WIP: The Tragedy Continues

The tragedy of WIP at scale
Welcome

Goal          Improve service delivery
Welcome

**Goal**
- Improve service delivery

**Techniques**
- Optimize the right things
- Avoid the tragedy of WIP
- Keep your options open
- Focus at multiple levels
- Clarity of purpose (Strategy)
Optimize the Right Things
How Long Does it Take?

Customer lead time (Time to market)

Queue time (Waiting)

Time in process (TIP)

Great Idea! I love it!

We should get started.

Ok, all good!

We should get started.

Ok, all good!
How Long Does it Take?

Time in Process (TIP)

- What is this thing?
- I think it works.
- Now?
- Whew! Ship it!
- Nope!
- Yep!
How Long Does it Take?

Time in Process (TIP)

Analysis and design | Code | Test (and fix) | Ship
--- | --- | --- | ---
What is this thing? | I think it works. | Now? | Whew! Ship it!

Yep! | Nope! |
How Long Does it Take?

Time in process (TIP)

- Wait time = 18 days
- Touch time = 2 days

<table>
<thead>
<tr>
<th>Analysis and design</th>
<th>Code</th>
<th>Test (and fix)</th>
<th>Ship</th>
</tr>
</thead>
</table>
How Long Does it Take?

Time in process (TIP)

Wait time = 18 days

Touch time = 2 days

Flow efficiency = \( \frac{\text{Touch time}}{\text{Wait time} + \text{Touch time}} = \frac{2d}{18d + 2d} = 10\% \) efficiency
What is Your Goal?

Flow efficiency
10% efficiency
Get things done

“I love it! (Wow, that was fast!)”

“Resource” efficiency
100% efficiency
Keep people busy

“I should get started ... (but, I’m so busy)”
Your Goal

Keep value moving!
We Have Lots of Work
(Don’t We Have Both Efficiencies?)
The Tragedy of WIP
Work Interacts (Through Workers) ...

![Graph: Lead time vs. WIP](image)

- **X-axis:** Work items in progress (items)
- **Y-axis:** Lead time (days)

The graph shows the relationship between the number of work items in progress and the lead time. As the number of work items in progress increases, the lead time also increases significantly, indicating a nonlinear relationship.
... and Impacts Throughput

Lead time vs. WIP

TP = \frac{\text{WIP}}{\text{Lead Time}}

Target range

Real definition: [https://en.wikipedia.org/wiki/Little%27s_law](https://en.wikipedia.org/wiki/Little%27s_law)
Also see work by Daniel Vacanti on “Little’s Flaw”
Let’s Juggle
Does this really matter?
PRODUCTIVITY

WiP per Team Member vs Throughput
higher is better

RESPONSIVENESS

WiP per Team Member vs Time in Process
lower is better

QUALITY

WiP per Team Member vs Defect Density
lower is better

PREDICTABILITY

WiP per Team Member vs Variation of Throughput
lower is better
How can we fix this?

- Only start the really important things
- For every two items you finish, start one new one
- For every “expedite,” pull an existing item out
- Try the saturation approach (stop assigning stories to individuals)
- Say “not yet” more
- Be creative
Options and Commitment
Balancing expectations and flexibility
When Do You Commit?

Customer lead time
(Time to market)

Queue time
(waiting...)

Time in process
(TIP)

When do your customers believe you?
When Do You Commit?

An untrusted commitment has no meaning (but lots of stress)

When do your customers believe you?
Avoid Empty Commitments

An untrusted commitment has no meaning (but lots of stress)

- Treat work here as options
- These are committed
- Changing our minds here is cheap
- Changing here has a cost
... and Impacts Throughput

Lead time vs. WIP

- Target range
- Commit to here
- Not to here

Throughput (items per day)

- Lead time
- Throughput

Work items in progress (items)

- Lead time (days)
Commit Later (and Mean It)

- Options have value
- Options expire
- Never commit early unless you know why

Cover image courtesy Amazon.com, used with authors’ permission
Get where you need to be
Highest impact is usually improving SSLT
Requires many opportunities for value delivery

This

Not

This

Time
Now we play with marbles!
How to play with marbles (aka: the exercise)

- **Roles & working:**
  - Each team (row/table) anoints a “Product Owner” that is responsible for bringing marbles from the common backlog to the team.
  - Each marble needs to be individually held motionless in each hand by each person on the team to be “done”
  - The Product Owner also plays “Release Manager” by sorting team marbles into appropriate jars at front after work is completed

- **Completion:**
  - A “feature” is done when a jar is full of a single color marble
  - Goal is to deploy features to users for fast feedback.
Round 1: Component Teams

Each team’s “sprint” (3oz cup of marbles) contains a mixture of stories from different features that are part of the team’s component.
Round 2: Feature Teams

Each team’s “sprint” (3oz cup of marbles) contains stories from a single feature, which the team will own entirely.
Round 3: Feature Swarms

Each team’s “sprint” (3oz cup of marbles) contains stories from a single feature, which multiple teams are swarming on at the same time.
Stories don’t tell the whole story
The “boomerang principle”

- Component Teams
- Feature Teams
- Feature Swarms

- Typical starting condition
- Improved interim condition
- Next level of improvement, externally similar to initial condition

Nope!
Imposed WIP: Shocks the system
Three varieties of innovation

**Incidental Innovation** – Improvements occur as a side effect of doing the main work

**Adjacency Innovation** – Naturally emerge from learning in the main work

**Disruptive Innovation** – Require focus away from the main work
Clarity of Purpose
Business Agility

The ability to sense, respond, and create change in the market

Organizational Health

Structural Flexibility
Clarity of purpose, constancy of purpose

1. Build a Cohesive Leadership Team
2. Create Clarity
3. Over-Communicate Clarity
4. Reinforce Clarity

ORGANIZATIONAL HEALTH

Image from http://www.tablegroup.com/organizational-health
Book: The Advantage
Strategy is a hypothesis about the future

Strategy drives focus, providing a tool for saying “no”

David J Bland @davidjbland
5h
Startup founders don't lack ideas, they lack focus.

David J Bland @davidjbland

They want to go in all directions at once, often afraid of committing to one idea.

7/10/16, 3:40 PM
Change in process – Business Initiatives

Effective strategy deployment flexes the company. Maintaining health is imperative.

Initiative Roadmap

AMBU Initiative kanban
Consistency of steering

- **Update Strategies** (JUN)
- **Cross-functional Capacity Mgmt** (SEP)
- **Rotate check in on key initiatives** (MAR, MAY, JUL, SEP)
- **Focused check in on Strategy metrics** (JUN, AUG)
- **Align to Strategies** (APR, OCT)
- **Cross-functional initiative steering** (JUL, AUG, SEP)
- **All comms aligned** (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec)

**ANNUAL PLANNING**
- JAN: Update Strategies
- FEB: Cross-functional Capacity Mgmt
- MAR, APR, MAY, JUN: Rotate check in on key initiatives
- JUL, AUG, SEP: Focused check in on Strategy metrics
- OCT, NOV, DEC: Align to Strategies

**QUARTERLY STEERING**
- JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG: Rotate check in on key initiatives
- SEP: Focused check in on Strategy metrics
- OCT, NOV, DEC: Align to Strategies

**LEADERSHIP MTG**
- JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP: Rotate check in on key initiatives
- OCT, NOV, DEC: Align to Strategies

**METRICS MTG**
- JAN, FEB, MAR, APR, MAY, JUN: Rotate check in on key initiatives
- JUL, AUG, SEP, OCT, NOV, DEC: Align to Strategies

**BUDGET PROCESS**
- JAN, FEB, MAR, APR, MAY: Rotate check in on key initiatives
- JUN, JUL, AUG, SEP, OCT, NOV, DEC: Align to Strategies

**BOARD MTGS**
- JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP: Rotate check in on key initiatives
- OCT, NOV, DEC: Align to Strategies

**DEPT ANNUAL PLANNING**
- JAN, FEB, MAR, APR, MAY: Rotate check in on key initiatives
- JUN, JUL, AUG, SEP, OCT, NOV, DEC: Align to Strategies

**DEPT QUARTERLY STEERING**
- JAN, FEB, MAR, APR: Rotate check in on key initiatives
- MAY: Focused check in on Strategy metrics
- JUN, JUL: Align to Strategies
- AUG, SEP, OCT: Cross-functional initiative steering
- NOV, DEC: All comms aligned

**TEAM PLANNING**
- JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC: All comms aligned

**ALL HANDS MEETING**
- JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC: All comms aligned

**WEEKLY COMMUNICATION**
- JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC: All comms aligned
Summary: Five Simple Guidelines

1. Keep work moving
2. Do less at once
3. Commit when it means something
4. Limit WIP at Feature and Capability levels
5. Drive clarity of purpose through simple, concise strategies
Questions?