the lean enterprise
@jezhumble
What Business Leaders Think About The Business-IT Relationship

“What level of influence does your software development provider have when it comes to deciding which business services or products you deliver?”

- **42%**: As-a-service — it responds to our requests
- **43%**: A partner — it works with us
- **14%**: IT/engineering drives technology innovation
- **1%**: Other

Base: 161 business decision-makers

Source: A commissioned study conducted by Forrester Consulting on behalf of Thoughtworks, September 2012
IT as a competitive advantage

“Firms with high-performing IT organizations were twice as likely to exceed their profitability, market share and productivity goals.”

“it performance”?

lead time for changes

release frequency

time to restore service

change fail rate
highest correlation with it performance

• “Our code, app configurations and system configurations are in a version control system”
• “We get failure alerts from logging and monitoring systems”
• “Developers merge their code into trunk daily”
• “When development and operations teams interact, the outcome is generally win/win.”
• “Developers break up large features into small, incremental changes.”
top predictors of it performance

peer-reviewed change approval process

version control everything

proactive monitoring

high trust organizational culture

win-win relationship between dev and ops
# High Trust Culture

<table>
<thead>
<tr>
<th>Pathological (power oriented)</th>
<th>Bureaucratic (rule oriented)</th>
<th>Generative (performance oriented)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low cooperation</td>
<td>Modest cooperation</td>
<td>High cooperation</td>
</tr>
<tr>
<td>Messengers shot</td>
<td>Messengers neglected</td>
<td>Messengers trained</td>
</tr>
<tr>
<td>Responsibilities shirked</td>
<td>Narrow responsibilities</td>
<td>Risks are shared</td>
</tr>
<tr>
<td>Bridging discouraged</td>
<td>Bridging tolerated</td>
<td>Bridging encouraged</td>
</tr>
<tr>
<td>Failure leads to scapegoating</td>
<td>Failure leads to justice</td>
<td>Failure leads to enquiry</td>
</tr>
<tr>
<td>Novelty crushed</td>
<td>Novelty leads to problems</td>
<td>Novelty implemented</td>
</tr>
</tbody>
</table>

changing culture

http://www.thisamericanlife.org/radio-archives/episode/403/nummi
http://sloanreview.mit.edu/article/how-to-change-a-culture-lessons-from-nummi/
Schein, The Corporate Culture Survival Guide

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“Since the loom stopped when a problem arose, no defective products were produced. This meant that a single operator could be put in charge of numerous looms, resulting in a tremendous improvement in productivity.”

http://www.toyota-global.com/company/vision_philosophy/toyota_production_system/jidoka.html
hp laserjet firmware team

2008

10% - code integration
20% - detailed planning
25% - porting code
25% - current product support
15% - manual testing
~5% - innovation
deployment pipeline
hp laserjet firmware team

2008

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2011

2% - continuous integration
5% - agile planning
15% - one main branch
10% - one branch cpe
5% - most testing automated
~40% - innovation

The remaining 23% on RHS is spent on managing automated tests.
the economics

2008 to 2011

- overall development costs reduced by ~40%
- programs under development increased by ~140%
- development costs per program down 78%
- resources now driving innovation increased by 5X
improvement kata

1. Understand the Direction
2. Grasp the Current Condition
3. Establish the Next Target Condition
4. PDCA Toward the Target Condition

Summary reflection

What have we learned?

Planning

Problem Solving and Adapting
improvement kata

What is the target condition? (The challenge)

What is the actual condition now?

What obstacles are preventing you from reaching it?

which one are you addressing now?

What is your next step? (Start of PDCA cycle)

When can we go and see what we learned from taking that step?
### Table 5.1. Sample Mini-Milestone Objectives (MM30 Objectives)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Theme</th>
<th>Exit Criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Quality threshold</td>
<td>Objective Met/Objective not met</td>
</tr>
<tr>
<td>1</td>
<td>Quarterly bit release</td>
<td>A) Final P1 change requests fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B) Reliability error rate at release criteria</td>
</tr>
<tr>
<td>2</td>
<td>New platform stability and test coverage</td>
<td>A) Customer Acceptance Test 100% passing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B) All L2 test pillars 98% passing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C) L4 test pillars in place</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D) L4 test coverage for all Product Turn On requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E) 100% execution of L4 tests on new products</td>
</tr>
<tr>
<td>3</td>
<td>Product Turn On dependencies and key features</td>
<td>A) Print for an hour at speed to finisher with stapling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B) Copy for an hour at speed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C) Enable powersave mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D) Manufacturing nightly test suite execution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E) Common Test Library support for four-line control panel display</td>
</tr>
<tr>
<td>4</td>
<td>Build for next-gen products</td>
<td>A) End-to-end system build on new processor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B) High-level performance analysis on new processor</td>
</tr>
<tr>
<td>5</td>
<td>Fleet integration plan</td>
<td>Align on content and schedule for “slivers” of end-to-end agile test with system test lab</td>
</tr>
</tbody>
</table>
hypothesis-driven delivery

We believe that

[building this feature]

[for these people]

will achieve [this outcome].

We will know we are successful when we see [this signal from the market].

Jeff Gothelf “Better product definition with Lean UX and Design” http://bit.ly/TylT6A
“Evaluating well–designed and executed experiments that were designed to improve a key metric, only about 1/3 were successful at improving the key metric!”

“Online Experimentation at Microsoft”, Kohavi et al  
http://stanford.io/130uW6X
Amazon May Deployment Stats
 production hosts & environments only

11.6 seconds
Mean time between deployments (weekday)

1,079
Max # of deployments in a single hour

10,000
Mean # of hosts simultaneously receiving a deployment

30,000
Max # of hosts simultaneously receiving a deployment
“I think building this culture is the key to innovation. Creativity must flow from everywhere. Whether you are a summer intern or the CTO, any good idea must be able to seek an objective test, preferably a test that exposes the idea to real customers. Everyone must be able to experiment, learn, and iterate.”

questions

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http://continuousdelivery.com/

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