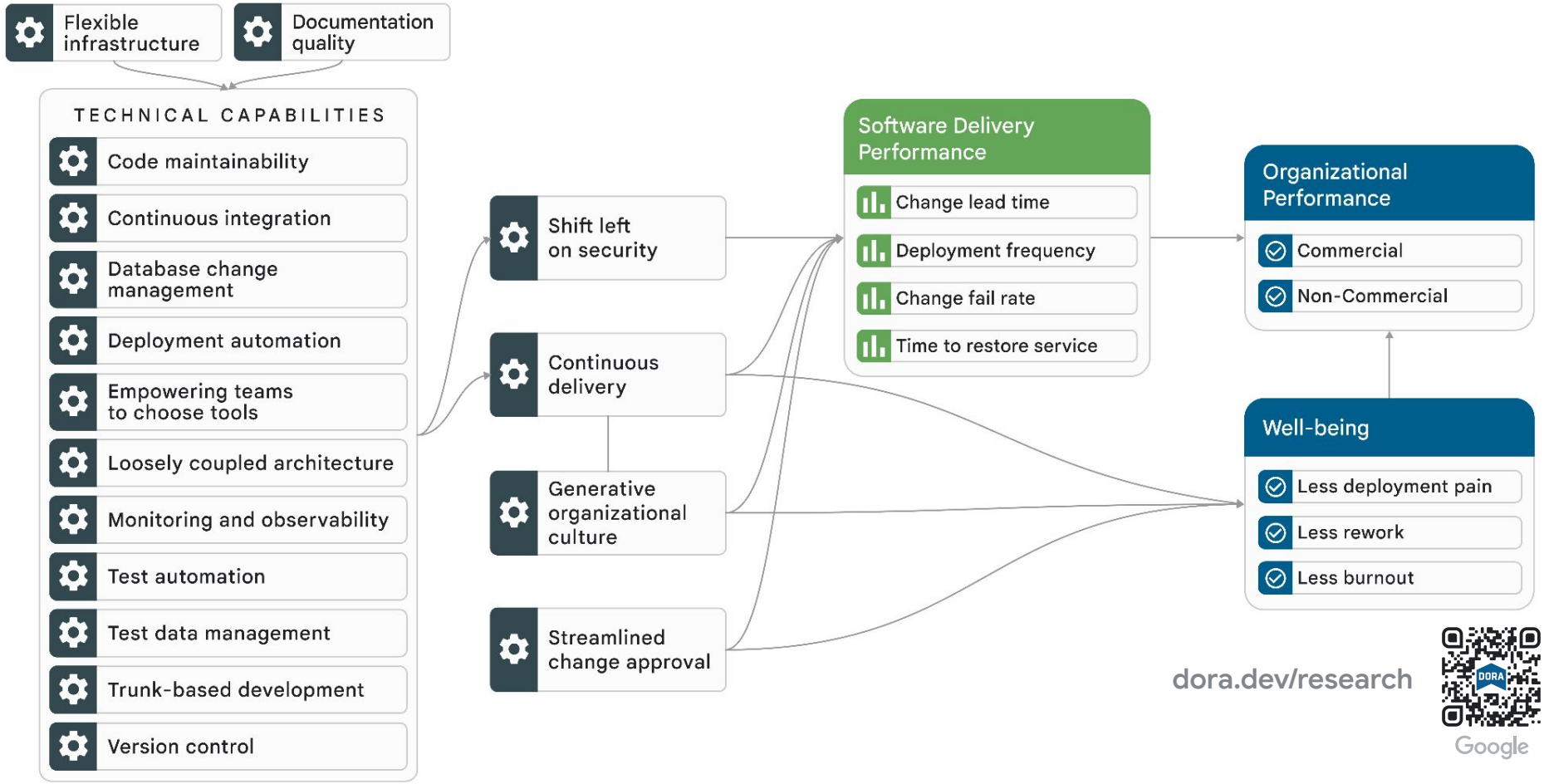

Stability
Velocity

capabilities → predict → performance → predicts → outcomes



dora.dev/research

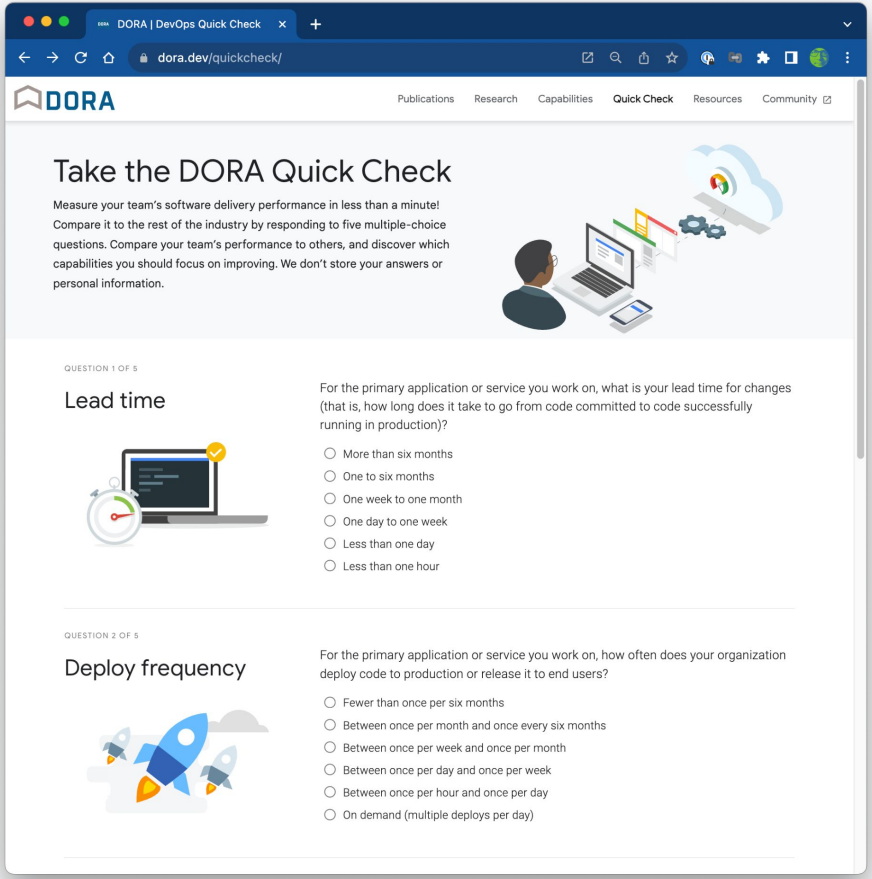
capabilities → predict → performance → predicts → outcomes



How do we improve?

Self-assessment

The **DORA Quick Check** is a 5-question survey, publicly available for free, that offers teams a performance benchmark and some suggested next steps. It can be completed by individuals, or used in a group setting as a way to stimulate conversations about improvement.



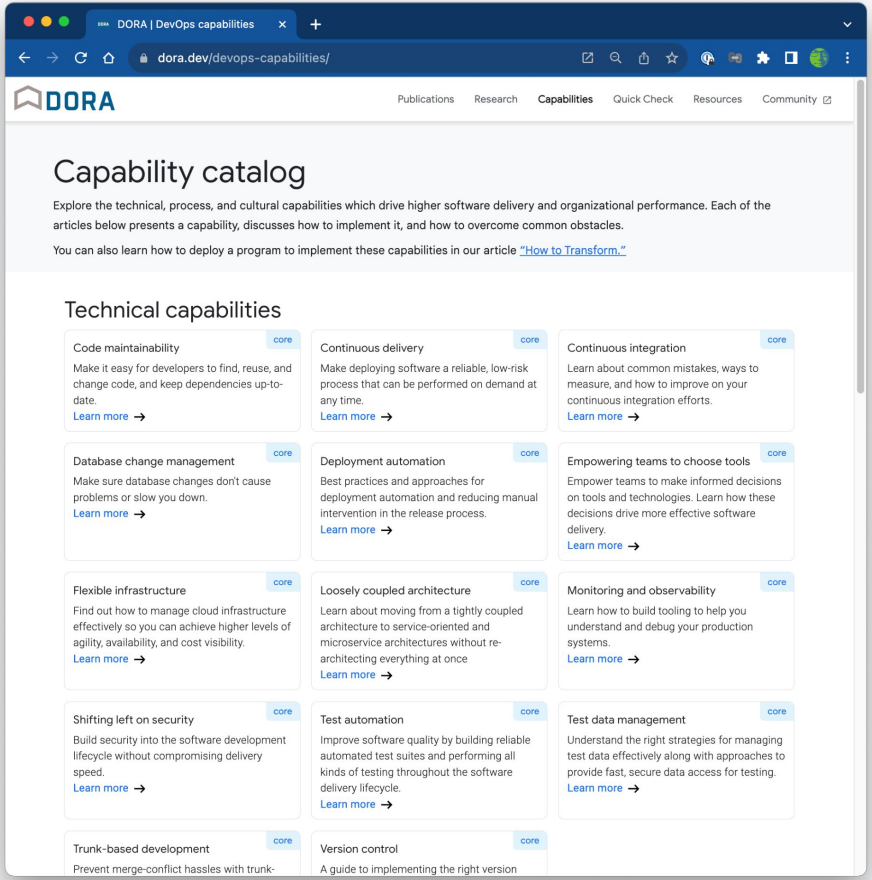
Capability Guides

For each capability in the DORA Core model, dora.dev offers a comprehensive guide, which features:

- A description of the capability and why it's beneficial to a team's software delivery performance
- Recommendations on how to measure proficiency in that capability
- How to get started implementing or improving it

There are also practical guides offering help on strategic topics including:

- How to achieve a successful organizational transformation
- How to empower software delivery teams as a business leader



Improving all the technology, processes, and capabilities won't help you succeed...

Improving all the technology, processes, and capabilities won't help you succeed without a **healthy culture**

Failure leads to scapegoating

It was not my fault!

Failure leads to justice

Justice must be served!

Failure leads to inquiry

Let's investigate the system!

Westrum organizational culture

Power-oriented Pathological	Rule-oriented Bureaucratic	Performance-oriented Generative
Low cooperation	Modest cooperation	High cooperation
Messengers shot	Messengers neglected	Messengers trained
Responsibilities shirked	Narrow responsibilities	Risks are shared
Bridging discouraged	Bridging tolerated	Bridging encouraged
Failure leads to scapegoating	Failure leads to justice	Failure leads to inquiry
Novelty crushed	Novelty leads to problems	Novelty implemented
Leader's focus: personal needs	Leader's focus: departmental turf	Leader's focus: the mission

Westrum R A typology of organisational cultures. BMJ Quality & Safety 2004;13:ii22-ii27.
http://bmj.co/1BRGh5q

Teams with generative cultures have
30% higher organizational performance

Case Studies

Google Cloud DevOps Awards winner:

Growing DevOps throughout your organization

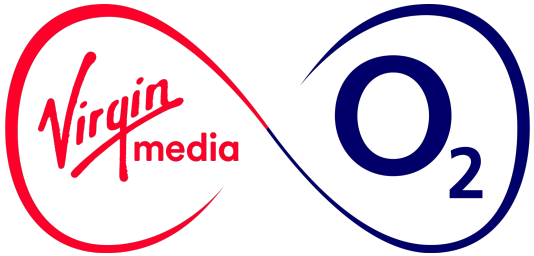
Ford is achieving **scaled adoption of DevOps** practices through the Ford Cloud Portal platform engineering project

An intuitive developer interface provides automated Google Cloud environment creation via **infrastructure as code**

Provisioning processes that previously took **80+ hours** are now complete in **under 30 minutes**

Explore the DevOps Awards winners' stories at **cloud.google.com/awards/devops**

Google Cloud DevOps Awards winner:



Continuous improvement with DORA

VMO2—a prior DevOps Awards winner, undertook an MLOps journey which

Tripled the average revenue uplift against the legacy through commercial and recommendation engines, and an additional 6% CVR increase from recommending relevant products

Saved network engineers **3000 days of working time**, which comes out to £800k cost savings

Created **50% of the third-party incumbent value for 10% of the annual spend** through our internal call routing

Explore the DevOps Awards winners' stories at
cloud.google.com/awards/devops

Google Cloud DevOps Awards winner:

Uber

DevOps communities of practice award

Uber's community-oriented technical and cultural transformation program has delivered:

The ability to better identify and eliminate idle and unattended projects, saving an estimated **hundreds of thousands of kilograms of CO2 per year**

A **smaller attack surface** for Google Cloud projects

Significant cost savings

Increased customer satisfaction scores for recommendation tickets

Explore the DevOps Awards winners' stories at
cloud.google.com/awards/devops

Key insights from 2023

Healthy culture

All the tech, process, and capabilities wouldn't get you far with unhealthy culture

User centricity

Fast, stable, and reliable is great. But if you don't know who you build for the org, the team, and the employees will struggle

Quality documentation

Quality documentation not only leads to favorable outcomes and the establishment of technical capabilities, but provides the grounds for technical capabilities to have an impact

Flexible infrastructure

Creating a flexible infrastructures how cloud computing differentiates itself

Underrepresented groups

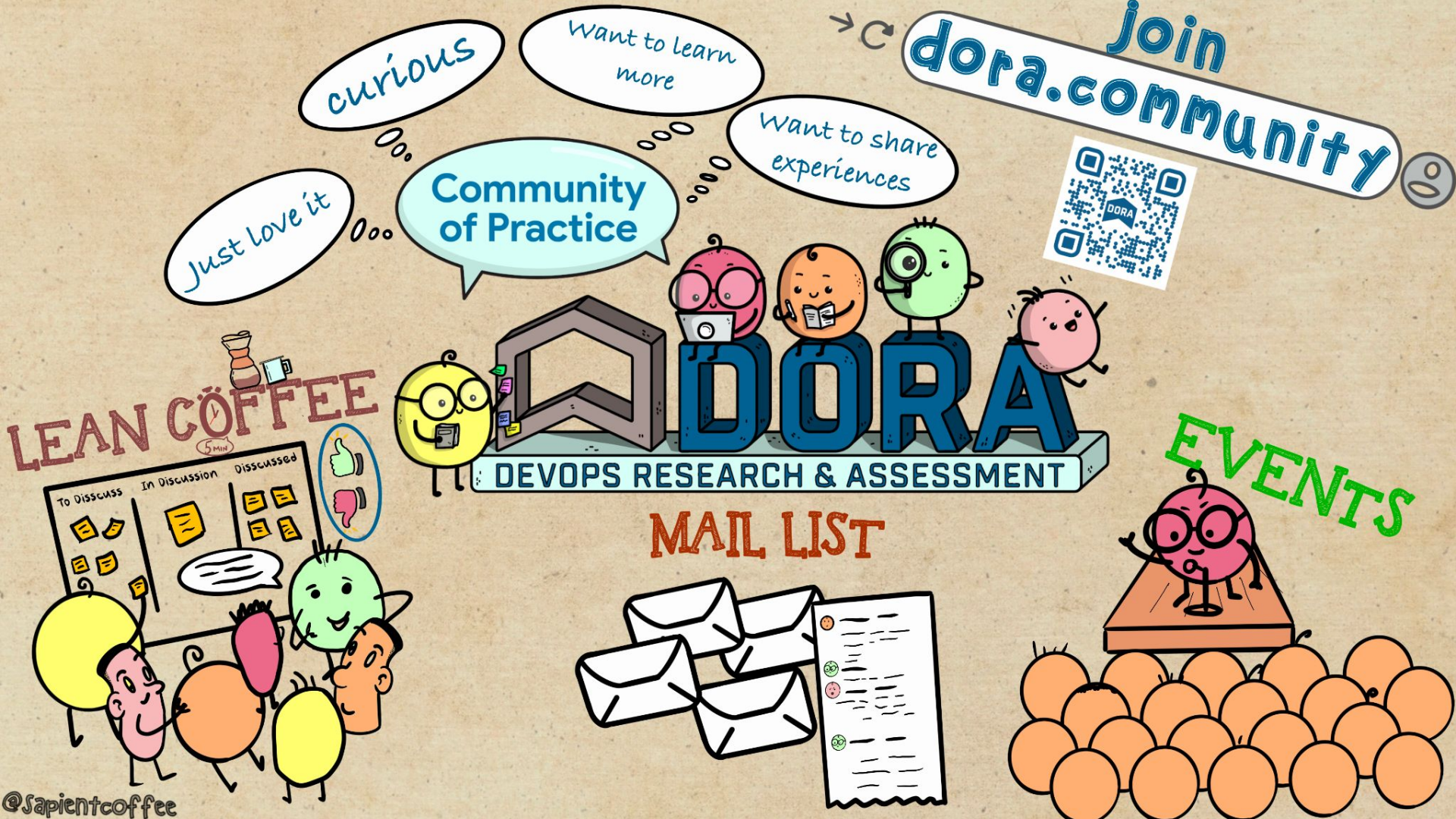
Those who identified as women or self-described their gender and people who identify as underrepresented have higher levels of burnout due to more toil and less-recognized work

Getting Better – explore the capability catalog

What's holding you back? Take the Quick Check with your team.

DORA.dev

Read the Accelerate State of DevOps Reports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Want to learn more
Want to share experiences
Just love it
Community of Practice
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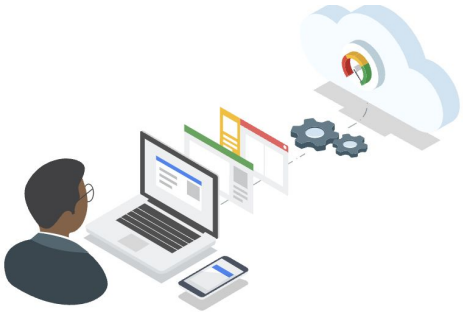
DORA
DEVOPS RESEARCH & ASSESSMENT
LEAN COFFEE
5 MIN
To Discuss
In Discussion
Discussed
MAIL LIST
EVENTS
@sapientcoffee

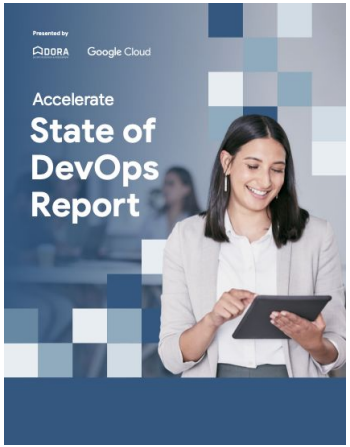
Next steps with DORA

Take the Quick Check



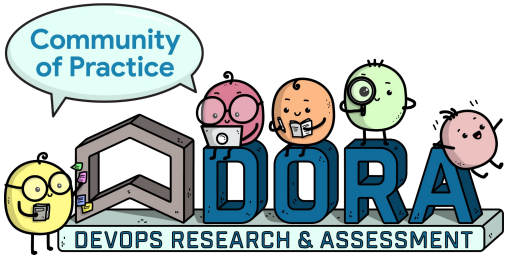
dora.dev/quickcheck

Read the Research



dora.dev/report

Join the Community



dora.community

Next Steps

- Measure the current situation with the Quick Check
- Identify the capability that is holding you back
- Make a change to improve that capability
- Assess the impact on performance
- Repeat

dora.dev/devops-capabilities/cultural/devops-culture-transform/

What questions do you have?

What surprised you most?

Download the report at

dora.dev/report

DORA
DEVOPS RESEARCH & ASSESSMENT

Google Cloud

Thank you

aiven
BROADCOM SOFTWARE
CTO.ai
Deloitte.
digital.ai
GitLab
honeycomb.io
LINEARB
Liquibase
Octopus Deploy
OPSERA
Qarik
SLEUTH