Hewlett Packard
Enterprise

DevOps Motivations and Barriers: Costs and Quality More Important Than Speed

Research White Paper

DevOps motivations and barriers: costs and quality more important than speed

Executive summary

As software development continues to infiltrate virtually everything an organization does, the interest in and adoption of DevOps continues to grow. Is everyone just trying to move faster? What are the specific underlying motivations? And what are the biggest barriers being encountered along the way? Orgs at different stages of DevOps were interviewed. Results show that the use of agile practices and the move to cloud is driving interest in DevOps, and that speed is not even one of the top two motivations – the top motivation is cost, followed by release quality. The top barrier to DevOps is security, followed by the project management process, and then team capability and delivery strategy, with the barriers depending some on how far along an organization is along in the journey.

ABOUT THIS RESEARCH

We interviewed 403 Development and IT Professionals using a 15 minute online survey.

Profile of companies:

- 500+ employees in company
- All verticals except ISVs and Education

Participant's primary role in organization:

- Dev Team (n=100)
- IT Operations (n=103)
- Test (n=100)
- Project Mgmt/Enterprise Project Management Office (EPMO) (n=100)

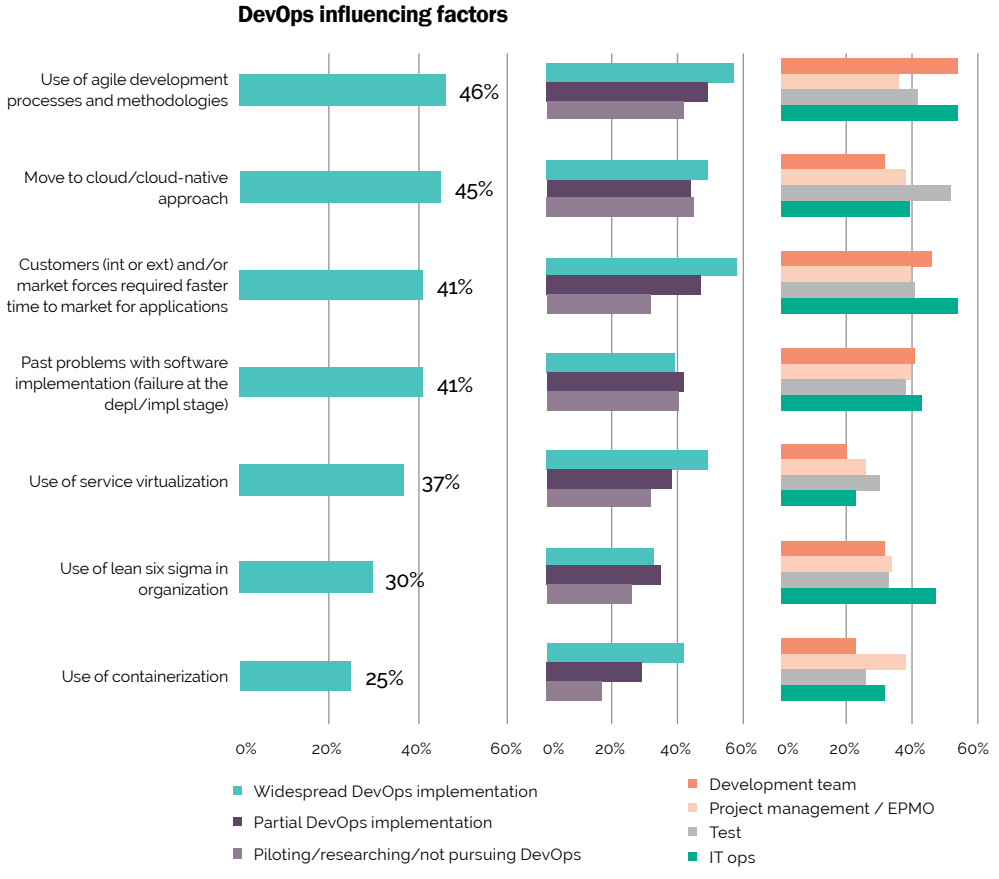
Key topic areas:

- Stage of DevOps at organization
- Dedicated vs. no dedicated DevOps
- Factors influencing DevOps adoption
- Motivations for implementing DevOps
- Barriers to implementing DevOps

This research was sponsored by Hewlett Packard Enterprise and conducted by YouGov

Factors influencing DevOps adoption

Before drilling into the specific underlying motivations for DevOps, we look at a variety of considerations related to the surrounding technology ecosystem that might be influencing the pace of adoption, such as the continued adoption of cloud services, virtualization, and containerization. We asked participants *"Which of the following factors do you think played a role in your organization's decision to research or implement DevOps principles"* The chart to the right shows those results. As can be seen, the top two factors asked about are the use of



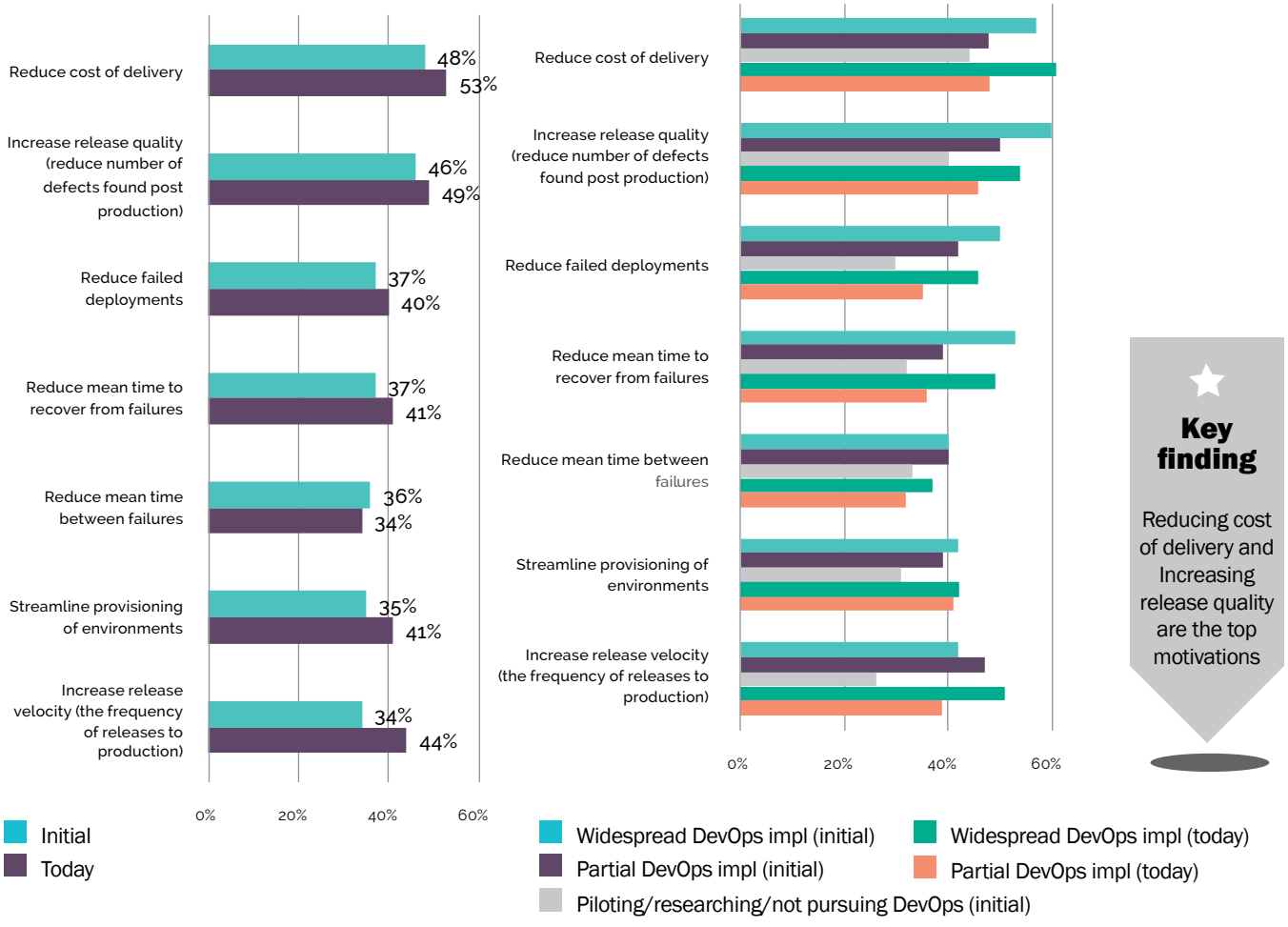
© Copyright 2016 Hewlett Packard Enterprise Development LP

agile development processes and methodologies, and the move to cloud/cloud-native approach, with just under half of the participants indicating those were factors. Overall the use of lean six sigma in organization and use of containerization were the least important considerations. But the overall view masks some important nuances by the org's DevOps stage, with many of the factors systematically more important the further you are into DevOps, with the two exceptions being *move to cloud/cloud-native approach* and *past problems with software implementation*, which are similarly important across stages. There is also some variation by the participant's role in the organization, with Testers citing the move to cloud most, IT Ops citing the use of lean six sigma more, and Project Managers/EPMO citing the use of containerization more than others

Motivations for DevOps

We now turn to a more detailed look at specific underlying motivations for DevOps. Participants were asked about a range of motivations, from increasing speed - along several dimensions, to reducing failed deployments, to increasing quality. For those who had already implemented DevOps, we asked about motivations at two time points - initially and today. The first graph on the left below shows the results overall, and the one two the right shows the same data by DevOps stage. Several trends to note. First, *reduce cost of delivery* is the most important motivation, both initially and today, and across stage. Close behind in second is *increase release quality*, which is also second initially and today, and across stage. The biggest gap between initial and today is for *increase release velocity*, which is a bigger motivation today than initially overall, but only for those with widespread implementations (see chart on right). Finally, those with widespread implementations cite more motivations in general, and are particularly more likely to cite *reduce mean time to recover from failures*.

DevOps motivations: initial versus today



© Copyright 2016 Hewlett Packard Enterprise Development LP

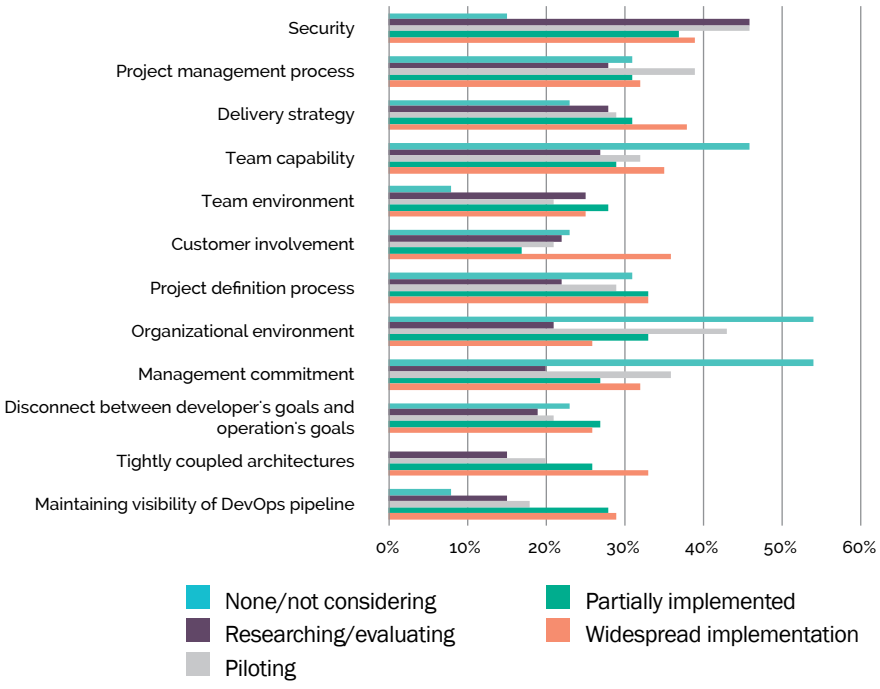
Barriers to DevOps

Given so many organizations are still in the process of implementing DevOps, we wanted to better understand what specific barriers are being encountered along the way. Participants were asked *"Which of the following do you view as barriers to fully implementing DevOps at your organization?"* They were subsequently asked to indicate the biggest barrier as well. Below are the results overall. First, *security* is considered the biggest barrier overall, which is followed by a number of barriers cited at similar levels, including *project management process, team capability,* and *delivery strategy*. Two of the less important barriers overall are *maintaining visibility of DevOps pipeline* and *tightly coupled architectures*.

Barriers and top barriers to implementing DevOps

But that's overall, which collapses across organizations at very different stages of DevOps. The second graph below shows how results vary by stage. The importance of *tightly coupled architectures, maintaining the visibility of DevOps pipeline*, and *delivery strategy* systematically increase the further you are into DevOps. Although a relatively small sample of people, those not doing anything with DevOps today and not considering it are much more likely to indicate that *organizational environment, management commitment*, and *team capability* are big barriers at their organization.

Barriers to Implementing DevOps by DevOps Stage



Key finding

Security is top barrier, followed by Project Management Process, Team Capability, and Delivery Strategy.

© Copyright 2016 Hewlett Packard Enterprise Development LP

Conclusion

While most associate DevOps with a desire to move faster, cost and quality are even more common motivations. The top barriers vary some depending on where you are in the journey. Orgs pursuing DevOps should create metrics that align with their motivations, and invest in technologies and solutions that address barriers other orgs have already identified along the way.

HPE ALM Octane

HPE ALM Octane is an Application Lifecycle Management (ALM) software offering for Agile and DevOps environments, designed to enable software development and testing teams to harness the proven benefits of DevOps and Agile development to deliver software with speed, quality and scale. HPE ALM Octane provides insights to developers and testers, helping them deliver applications quickly, without sacrificing quality or end-user experience.

Start your free HPE ALM Octane trial today.

Hewlett Packard Enterprise

© Copyright 2016 Hewlett Packard Enterprise Development LP. The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

This document contains confidential and/or legally privileged information. It is intended for Hewlett Packard Enterprise and Channel Partner Internal Use only. If you are not an intended recipient as identified on the front cover of this document, you are strictly prohibited from reviewing, redistributing, disseminating, or in any other way using or relying on the contents of this document.
4AA4-xxxxENW, November 2016