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

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

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

Find commonalities among the highest performing companies

- Exploratory Data analysis
- Correlations
- Employee surveys - example survey, pg 8
- Predictive modeling

Four key metrics

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

- Continous Delivery
- Architecture
- Product and Process
- Lean Management and Monitoring
- Cultural - Westrum Organizational Culture

Continous Delivery

- Use version control for all Production Artifacts: 5
- Automate your deployment process: 5
- Implement continous integration: 5
- Use trunk-base development methods: 5
- Implement test automation: 5
- Support test data management: 5
- Shift left on security: 5
- Implement Continous Delivery: 5

- A Loosly Coupled Architecture: 2
- Architect for Empowered Teams: 5

Product and Process

- Gather and Implement Customer Feedback: 3
- Make the flow of work visible through the value stream: 2
- Work in small batches: 5
- Foster and enable team experimentation: 3

Lean management and Monitoring

- Have a lightweight change approval process: 5
- Monitor across Application and Infrastructure to Inform Business Decisions: 3
- Check System Health Proactively: 1
- Improve processes and manage work-in-process limits: NA
- Visualize work to monitor quality and communicate throughout the team: NA

- Support a generative Culture: 5
- Encourage and Support Learning: 3
- Support and Facilitate Collaboration among teams: NA
- Provide resources and tools that make work meaningful: 5
- Support or embody Transformational Leadership:

Conclusions

- These capabilities are not a checklist to be completed
- Agile means we develop the strategy that works for us - e.g. techtro

How can we use this information?

- Continuous improvement of our own software development processes

- Take inspiration from the book to deliver something similar to schools

- We have enough data collected to start making general predictions about school quality

- We don't have the expertise in statistics and data science to make science-based predictions