Enterprise DevOps: Trends & Key Benefits for Adoptors

Eastern Enterprise
empowering your software

Overview

DevOps combines practices, philosophies, and tools that enable faster delivery of applications and services than what is achievable through conventional software development and infrastructure management processes. As a result, organisations can better serve their customers and gain a competitive edge in the market.

DevOps has become quite popular as an approach to organisational development. However, implementing a DevOps culture is challenging, especially for large enterprises with deep-rooted legacy processes and services. Despite the limitations, enterprise DevOps adoption[10] is rising, with 74% of organisations having embraced DevOps in some form.

Eastern Enterprise
empowering your software
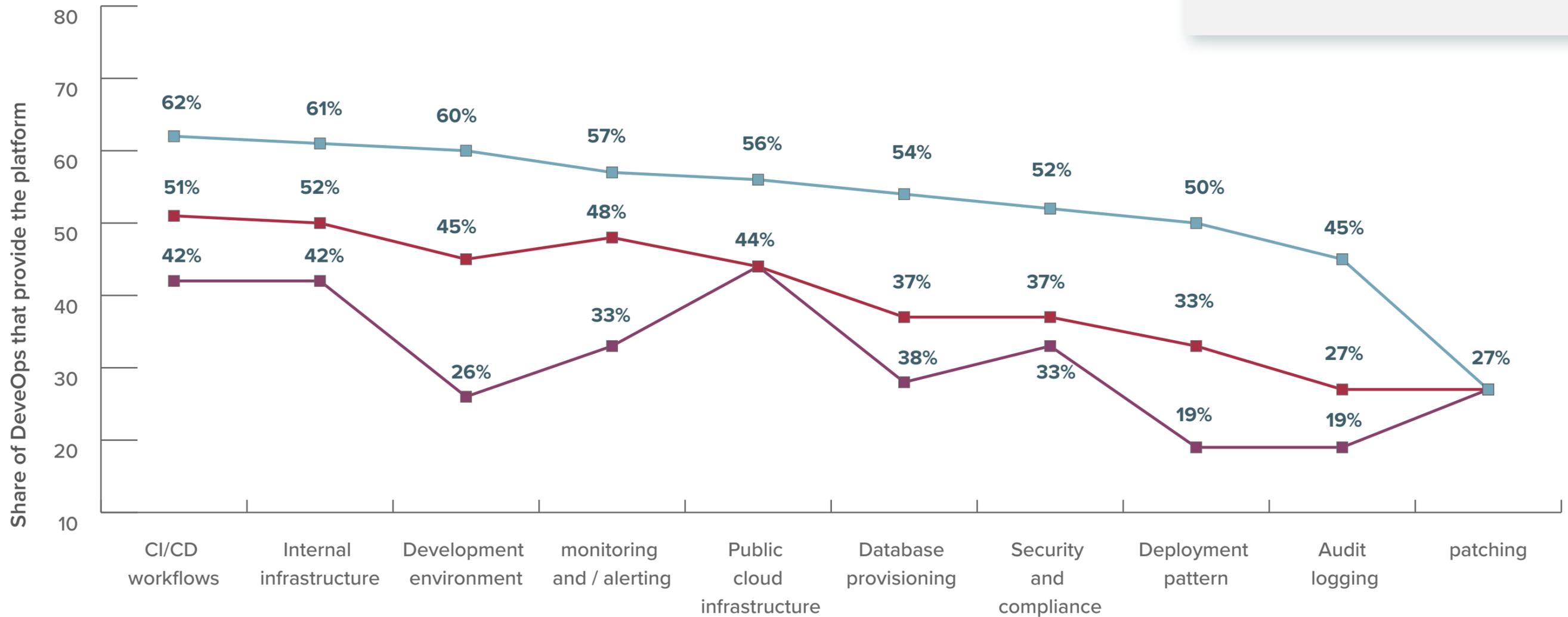
DevOps for the Enterprise

Like Agile, DevOps is characterised by more frequent releases, emphasising automation and shared responsibility. Embracing enterprise DevOps is a continuous process, evolving from the fundamentals to a more advanced DevOps culture.

An outline of the journey of enterprise DevOps in software delivery practices, troubleshooting processes, and environment and tooling.

	Early	Intermediate	Advanced
Software Delivery Practices	Quarterly release	Less downtime and faster software releases.	Zero downtime, continuous integration, deployment, and delivery.
Troubleshooting	Uncoordinated goals between Development Q/A and ITOPs.	Greater engagement between Development Q/A and ITOPs.	Increased collaboration and collective accountability lead to a quick recovery.
Environment & Tooling	Some environment parity, automated alerts, automated build and testing	Service-oriented monitoring, automated test and build.	Complete automation across building and testing.

Enterprise DevOps: Trends & Key Benefits for Adoptors

Eastern Enterprise
empowering your software

High DevOps evolution — **Low DevOps evolution** — **Mid-level DevOps evolution**

The following chart shows the global DevOps evolution and self-service adoption in 2020. More advanced DevOps stages correlate with increased adoption of self-service offerings.

Share of DeveOps that provide the platform

	CI/CD workflows	Internal infrastructure	Development environment	monitoring and / alerting	Public cloud infrastructure	Database provisioning	Security and compliance	Deployment pattern	Audit logging	patching
High	62%	61%	60%	57%	56%	54%	52%	50%	45%	27%
Mid-level	51%	52%	45%	48%	44%	37%	37%	33%	27%	27%
Low	42%	42%	26%	33%	44%	38%	33%	19%	19%	27%

Source: Statista[11]

Enterprise DevOps: Trends & Key Benefits for Adoptors

Eastern Enterprise
empowering your software

DevOps Strategy

1 Infrastructure-as-a-code (IaC)

IaC enables automation in the IT infrastructure, maintaining the infrastructure in the desired state and automatically handling any deviation.

With IaC, we can maintain version control of all infrastructure changes that helps in auditing and reverting infrastructure changes when undesirable changes are made. It provides a quick and powerful way of provisioning infrastructure.

2 Continuous Integration (CI)

Fast and automated systems are at the core of DevOps, and CI allows developers to merge code more frequently and run automated builds and tests.

3 Continuous Delivery (CD)

CD is a robust software delivery methodology to improve the speed and frequency of software building, testing, and release.

4 Rapid Feedback

Quick feedback loops between IT operations, development, business, and testing are part of DevOps practices, enabling teams to be more agile and improving products and processes.
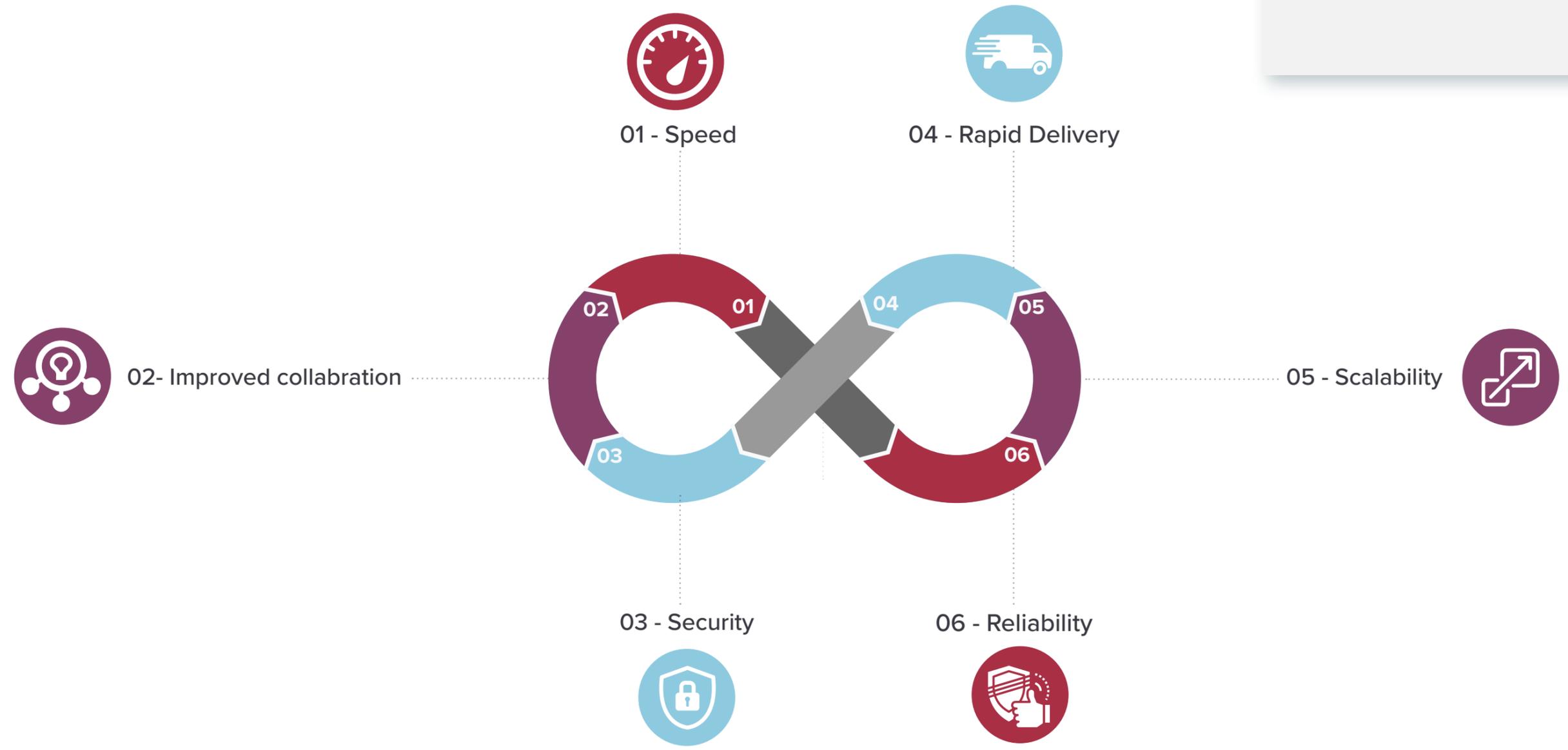
5 Container Management System

With the shift from virtualised to containerised systems, containerisation is the new norm in DevOps. It enables quick, secure, and efficient application building, test, deployment, and maintenance. It also enables in building platform agnostic applications which is portable.

6 Microservices Architecture

A relatively new trend in the market, microservices are small deployable services that enable the rapid, reliable, and frequent delivery of large and complex applications. It fits well with CI/CD process and DevOps mindset.

Enterprise DevOps: Trends & Key Benefits for Adoptors

Eastern Enterprise
empowering your software

Benefits of DevOps Adoption

The infographic below highlights the benefits that DevOps brings to the table for enterprises across all verticals:

01 - Speed

04 - Rapid Delivery

02- Improved collabration

05 - Scalability

03 - Security

06 - Reliability

01

02

03

04

05

06

Eastern Enterprise
empowering your software

Enterprise DevOps Implementation Challenges

Achieving a cultural upheaval in an organisation has its challenges, and DevOps is no exception. **Below we list some of the common obstacles to enterprise DevOps adoption and how to overcome them:**

- Integrating tools across different domains

- Shifting from legacy infrastructure to microservices

- Transforming traditional processes to more efficient methods

- Adoption of new DevOps tools

- Synchronising toolkits of operations and development teams

- Acclimatising to the DevOps culture

So, here's how organisations overcome these challenges:

- Implementing proper guidance, training and communication across all levels of the organisation

- Understanding and adopting industry standard best practices

- Ensuring closer alignment between the operations and development teams

- Upgrading legacy infrastructure and systems to stay ahead in the competition

- Breaking down silos and integrating different teams within the organisation

- Ensuring that DevOps tools integrate well with the existing infrastructure and align with security requirements

- Implementing DevOps centrally before scaling up across the organisation

Enterprise DevOps: Trends & Key Benefits for Adoptors

Eastern Enterprise
empowering your software

Key Trends Driving DevOps Adoption

DevOps has profoundly changed the way we build, run, and deploy applications. It has enabled organisations to promote better collaboration between operations engineers and software developers while improving productivity and workflow.

We will now look at some of the key trends driving the DevOps adoption across industries:

1 Shift to microservices

The transition from monolithic architectures to smaller, more agile, and independently deployable services is one of the primary drivers of DevOps adoption. According to a 2020 survey by O'Reilly, about 29% of organisations reported using microservices [12] to implement most of their systems.

2 Move towards containerisation

In a 2021 survey by the CNCF, 96% of organisations are either using or evaluating Kubernetes [13], an open-source system for automating and managing containerised applications. Containers have become crucial to the decentralised approach to software development, allowing system administrators and developers to quickly and efficiently build, test, deploy, and maintain applications.

3 Cloud adoption

Before cloud computing, managing data centres was a significant hassle for organisations since everything had to be done manually. However, the evolution of cloud computing [14] gradually enabled software development and management on the cloud as a default approach, a trend further accelerated by containerisation and microservices.

4 Agile infrastructure

DevOps owes much of its success directly to Agile. Before Agile, SDLCs were longer, and teams were siloed. Agile improved collaboration and significantly sped up development lifecycles, breaking projects into smaller deliverables and ensuring constant feedback. It paved the way for DevOps, which also focuses on the power of automation to improve collaboration.

Eastern Enterprise
empowering your software

DevOps Innovators and Adopters:
The Catalysts for Growth and New Trends

Companies like Netflix, Amazon, Google, and Etsy were some of the earliest champions of DevOps, even before the term DevOps itself became widespread. These web-scale or large cloud service companies of the early 2000s needed to revamp their architectures and processes to support technology at their business core.

During the first decade of the 2000s, Amazon shifted from building monolithic apps with large development teams to microservice-based apps. The change was inspired by the philosophy that too large a team hampers effective collaboration and lowers efficacy.

Among some of the early DevOps adopters are Nordstorm, Target, and Capital One.

In 2008, Netflix accelerated the transition to resilient, scalable, and distributed cloud-hosted systems after a database corruption affected the company's operations. Subsequently, in 2012, the online streaming giant embraced the DevOps principle of "Operate what you build" to deal with team silos and laborious deployments.

In 2011, a lack of performance testing in the code release process and a failed in-store application rewrite led Nordstorm to embrace continuous delivery and transition to infrastructure as code. Adopting DevOps allowed the technology organisation to achieve measurable outcomes, including more frequent feature releases, fewer bugs, faster deployment, and increased employee satisfaction.

American big-box department store chain Target contributed to the broader DevOps movement by remodelling its engineering culture after the 2013 data breach incident exposed a siloed organisational structure and substantial technical debt.

Rogers adoption curve for DevOps.

Source[1]

Eastern Enterprise
empowering your software
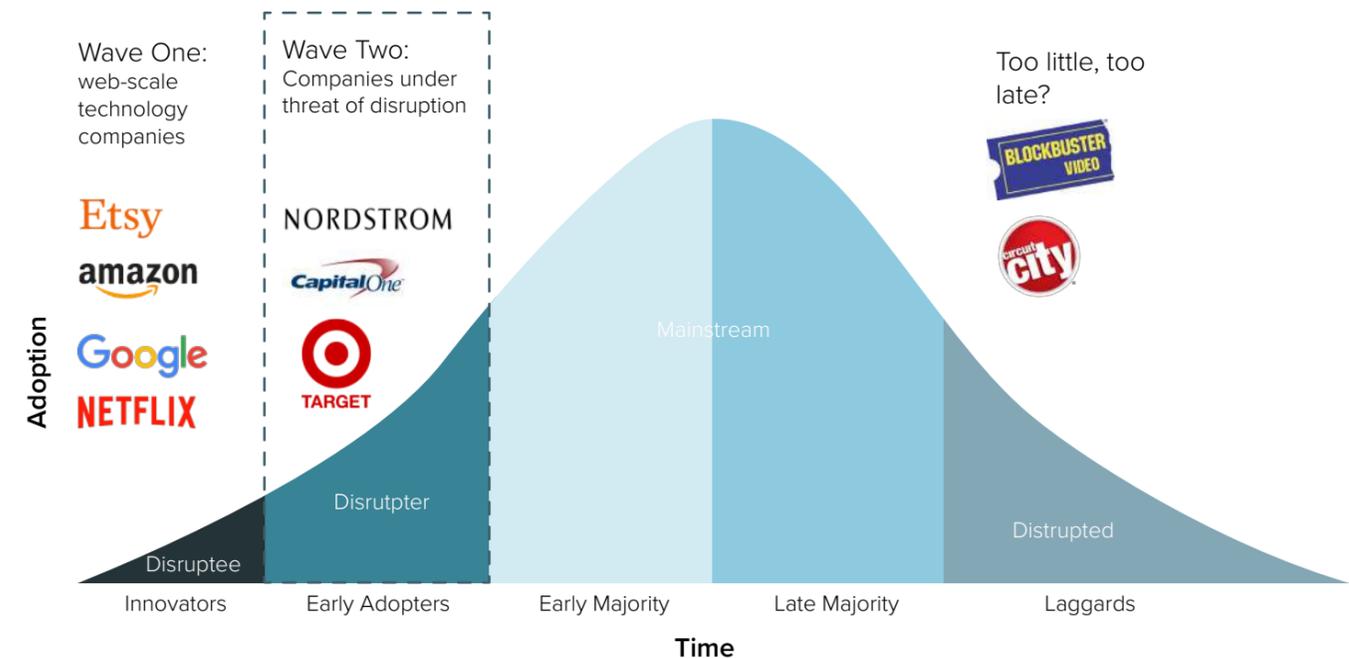
Summing It Up

Today's dynamic business environment and evolving customer expectations have created an extraordinary need to enhance operational efficiency. DevOps brings together software development and IT operations to facilitate a culture of shared responsibility and collaboration. Compared to traditional processes, DevOps increases the speed, efficiency, and security of software development, resulting in a competitive edge for businesses and a better experience for customers. Enterprises embracing DevOps can achieve business goals faster and better address changing customer needs. With a booming global DevOps market, it is not challenging to see that DevOps is the route to the future success of organisations.

Eastern Enterprise
empowering your software

Reference

1. https://blogs.vmware.com/management/2020/06/devops-early-adopters-and-outcomes-the-disruptees.html

2. https://blogs.vmware.com/management/2020/05/devops-early-adopters-and-outcomes-the-disrupters.html

3. https://www.infoq.com/articles/devops-secure-trends/

4. https://techbeacon.com/app-dev-testing/4-trends-driing-devops-adoption-understand-prosper

5. https://www.xenonstack.com/insights/challenges-devops/

6. https://aws.amazon.com/devops/what-is-devops/

7. https://www.clickittech.com/devops/devops-strategy/

8. https://www.plutora.com/blog/what-is-enterprise-devops

9. https://www.pagerduty.com/blog/complete-guide-enterprise-devops/

10. https://www.zdnet.com/article/devops-adoption-almost-doubles-in-five-years-covid-crisis-accelerates/

11. https://www.statista.com/statistics/1229785/devops-evolution-self-service-adoption/

12. https://www.oreilly.com/radar/microservices-adoption-in-2020/

13. https://www.cncf.io/wp-content/uploads/2022/02/CNCF-AR_FINAL-edits-15.2.21.pdf

14. https://findstack.com/cloud-computing-statistics/

For more information
Visit our website: www.easternenterprise.com
Contact Us: marketing@easternenterprise.com | +31-74-2591801

Stay connected

Eastern Enterprise
empowering your software