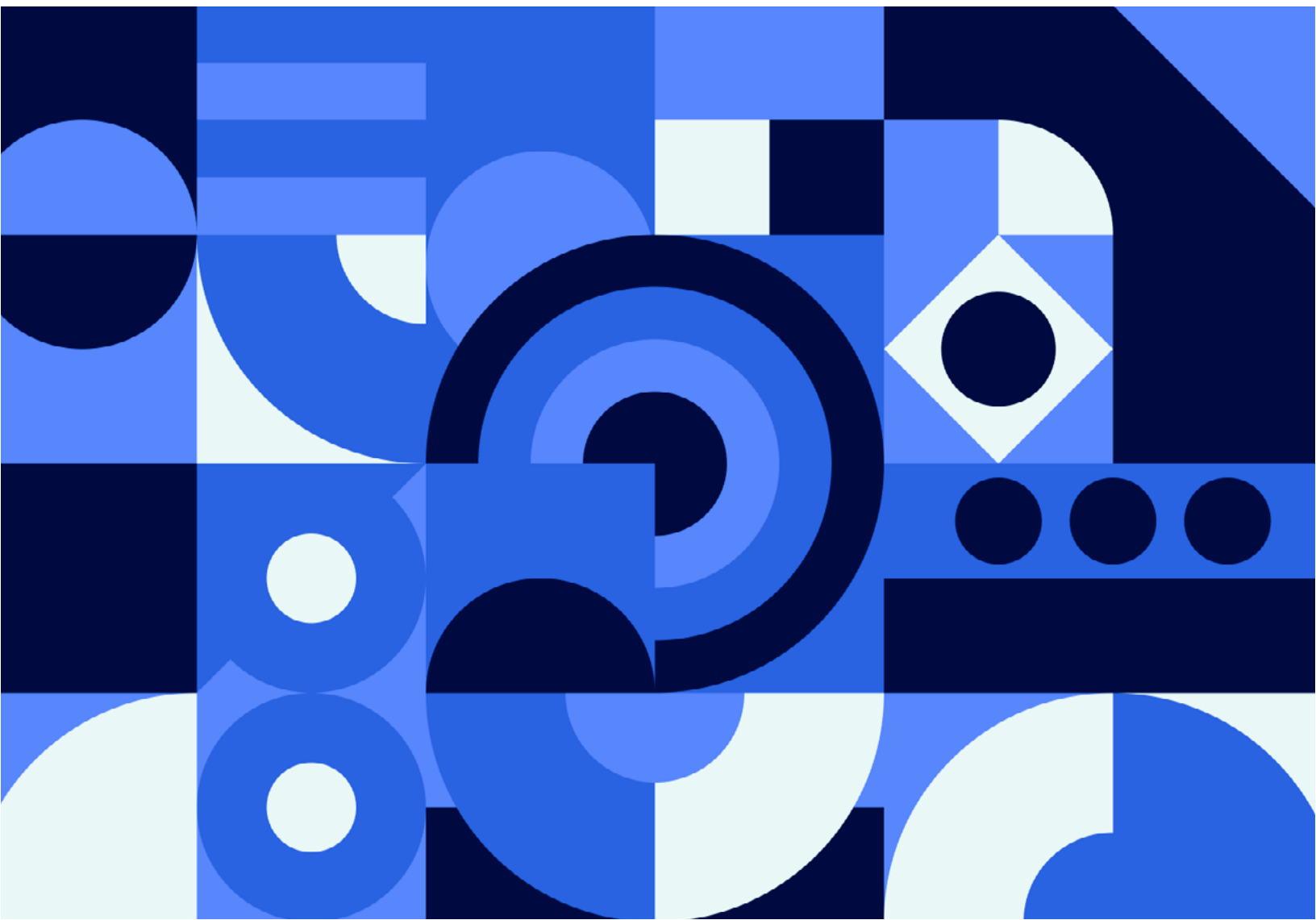




# How Top Companies Measure Developer Productivity

Learn how companies like LinkedIn, Pfizer, and Peloton measure developer productivity by focusing on developer experience.



# Introduction

Leaders today are more focused than ever on optimizing the efficiency and effectiveness of their developers.

While there have been many past approaches to driving productivity, such as adopting Agile and DevOps principles, top companies today are focused on something else: developer experience (DevEx).

By applying product principles to the problem of how to improve developer productivity, companies are listening to their developers and treating them as users in order to systematically identify and address the biggest areas of friction in the software development lifecycle.

This whitepaper includes three case studies of companies that are driving transformation through DevEx, along with an introduction to DX's framework for measuring developer experience.

**Developer Experience (DevEx)** refers to the day-to-day experience of developers, affected by the tools and processes that they encounter in their daily work.

## How LinkedIn Measures Developer Productivity

LinkedIn has always recognized the importance of balancing investments in product development with those in developer tooling and productivity.

Efforts to improve LinkedIn's measurement systems are led by their Developer Productivity and Happiness organization. This group aims to surface a holistic and comprehensive understanding of developer productivity to help leaders across the company make informed improvements. LinkedIn's approach involves three channels: a quarterly developer productivity survey, real-time feedback, and system-based metrics.

**Developer productivity survey.** LinkedIn runs a developer productivity survey on a quarterly basis. This survey asks about overall developer satisfaction, then asks questions about satisfaction with the tools and processes developers use. This provides insights into developer sentiment regarding their work-related tools, systems, processes, and activities.

**Real-time feedback.** When a developer completes a workflow—for example, pushing a change through CI and into GitHub—they are asked to rate their experience and provide additional comments. This highlights the specific pain points developers experience and helps tool owners make improvements.

**System data.** The organization also leverages data captured from systems, including metrics on build times and code review. This data has the advantage of offering precision: these metrics show, down to the second, how long something takes or how frequently something happens. In practice, the tooling and infrastructure teams will leverage data from surveys and real-time feedback to understand where to focus. Then, system data provides an additional signal about what actions to take.

The Developer Productivity and Happiness organization follows a “Listen, Act, and Share” framework: after collecting data from the three channels, they partner with tool owners to inform efforts and also empower individual teams to drive their own improvements.

## Peloton's Journey of Building a DevEx Survey

Peloton's platform team is focused on being a force multiplier to help developers move faster and scale safely with minimal effort. In 2020, the team launched an initiative to understand the developer experience at the company so they could use these insights to inform their roadmap.

Peloton chose to design and build a survey to collect these insights. This involved three phases: designing the survey, launching the survey, and presenting the results.

### Designing the survey

Designing a survey that delivers reliable insights is an intricate process. The platform team started by selecting topics to measure: they began by interviewing developers to understand the tools and processes they interact with daily, then created journey maps for different cohorts of developers. The different tools and processes within these journeys formed the basis for the topics to be measured. The team also added in questions to measure outcomes such as satisfaction. Then, the organization's talent team played a critical role in helping the platform organization write, structure, and refine survey questions. In total, the process of designing the survey took several months.

Additionally, the platform team implemented a sampling method to improve developer participation since their survey is lengthy.

### Launching the survey

Peloton's platform team created a communicating plan for rolling out the survey, and continues to leverage this plan to ensure the survey continues to be well-received.

Peloton's developer experience survey initially recorded a participation rate of 52%, which has now increased to 60%.

### Presenting the results

The platform team presents the results to the entire organization through a "state of engineering report" and gives a detailed presentation to leadership. They also use the data to plan their roadmaps and inspire engineering managers and directors at companies to also take action.

Moving forward, Peloton is exploring ways to empower engineering managers and directors to drive actions within their own teams.

## Accelerating Development at Pfizer

Since its breakthrough in developing a Covid-19 vaccine in nine months, Pfizer has embarked on a path toward empowering developers to deliver “breakthroughs at lightspeed.” This has led the Digital Platforms organization to find ways to help teams develop faster through developer experience improvements.

Pfizer’s engineering saw a nearly tenfold increase in headcount from 2018 to 2022, making it difficult to know what problems existed for developers and where the Digital Platforms group should focus. Today the group uses DX to inform their roadmaps, as well as to present data to leadership and individual teams about opportunities outside the Platform group’s remit that could be improved.

### Enterprise-wide initiatives

Pfizer uses DX to understand the developer experience and uncover the specific pain points impacting productivity. From this, the Digital Platforms organization plans their initiatives, such as creating a unified developer portal, reducing cross-team code duplication, and improving tools for source control management.

### Team-level initiatives

Additionally, individual development teams are empowered to make their own improvements. DX delivers customized insights to individual teams, and leadership has encouraged teams to include developer experience projects in each sprint.

This strategy of offering teams the chance to tackle improvements within their own spheres of influence allows Pfizer to transform at a much faster rate than top-down efforts alone would achieve.

**“I’ve been a developer in a team doing great work; I know how great it feels to end the day having achieved something. When developers are set up for success with the environment and tools they need, the output of that can be magic. That’s what we want for developers at Pfizer.**

Mike Lamb, VP of Global Platforms and Engineering Operations at Pfizer

# The Business Case for Developer Experience

Developer experience isn't just a "feel-good" investment. Research shows that improvements to developer experience helps organizations reduce wasted time, attract and retain top talent, and improve business performance.

## Reducing wasted time

Interruptions and slow feedback loops are common points of friction for developers. The 2019 State of DevOps report found that developers typically only spend 30-40% time on developing features, with significant time going toward administrative tasks and delays. Small improvements to the developer experience can have significant impact, e.g., saving two hours per week per developer across an organization of 200 engineers results in annual savings of \$2,880,000 (the equivalent of 10 full-time developers).<sup>1</sup>

## Retaining talent

Inefficient tools and processes frustrate developers and result in them leaving, especially when problems are not improved<sup>2</sup>. Studies show developer experience as the number one reason for developers voluntarily leaving their jobs, ranking above salary and benefits<sup>3</sup>. With competition for top tech talent soaring, improving the developer experience is key to reducing turnover and curtailing the significant costs of hiring and lost capacity.

**25%**

Average developer time lost per week due to inefficiencies in the developer experience.

**80k**

Total cost in dollars of replacing a developer who voluntarily leaves.

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1. Calculation assumes 48 work weeks per year and an average hourly rate of \$150 per hour.

2. Greiler, "An Actionable Framework for Understanding and Improving Developer Experience"

3. Westlund, "Retaining Talent: Assessing Job Satisfaction Facet Most Significantly Related to Software Developer Turnover Intentions"

## Improving business performance

Improving developer experience is about creating the optimal environment for developers to innovate and deliver value for their teams. Companies with better developer experience not only outperform their competition in terms of productivity and their ability to innovate faster, but also business performance. A 2020 McKinsey study<sup>4</sup> found that companies that perform well at creating optimal working environments for developers achieve revenue growth that is four to five times faster than their competition. High-performing organizations also scored higher on innovation, customer satisfaction, and brand perception. The 2021 State of DevOps report<sup>5</sup> similarly found that high-performers were twice as likely to exceed organizational performance goals as low performers, outperforming competitors in areas such as profitability, market share, and customer satisfaction.

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4. Srivastava, "Developer Velocity: How Software Excellence Fuels Business Performance."

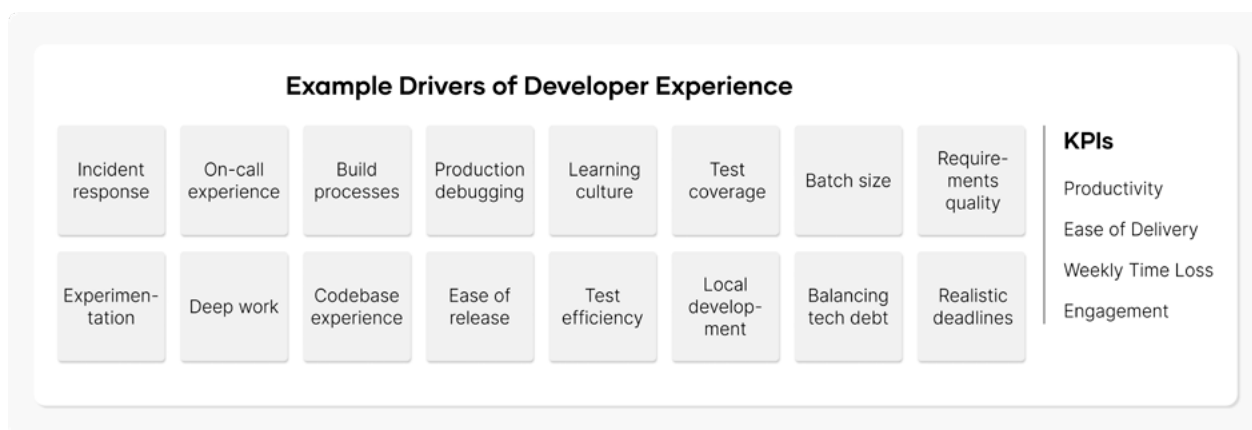
5. Smith, "State of DevOps 2021"

## DX25: The Science-Based Framework for Measuring Developer Experience

One of the most difficult challenges organizations face when trying to improve developer experience is figuring out what to measure. Despite frameworks such as DORA and SPACE, organizations still lack clear insight into productivity as well as the impact of their investments.

DX25 is a new measurement framework developed by DX's research team — which includes the creators of DORA and SPACE — that captures the most important KPIs and Drivers which impact developer productivity. Based on our extensive research, DX25 surfaces a holistic picture of friction encountered by developers across teams, tools, and processes.

Unlike traditional metrics which are often derived from tools like Git and Jira, DX25 utilizes comprehensive qualitative and quantitative measurement methods to provide a holistic in-the-trenches understanding of the day-to-day experiences of developers. To learn more about DX25, visit [getdx.com](https://getdx.com).



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6. Noda, "DevEx: What Actually Drives Productivity."



# About DX

There are many solutions for collecting metrics, but most don't focus on the right things. DX's research team has developed a new approach to measuring developer productivity that focuses on the developer experience.

DX is a developer insights platform designed by the researchers behind DORA and SPACE. DX is the only solution that provides both qualitative and quantitative measures, helping developer productivity leaders pinpoint their biggest opportunities and translate their impact into dollars.

DX is relied on by developer productivity leaders at companies of all stages—from startups like Vercel and Brex to Fortune 500 companies like Pfizer and eBay. In addition to its products, DX provides expertise in implementation, program design, and transformation to help leaders drive continued impact year after year.

To learn more, visit [getdx.com](https://getdx.com).

