How Continuous Delivery and Lean Management Make Your DevOps Amazeballs

Nicole Forsgren, PhD

Director of Organizational Performance & Analytics, Chef
DevOps and the Bottom Line
One year later...
The Deets

• 4,976 respondents in 2015
  • 9,288 respondents in 2014
• Three groups of IT Performers:
  • High
  • Medium
  • Low
• Statistics BINGO:
  • Correlation, CMV, PLS, SEM, EFA, varimax, Eigenvalue, factor, construct

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DevOps is good for business
DevOps is good for business

IT Performance \rightarrow Org Performance
DevOps is good for business

High Performing IT Organizations:

- **2x** More likely to exceed Profitability, Market share, and Productivity goals (2014 and 2015)
- **50%** Higher market cap growth over 3 years* (2014*)
DevOps is good for IT Performance
But what IS IT Performance?

It is measured by:

**Agility**
- Deploy frequency
- Lead time

**Reliability**
- MTTR
- Change fail rate*

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DevOps is good for IT performance

High Performing IT Organizations:

More *agile*

- **30x** More frequent Deployments (2015 and 2014)
- **200x** Faster lead times than peers (2015 and 2014)

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DevOps is good for IT performance

High Performing IT Organizations:

More reliable

168x (2015)
48x (2014)
Faster
Mean time to recovery (MTTR)

60x
3x
Change Success Rate*

Org Performance

IT Performance

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Key Factors that Correlate with Each Component:

**MTTR**
Version control for *all* production artifacts
Monitoring

**Lead time for changes**
Version control for *all* production artifacts
Automated testing

**Deployment Frequency**
Version control for *all* production artifacts
Continuous Delivery

Also Super Important:

**Culture***
Job satisfaction
Climate for learning
But what *drives* IT Performance?
But what *drives* IT Performance?

1.

- ???
- IT Performance
- Org Performance

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But what *drives* IT Performance?

2. ???
1. IT Performance
   Org Performance

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But what *drives* IT Performance?

2. ??? $ightarrow$ 1. IT Performance $ightarrow$ $$$ Org Performance

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But what *drives* IT Performance?
Continuous Delivery practices

- Test deployment & automation
- Continuous integration
- All production artifacts in version control
Continuous Delivery makes our work better

Test deployment & automation

Continuous integration

All production artifacts in version control

Continuous Delivery

Lower Change Fail Rates

IT Performance

Org Performance

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“We never had testability before. We have it now. We have this experience and know this stuff is working, and working with controls.”
– Product Owner for Yahoo Chef implementation

Automated configuration and deployment of 250,000 nodes
Can deploy up to 140k node configurations in 8 hours.

Can patch entire infrastructure within 6 hours of a patch being made available
Continuous Delivery makes our work better... and makes it *feel* better!

- Test deployment & automation
- Continuous integration
- All production artifacts in version control

- Lower Change Fail Rates
- IT Performance
- Lower Deployment Pain
- Org Performance

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Continuous Delivery makes our work better... and makes it *feel* better!

- Test deployment & automation
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Continuous Delivery ➔ Lower Change Fail Rates ➔ Lower Deployment Pain ➔ IT Performance ➔ Org Performance

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But what else *drives* IT Performance?
Lean Management practices

WIP limits: drive improvement

Visualizations to monitor work

Monitoring to make business decisions

Lean Management → IT Performance → Org Performance

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Lean Management makes our work better

WIP limits: drive improvement

Visualizations to monitor work

Monitoring to make business decisions

Lean Management → IT Performance → Org Performance
“If it moves, graph it.”
- Michael Rembetsy, Vice President Operations, Etsy
Lean Management makes our work better... and makes it *feel* better!

- Improved Org Culture (Westrum)
- IT Performance
- Decreased Burnout
- Org Performance

- WIP limits: drive improvement
- Visualizations to monitor work
- Monitoring to make business decisions
"I was trying to figure out why my team was working themselves to death but not getting anything done… By implementing WIP limits, we were able to focus on our work. Finishing work feels better than sprinting and feeling like a hero in the moment, because that’s only a moment."

- Julia Wester, Development Manager for Turner Sports, Turner Broadcasting

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Lean Management makes our work better... and makes it *feel* better!

- WIP limits: drive improvement
- Visualizations to monitor work
- Monitoring to *make business decisions*

Lean Management → Improved Org Culture (Westrum) → IT Performance → Decreased Burnout → Org Performance
DevOps drives IT & Organizational Performance

- Tooling and automation
- Practice and process
- Culture

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DevOps drives IT & Organizational Performance

- Tooling and automation
  - Continuous Delivery
- Practice and process
  - Lean Management
- Culture
  - Westrum – high trust & information flow

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DevOps Benchmarking

From the team that brought you the Puppet Labs State of DevOps Report: Gene Kim, Jez Humble & Nicole Forsgren, PhD

• Benchmark your performance across four axes: culture, automation, process, measurement
• Compare your IT Performance against the industry standard
• Get a personalized report with results you can share

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Want to learn more?

To receive the following:

• **An exclusive invite to our DevOps benchmarking tool**
• A chance for a personalized analysis of your results with Gene, Jez, and Nicole
• A copy of this presentation
• A copy of the metrics guidance whitepaper from the DevOps Forum

Just send an email

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Subject: devops
Thank you

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