Agile Base Patterns: The Agile Way of Doing

Dan Greening  
dan@senexrex.com

Dan Greening

- Managing Director: Senex Rex Agile Consulting
- Certified Scrum Coach (CSC)
- Head coach: Skype, Citrix Online
- Startup successes
- PhD, computer science, UCLA

Agenda

- Why did lean and agile methodologies arise?
- What patterns do they share and why?
- Why do organizations fail to sustain agility?
- What characteristics do agile managers share?

Toyota vs GM

Toyota
- JIT/lean manufacturing
- Continuous improvement
- Top-down alignment
- Collective responsibility
- Respect for people

General Motors
- Forecast and inventory
- Contract-dictated actions
- Plant manager autonomy
- Role-based responsibility
- Class-based association

Most profitable

Bankrupt

Software Project Failures

Agility Defined

Agile organizations can
- Sense
- Adapt
- Create faster than chaotic change
Why do we care?
Chaos Creates Opportunities

Everyone’s ability to predict the future degrades exponentially with time. So create a company that exploits this chaos better than competitors.

Pattern 1: Fixed-budget creativity often fails...

- Economics drive everything we do
- Economies produce value with limited resources
- Forces
  - Success metrics lag the work
  - Risk is rarely measured
  - Creativity generates variation

...therefore, measure economic progress

- Identify top-level goals
- Align everyone else
- Find leading metrics
- Departments have their own

Avoid perversity

- Balance metrics
- Evolve metrics

Result (measure economic progress)

- Coherent company
  - Mission, vision and goals
  - Employee, team behavior
- If economy unchanging
  - We react
  - We learn
  - We forecast

Agile Base Patterns: Are we agile?

- Measure economic progress
- Proactively experiment to improve
- Limit work in process
- Embrace collective responsibility
- Solve systemic problems
Pattern 2: Reacting is not enough …

- Complacency lulls us
- … we don’t hear a train

... therefore, proactively experiment

- Experiment
  - Brainstorm
  - Test a hypothesis
  - Control the experiment
- Evolve, but …
  - test revolutionary theories too
- Beware variability control
  - Can kill creativity

Scrum Retrospective = Experiment

Learn more: Seek 50% Invalidation

100% invalidated

100% validated

Where we learn the most

“Stretch goals”

“Agile is for the team”

Result (Proactively Experiment)

- Hyperproductive teams
  - 40% higher quality
  - 100% faster production
  - Jakobsen and Sutherland, “Scrum and CMMI: Going from Good to Great,” 2009 Agile Conference, IEEE
- Organizations “disrupt themselves”

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Pattern 3: Utilization creates delay...

- We feel better if everyone is busy
- Why can’t they get stuff done on time?

Congestion

Cognition and Creative Focus

Creative focus
- We can remember ≤ 7±2 concepts

Source: Stanford University

...therefore, limit work-in-process

- Geometric Backlogs help make tradeoffs
- Incremental work tests theories faster

Limit WIP: Incremental Production

- Rapidly deliver small increments of value
  - Possibility of rapid feedback
  - Cancellable work (sunk cost is low)
  - Learn faster than chaotic economy changes

- Manage # of options to match cognitive limits

Result (Limit WIP)
**Agile Base Patterns: Are we agile?**

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**4: People create delay by avoiding responsibility...**

![Responsibility Chart]

No problems get solved until we take responsibility

- Obligation
- Shame
- Justify
- Lay blame
- Denial

Source: Christopher Avery

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**...therefore, embrace collective responsibility**

- Provide people with...
  - autonomy, understanding, authority
  - Information radiators
- Teach Responsibility Process
  - Seek faster responsibility

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**Result (collective responsibility)**

- Greater elasticity
- In-team
  - Collaborative problem solving
  - Increased teaching and learning

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- Solve systemic problems

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**5: External factors limit our agility...**

- Dependencies
  - Make us wait
  - Make us test more
- Handoff interference
  - Even more delays
...therefore, solve systemic problems

- Convert bosses to be agile
- Build collaborative teams of peer managers
  - Manage strategic work with agile
    - hiring, comp, review, M&A, etc.
  - Ritualize and celebrate problem solving
- Analyze and change structural systems
  - Lean Kanban, ToC, Dependency Mapping, A3

Result (solve systemic problems)

- Culture of problem solving
- Cross-department collaboration
- Faster organization

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Why do organizations lose agility?

| Misalignment of organizational and individual goals |
|----------------------------------|----------------|
| **Agile Base Patterns** | **Agility Lost** |
| Measure progress | Stopped measuring (agile for us, stretch goals) |
| Proactively experiment | Discouraged experimentation (risk aversion) |
| Limit work in process | No automation, Took on too much work |
| Collective responsibility | Assigned responsibility |
| Solve systemic problems | High territoriality |

What do agile managers do?

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<th>Agile Managers</th>
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<td>Measure department's service to customer</td>
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<tr>
<td>Proactively experiment</td>
<td>Create low-risk experiments</td>
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<td>Limit work in process</td>
<td>Limit departmental work in process</td>
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<td>Solve systemic problems</td>
<td>Teach, mentor, coach their skills</td>
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Top-Down Agile beats Bottom-Up

People working for an agile manager must become and sustain agility, to realize the manager's personal goals
References: Agile Managers

- [http://senexrex.com/agile-managers/](http://senexrex.com/agile-managers/)
- Greening, “Agile Base Patterns in the Agile Canon,” HICSS 2016
- Greening, “Release Duration and Enterprise Agility,” HICSS 2013
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Sustained Agility

http://senexrex.com/blog

Dan Greening
+1(415)754-8311
dan@senexrex.com

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