Continuously Improving Culture through Design Decisions

Zachary Meath, Two Sigma Investments, LP
Important Legal Information

This document is being distributed for informational and educational purposes only and is not an offer to sell or the solicitation of an offer to buy any securities or other instruments. The information contained herein is not intended to provide, and should not be relied upon for, investment advice. The views expressed herein are not necessarily the views of Two Sigma Investments, LP or any of its affiliates (collectively, “Two Sigma”). Such views reflect the assumptions of the author(s) of the document and are subject to change without notice. The document may employ data derived from third-party sources. No representation is made by Two Sigma as to the accuracy of such information and the use of such information in no way implies an endorsement of the source of such information or its validity.

The copyrights and/or trademarks in some of the images, logos or other material used herein may be owned by entities other than Two Sigma. If so, such copyrights and/or trademarks are most likely owned by the entity that created the material and are used purely for identification and comment as fair use under international copyright and/or trademark laws. Use of such image, copyright or trademark does not imply any association with such organization (or endorsement of such organization) by Two Sigma, nor vice versa.
Who Am I?

1. Software Engineer in SDLC
2. DevOps Advocate
3. Tech Culture Enthusiast
Culture Disclaimer

What is the scope of this conversation?

Culture - The arts and other manifestations of human intellectual achievement regarded collectively.¹

Company/Organizational Culture - Company culture is the shared values, attributes, and characteristics of an organization.²

Tech Culture - The shared values, principles, and norms in a given community with respect to the usage of technology.³

¹ Merriam-Webster
² The Balance Careers
³ Me
Tech Culture Can Work Against Us

Just because something is declared a best practice, doesn't mean anyone is going to follow it.

Sometimes there might be a conflict between norms and what is actually a best practice.
Tech Culture Can Work For Us

If the culture’s norms are in our corner, it will be easy for people follow best practices

We can benefit from an improved culture as well
Change the Culture

You can just tell people to think differently, but good luck with that.

Look at your product from a culture perspective.

Make technical decisions to point people toward the culture that you think is desirable.
Benefits of a Healthy Culture

- Shared values
- Adoption of best practices
- Technical cohesion
- Principled disagreement
OCAI Types of Culture
OCAI Types of Culture

Organizational Culture Assessment Instrument

1. OCAI-online.com
Create

Do new things

- Innovate
- Freedom of thought and action
- Takes risks
- Learn from mistakes
- Fail fast
- Entrepreneurs + visionaries
Collaborate

Do things together

- Build teams
- Human development
- Commitment to long term change
- Collective wisdom
- Improve each other
- Mentor + coach

1. ocai-online.com
Control

Do things right

- Eliminate errors
- Attention to detail
- Logical problem solving
- Increase reliability
- Build efficient routines
- Organizers and administrators
Compete

Play to win

- Competition
- Fast change
- Target/deadline focussed
- Deliver results quickly
- Good goals are important
- Reputation for getting results
OCAI Types of Culture

1. Create
2. Collaborate
3. Control
4. Compete
Tech Culture
Values of Technology

- Shared values within a community that are focused on how they interact with technology
- Shared values lead to shared behavior, or cultural outcomes
- Values, along with culture, are always changing
Culture is hard to define or quantify
To get the best understanding, culture needs to be experienced
“You know it when you see it”
To change someone’s mind, they must:

1. **Convince** themselves that a new idea is worth valuing
2. **Combine** it with pre-existing values to generate outcomes
3. **Motivate** themselves to act differently based on those values
Culture Analysis
Your Product(s) Influence Cultural Outcomes

What cultural outcome does your product guide people towards? Does it motivate anyone to break best practices in the name of convenience? Does it facilitate additional exploration into the nuances of values?
Actions Speak Louder Than Words

People will say that they value something, but not actually put it into practice.

Look at what do people *do* (cultural outcomes) to see what they actually value.
DevOps Values

- Automate all the things
- Fast iteration
- Embrace failure
- Constant feedback
- Collaboration
- Ensure reliability
TS DevOps

Culture Analysis

TWO SIGMA

- Automation
- Cohesion
- Collaboration
- Frequency of deployment (iteration)
- Release confidence
COIN
COntinuous INtegration

- Cohesive CI/CD platform that unifies the DevOps experience at Two Sigma
- Give users flexibility while still promoting best practices
- Continuously integrate good ideas!

Jenkins artwork courtesy of the Jenkins project [https://jenkins.io](https://jenkins.io)
Strategies For Improvement
“Be the change you want to see in the world”
- Mahatma Gandhi

Lead by example
Live up to your own standards
Prove that your values are worth having
Set the Example

- Dogfood our own product
- Follow other best practices
- Communicate decisions with intent and reasoning
Create Incentives

Make it easy for people to avoid shortcuts
Recognize behavior in line with values

Employees who don’t feel recognized are twice as likely to quit their job in a year, while the top 20% of companies with a recognition-rich culture have a 31% lower turnover rate.¹

Gamification is great for competitive people

¹ https://blog.bonus.ly/improve-company-culture/
Incentives

• Demonstrate value
• CD for free!
• Exemplify success stories, learn from mistakes
Create Hard Rules

Don't allow users to do the “wrong” thing
Enforce best practices
Abstract away some decisions
Hard Rules

- Only administrators have access to Jenkins config
- Mandate source control for pipelines
- Containers must be up-to-date
Facilitate Innovation

Provide the tools and guidance for users to innovate
Leave room for creativity
Adopt good ideas
Tools For Innovation

- Integrations with our internal tools
  - Monorepo
  - Build + Test system
  - Deployment service
  - Kubernetes
  - Release notes generator
- Dynamic worker environment with varying levels of customization
Build a Community

Culture spreads best through communities
Culture develops and changes more quickly
Bolsters many other strategies
Community Initiatives

- Discussion rooms in Slack
- COIN Class
- User Stories presentations
- Community-developed extensions
Have a Tight Feedback Loop

Make sure things happen quickly, or at least keep communicating

Be actively responsive to questions or feedback

Don’t take requests at face value, understand root cause
Feedback Loop

- Communicate early and often about feature requests
- Have CD!
- Collect feedback
  - Release notes
- Measure adoption

Example
Measure Impact

Know if cultural outcomes are improving or not
Prove value to stakeholders
Diagnose additional culture gaps
Measurements of Impact

- DevOps Metrics
  - Lead time
  - Deployment Frequency
  - Mean time to restore
  - Change fail percentages
- Dashboard to track releases out-of-the-box

Example

End Result
Tech Culture Can Work For Us

If the culture’s norms are in our corner, it will be easy for people follow best practices

We can benefit from an improved culture as well
Change the Culture

You can just tell people to think differently, but good luck with that.

Look at your product from a culture perspective.

Make technical decisions to point people toward the culture that you think is desirable.
Benefits of a Healthy Culture

↑ Shared values
↑ Adoption of best practices
↑ Technical cohesion
↓ Principled disagreement
COIN’s Success

90+ instances of Jenkins running in Kubernetes
1300+ pipelines
~10x in deployment frequency
~40,000 tests run per day

1. Does not include test farm tests
Thank you!