Learning to Surf

The Lean Mindset
Our Two Minds

System 1:
- Fast
- Reflexive
- Responsive
- Expertise
- Intuition
- Habit
- Tacit Knowledge
- Autopilot
- Makes Most Decisions
- Overrides System 2

System 2:
- Slow
- Deliberate
- Rational
- Analysis
- Evidence
- Plans
- Explicit Knowledge
- Manual Mode
- Checks up on System 1
- Basically Lazy

Daniel Kahneman – *Thinking Fast and Slow*
“Instead of learning to surf, conventional organizations try to control the waves! This almost never works.” --- Allen Ward
Learning to Surf

Expertise

10 Years / 10,000 hours of Deliberate Practice

Coach

Feedback

Challenge

Progress

Cognitive Biases

Confirmation Bias
Tendency to seek out or interpret information in a way that will confirm preexisting viewpoints.

Anchoring
Tendency to “anchor” or rely heavily on the first trait or piece of information that was observed.

Loss Aversion
Tendency to strongly prefer avoiding losses to acquiring gains.
# Dealing With Cognitive Biases

## Options

- **Teenage Decision-making**
  - Weather-or-Not
  - Either-Or

- **Widen the Frame**
  - Both – And
  - None of the Above

- **Develop Multiple Options**
  - Learn as Much as Possible
  - Decide as Late as Possible

- **Look for Patterns**
  - Find the Bright Spots
  - Look for Analogies

*Decisive by Chip and Dan Heath

## Opinions

- **The Wisdom of Crowds**
  - Multi-discipline Team
  - Voting Customers

- **Widen the Perspective**
  - Invite Disagreement
  - Look at the Adoption Chain

- **Zoom in – Zoom out**
  - Get Close
  - Attain Distance

- **Look at Base Rates**
  - What are the odds?
  - What makes you different?
Can Big Companies Surf?

ERICSSON

$33 Billion
110+ Employees
Sells ~ 40% of mobile network equipment.
It supplies software and operations, and manages infrastructure build-out projects.

Will supply much of the equipment and software, installation and operation.
1. Manage features, not projects.
2. Decouple releases from development.
   a) Product and technical leadership.
   b) Autonomy and responsibility.
4. Component specialists were consultants
5. Central planning coordinates features
   a) One feature (~3 weeks) at a time
   b) Set date and allow content to vary
   c) Team worked with customer engineer to determine detailed scope

The past was not good enough for the future.

Results:

✓ Twice as fast
✓ Higher hit rate
✓ Significantly higher quality
✓ More engaged engineers

Mats Lindén
Reliable Promises

The past was not good enough for the future.

Accept uncertainty and learn how to live with it.

1. Manage features, not projects.
2. Decouple releases from development.
   a) Product and technical leadership.
   b) Autonomy and responsibility.
4. Reorganized management jobs
5. Central planning coordinates features
   a) Sets content and allow date to vary

Ericsson Networks

Hendrik Esser
Both Predictability And Autonomy

Managing Complexity
1. Probe
2. Observe
3. Adjust

Achieving Predictability
1. Flow
2. Obstacle
3. Adjustment
Remember times when:

✓ You are deeply engaged
✓ Distractions disappear
✓ Time evaporates

This is called **FLOW**.

People are Energized by

**A Challenge to Reach Their Full Potential**

Mihaly Csikszentmihalyi

(me-high chick-sent-me-high-ee)
What is a Challenge?

Safety-Focused Goals (Prevention Focus)
- Prevent Failure
  - Is it safe?
  - Find the safest option
- Duty and Obligation
  - Setbacks => redoubled efforts
  - Praise => more relaxed efforts

Aspirational Goals (Promotion Focus)
- Create gains
  - Let’s do it!
  - Explore all the options
- Aspirational Goals
  - Praise => redoubled efforts
  - Setbacks => discouragement

Regulatory Fit Theory*
- People learn from childhood to favor a focus
- Use goals that fit the regulatory focus of the people

Goal Conflict
- Large companies struggle with aspirational goals.
- Startups struggle with safety-focused goals.

*Work of Troy Higgins
Moore’s Law

Cramming more components onto integrated circuits

By Gordon E. Moore
Director, Research and Development Laboratories, Fairchild Semiconductor division of Fairchild Camera and Instrument Corp. Electronics, Volume 38, Number 8, April 19, 1965

If transistors were people
If the transistors in a microprocessor were represented by people, the following timeline gives an idea of the pace of Moore’s Law.

- **2,300** Average music hall capacity
- **134,000** Large stadium capacity
- **32 Million** Population of Tokyo
- **1.3 Billion** Population of China

Now imagine that those 1.3 billion people could fit onstage in the original music hall. That’s the scale of Moore’s Law.
At Intel, every department is involved in Moore’s Law. Even PDE. (Product Development Engineering) Especially PDE!

From First Silicon to PRQ (Product Readiness Qualification)

1. 2007-2008: Early Agile
2. 2009-2010: Advanced Agile
3. 2011-2012: Beyond Agile

Post-silicon Validation Challenges, by Keshava, Hakim, & Prudvi (Intel), presented at DAC ‘10, Anaheim, 2010
**Triple Productivity in Eighteen Months**

20011 – 2012: Beyond Agile

Moore’s Law required:
3X More Validation Cycles

Same Funding and Time
18 months to figure it out.

3X Working Group:
Translate 3X to Specific Targets

Lean Product Development
Solution sets converge through a series of Integrating Events (IE’s).

www.targetedconvergence.com

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Integrating Events Drive Learning

Integrating Event Goals: A = Assignment, F= Funding, C = Convergence, D = Done
**Test-Frist Engineering**

**Goal:** Every two weeks, over a 48 hour weekend, software will be validated by placing 55,000 units in test sockets.

**Feasibility:** Robot specs show it is capable of doing this.

**Coach:** Have you tested it?

**Team:** No…but –

Team decided to test 1500 parts. Robot broke down after 80….

*It took a year of improvements for the robot to work reliably at the needed volume and speed.*
Great results happen when:

- People know **why** they are doing their work
- Organizations focus on delivering **outcomes and impacts** rather than features
- Teams decide what to do next based on **immediate and direct feedback** from the use of their work
- Everyone **cares**

Beware of Metrics

Yes, the planet got destroyed. But for a beautiful moment in time we created a lot of value for shareholders.
Learning to Surf

Develop Expertise
- Meaningful Challenge
- Coach
- Feedback
- Progress

Guard Against Bias
- Confirmation Bias
- Anchoring
- Loss Aversion

Try Multiple Options
- All of the Above
- None of the Above
- Exactly the Opposite
- Set-Based Design
- Bright Spots
- Analogies

Seek Multiple Opinions
- Multi-discipline Team
- Customer Votes
- Invite Disagreement
- Adoption Chain
- Front Line
- Base Rates
Thank You!

The Lean Mindset

Book Available Fall, 2013