Accelerate. The Science of Lean Software and DevOps, Building and Scaling High Performing Technology Organizations

Nicole Forsgren, Jez Humble, Gene Kim

Methodology

- Data analysis of 23,000 data points from over 2,000 companies of various sizes

Highest performing companies

- Higher rates of profitability,
- Larger market share,
- Better customer satisfaction,
- Twice as likely to meet or exceed their organizational performance goals

Four key metrics

- Change Lead Time
- Deployment Frequency
- Change Failure Rate
- Mean Time to Recovery

24 Key capabilities

- Continous Delivery
- Architecture
- Product and Process
- Lean Management and Monitoring
- Cultural

Continous Delivery

- Use version control for all Production Artifacts
- Automate your deployment process
- Implement continous integration
- Use trunk-base development methods
- Implement test automation
- Support test data management
- Shift left on security
- Implement Continous Delivery

Architecture

- A Loosly Coupled Architecture
- Architect for Empowered Teams

Product and Process

- Gather and Implement Customer Feedback
- Make the flow of work visible through the value stream
- Work in small batches
- Foster and enable team experimentation

Lean management and Monitoring

- Have a lightweight change approval process
- Monitor across Application and Infrastructure to Inform Business Decisions
- Check System Health Proactively
- Improve processes and manage work-in-process limits
- Visualize work to monitor quality and communicate throughout the team

Cultural

- Support a generative Culture
- Encourage and Support Learning
- Support and Facilitate Collaboration among teams
- Provide resources and tools that make work meaningful
- Support or embody Transformational Leadership

Other interesting findings

- Burnout: poor organizational culture, poor leadership, lack of organizational investment, poor organizational performance, large deployment pain
- 50 % less time fixing security issues
- An experimental approach correlates to continous delivery