Driving Enterprise Innovation with the Scaled Agile Framework®

or … “Whoosh goes the small batch size through your big system”

Dean Leffingwell
What’s Stifling Innovation Now?
We can build the whole thing right the first time.
Some nagging assumptions – budget

*If we planned the whole thing,*
*and the ROI is dependent on the whole thing,*
*and we are going to build the whole thing in one fell swoop …*

*then we have to budget for the whole thing.*

Result: We hereby, and probably irrevocably, dedicate the whole budget to the whole thing.
Some nagging assumptions – organization and utilization

Functional specialization and high utilization lowers total cost.

Operating a product development process near full utilization is an economic disaster.

—Don Reinertsen
Some nagging assumptions – deployment

If we just build it, we can surely deploy it. It’s just installation, right?

Development:
- Create change
- Add new functionality

Operations:
- Maintain stability
- Sustain or enhance services

DevOps
Our retrospectives read like this:

- Lack of transparency
- Too early selection of designs
- Late delivery
- Dissatisfied customers
- Too much complexity
- Problems discovered too late
- Too many dependencies
- Phase gates don’t reduce risk
- No systematic improvement
- Poor morale
Is Batch Size a Root Cause?
How batch size effects cycle time and variability

Implementing Lean Software Development, Poppendieck, Mary.
The importance of small batches

- Large batch sizes increase variability
- High utilization increases variability
- Severe project slippage is the most likely result

- Small batches go through the system faster, with lower variability
- Most important batch is the transport (handoff) batch
- Proximity (co-location) enables small batch size
- Good infrastructure enables small batches

*Principles of Product Development Flow, Reinertsen, Don.*
How much quicker? A movie …

Exercise: Experience large batch sizes

- Create groups of five people, with 10 coins per group. One person is the timekeeper. The remaining four people process the coins.
- Person by person, flip all coins one at a time, recording your own results (heads or tails)
- Pass all coins at the same time to the next person
- Time keeper records time from the start of the first flip to the completion of the last flip for the group

Exercise: Experience small batch sizes

- Similar four person process
- Each person flips each coin one at a time and records the result
- But, passes each coin as flipped
- The time keeper records the time from the start of the first flip to the completion of the last flip
Recap: Took 1:58 to process
Next: Process in small batches
Just 10 seconds for first penny to be delivered
How long for ALL the pennies to make it through?

Process #2
0:10

Process #1
1:58

CLICK TO PLAY
The end result: 41 seconds vs 1:58
Where do traditional assumptions put us?

Severe project slippage is the most likely result.

Utilization
We Can Fix This
... entrepreneurs are everywhere and the Lean Startup approach can work in any size company, even a very large enterprise, in any sector or industry.

— Eric Ries, *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*
The magic word is: 

Hypothesis
Foster innovation with the Lean Startup Cycle

Minimum Viable Product is the smallest thing you can build to deliver value and test the **hypothesis**.
Fund smaller batches

Yes, we have a budget estimate, but we are only going to initially fund the MVP.

We hereby, and perhaps not even irrevocably, dedicate smaller dollars to the MVP.
Organize to eliminate batch handoffs

Most important batch is the handoff batch.
Test feature assumptions with Lean UX

Implement and evaluate Minimum Marketable Features (MMF).

Minimum Viable Product is the smallest thing you can build to deliver value and test the hypothesis.
Develop in small batches
On transaction costs

But what happens if a small batch meets large transaction costs?
In fact, it’s this problem

Optimum batch size is an example of a U-curve optimization.

- **Total** costs are the sum of holding costs and transaction costs.
- Higher transaction costs shift optimum batch size higher.

Principles of Product Development Flow, Reinertsen, Don.
If we want to release more frequently ...

Reducing transaction costs shifts optimum batch size lower.

Batch size reduction probably saves twice what you think.

*Principles of Product Development Flow*, Reinertsen, Don.
How Do We Accomplish This Feat?
Reduce the transaction cost with DevOps

Culture

Automation

Lean flow

Measurement

Recovery
DevOps enables small batches

Good infrastructure enables small batches.
Implementing DevOps

- Visualize the current state of your delivery pipeline
- Identify gaps, delays and bottlenecks
- Visualize future state
- Prioritize and implement actions
Example
Assess and continue your journey

- Map your progress with the SAFe DevOps Health Radar
- Answer the questions
- Get insights into what to do next
- Available for free at: scaledagileframework.com
But wait, Our problems are different

We aren't building a website.

We aren't hosted in the cloud.

Our customers don’t want continuous delivery.

Our technology isn't based on micro services.

We don’t have just the one platform.
A common disease that afflicts management the world over is the impression that, “Our problems are different.”

They are different to be sure, but the principles that will help to improve quality of product and service are universal in nature.

—W. Edwards Deming
Our problems may be different, but the principles are not
Quality Results: v1 Techniques

Reducing the batch size (28 to 14 weeks) and applying Lean & DevOps principles has resulted in a 90% (10x improvement). And value is delivered in half the time!
And finally, release in small batches
Whoosh Goes the Small Batch Through Your Big System!
Questions