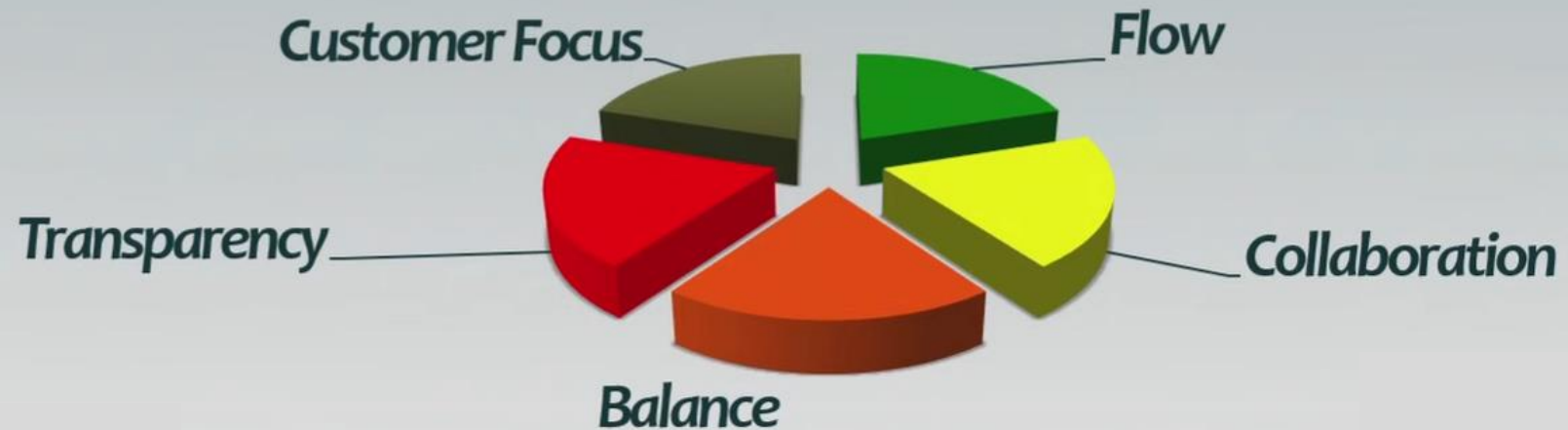




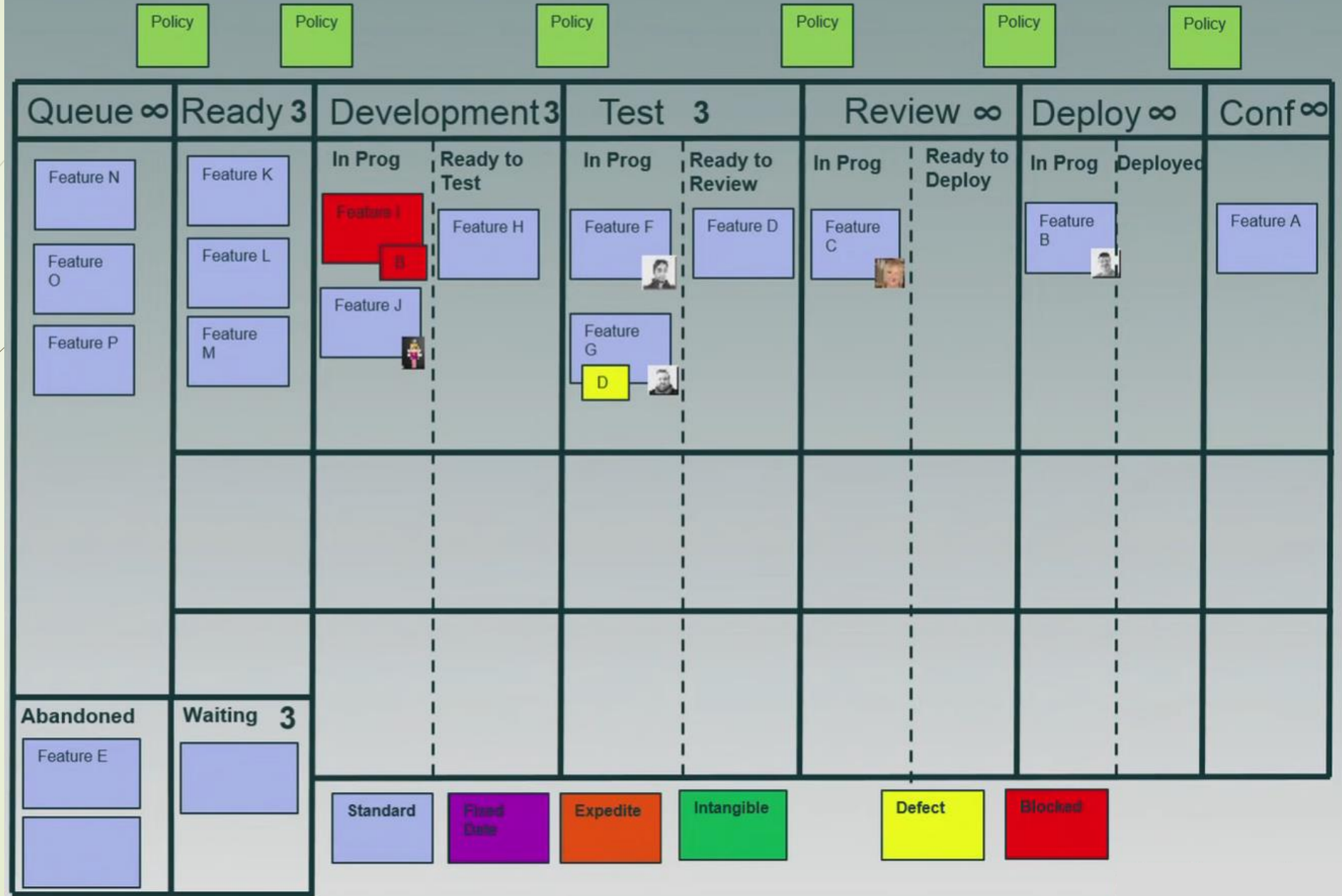
Kanban Methodology

Core Practices of the Kanban Method

- Visualize
- Limit Work In Progress (WIP)
- Manage flow
- Make policies explicit
- Implement feedback loops
- Improve collaboratively, evolve experimentally (using models & scientific method)



Practice 1 - Visualise



Ticket Design

Color of the ticket

Typically used to indicated technical or skillset risks

The ticket form is a rectangular card with a light yellow background and a dark green border. It contains the following elements:

- Title:** A label at the top left.
- Decorators:** A purple star and a red circle containing the letter 'H' are located in the top right corner.
- Checkboxes...**: A section with two columns labeled 'req' and 'complete'. Each column has four red square checkboxes, corresponding to 'risk 1', 'risk 2', 'risk 3', and 'risk 4' on the left.
- Date Fields:** A table-like structure with four rows: 'Start', 'Due', 'End', and 'Other'. Each row has a date input field with the placeholder 'dd/mm/yyyy'.
- SLA or Target Date:** A horizontal bar at the bottom with vertical lines, representing a timeline or progress bar.

Decorators
(Shape & Color)

Sometimes used to highlight technical dependencies

(Letter)

Sometimes used to visualize legacy process artifacts such as "priority"

Dates

Sometimes used to record local cycle time per work state

Age (days elapsed)

SLA or
Target Date

Practice 2 - Limiting WIP

- Encourage
 - *Swarming*
 - *Flow*
 - *Pull*
 - *Small* Work Items
 - *Finishing* Work Items
 - *Balance* the board



- This means more than stopping Multi-tasking

Little's Law

Ready / Queue	In Dev		QA	Review	Done
2	4		2	2	
	Dev	QA Ready			
■ ■	■ ■	■ ■	■ ■	■ ■	■ ■ ■ ■



Lead Time (5 days)

- Limit WIP to improve lead times
- Attack lead times (eliminate delays) and see WIP go down
- Increase throughput by adding capability directly or improve the process and see the benefit in lead times &/or WIP

Average Work in Progress (WIP)

10

$$\text{Average Lead Time (LT)} = \frac{\text{Average Work in Progress (WIP)}}{\text{Delivery Rate (DR)}}$$

5 days 2 Per day

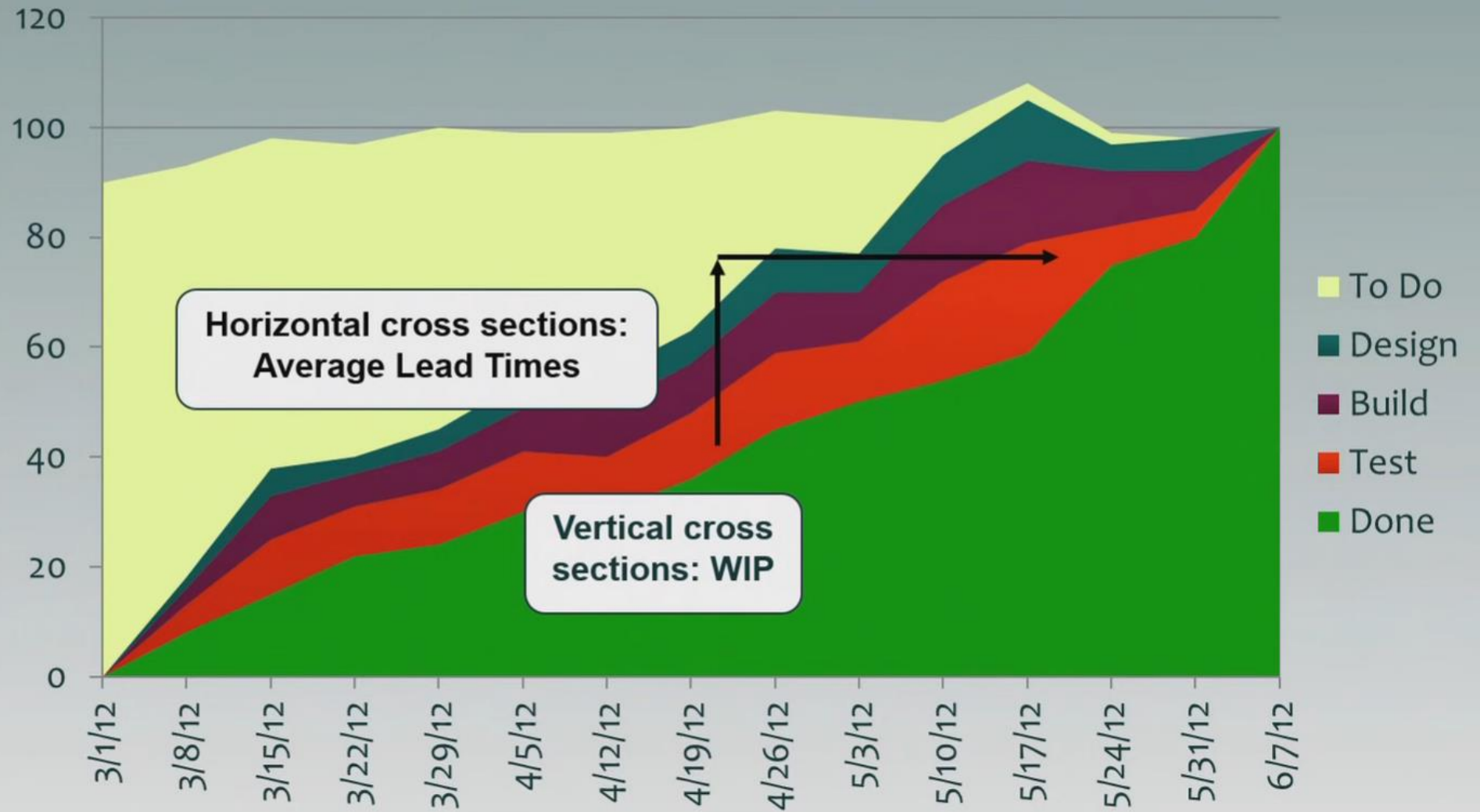
Where WIP = Total number of items in the system at a time

How to Set and Maintain Limits

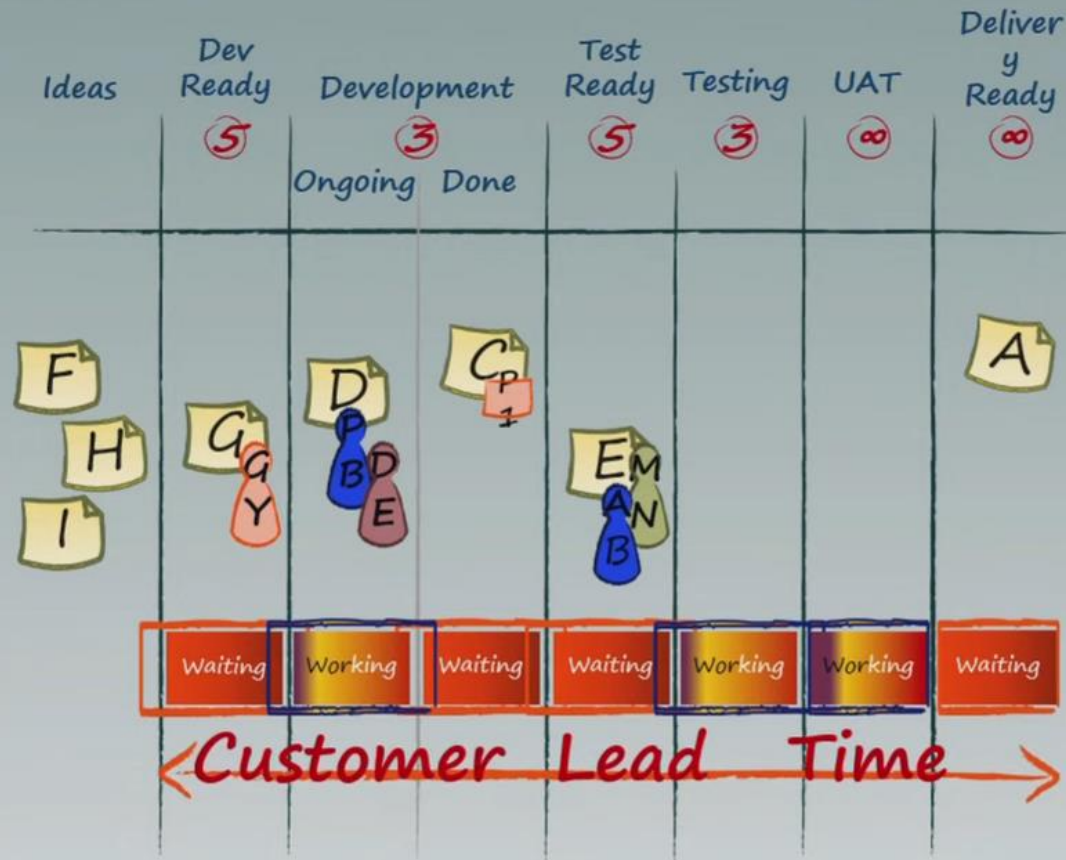
- Initially set limits:
 - By limiting items per person/pair
 - By considering target lead time
(Use Little's Law as a guide)
 - Reduce them *gradually*
- Then maintain them by considering:
 - Is the work flowing?
 - Are we *seeing* the problems to fix?
 - Conversely, are the problems too painful?
 - Blockers? Starvation?



Practice 3 – Managing Flow



Flow Efficiency



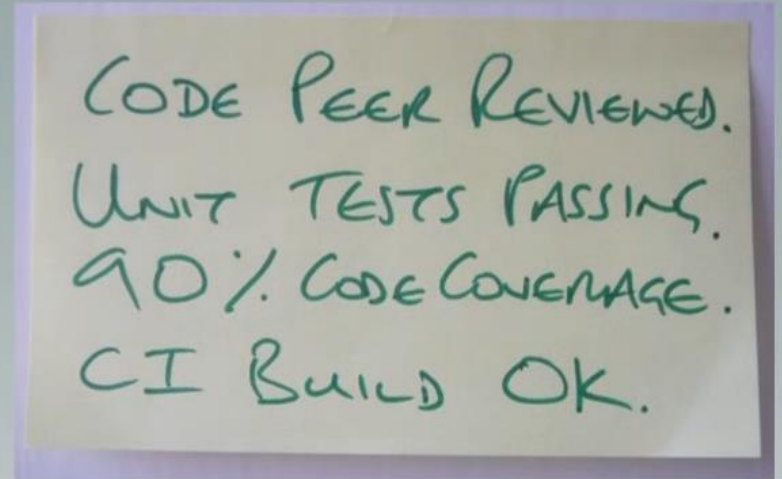
- Multitasking means time spent in working columns is often waiting time
- Flow efficiency measures the percentage of total lead time is spent actually adding value versus waiting
- Flow efficiencies of 1-5% are commonly reported. > 40% is good!

$$\text{Flow efficiency \%} = \frac{\text{Work Time}}{\text{Lead Time}} \times 100\%$$

Practice 4 – Make policies Explicit

Criteria for:

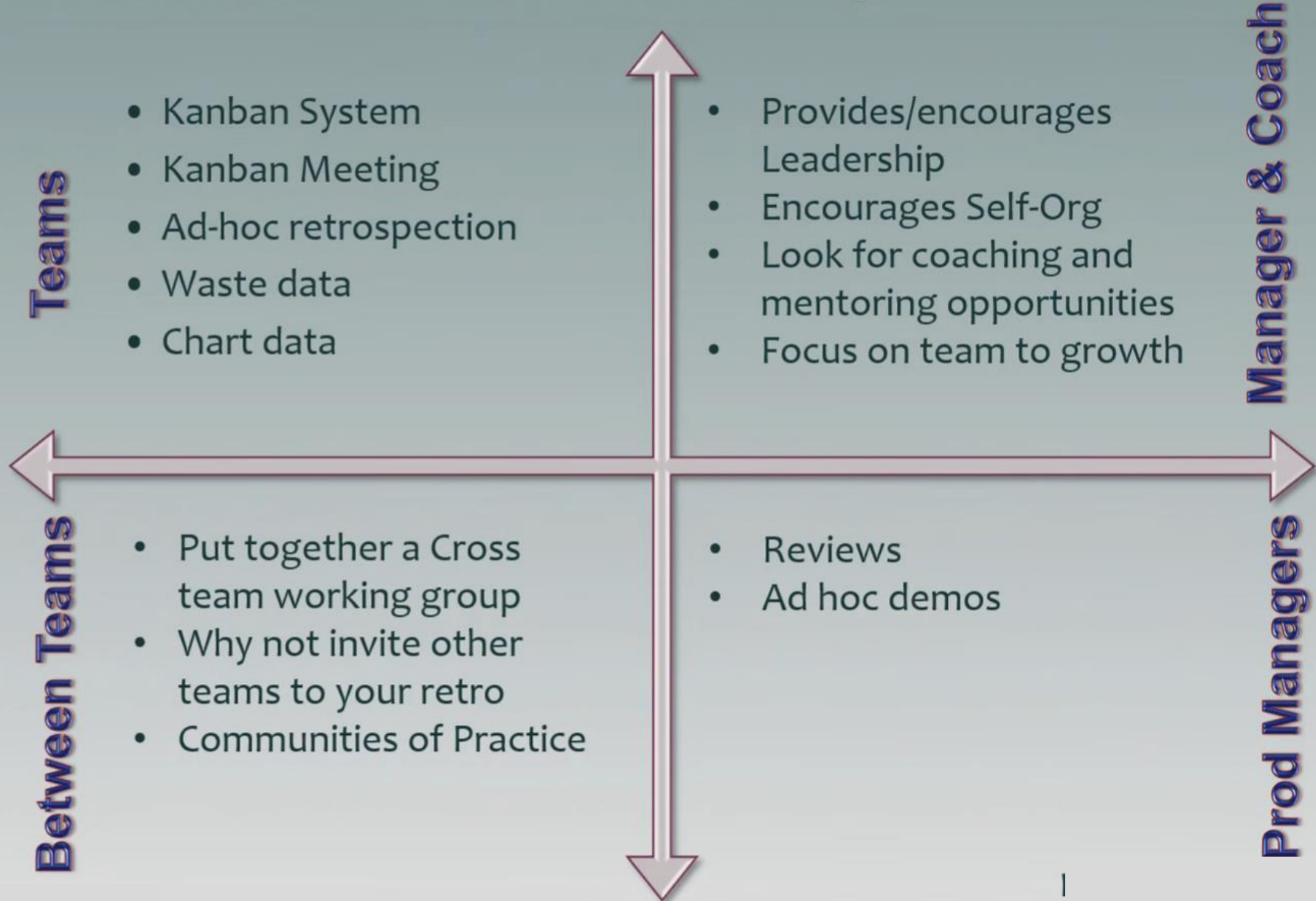
- Columns & Swim lanes
- Entry to Columns
- Class of Services
- Types of work
- Ways of working
- Must be
 - Discussed
 - Agreed
 - Documented
 - Reviewed regularly



CODE PEER REVIEWED.
UNIT TESTS PASSING.
90% CODE COVERAGE.
CI BUILD OK.

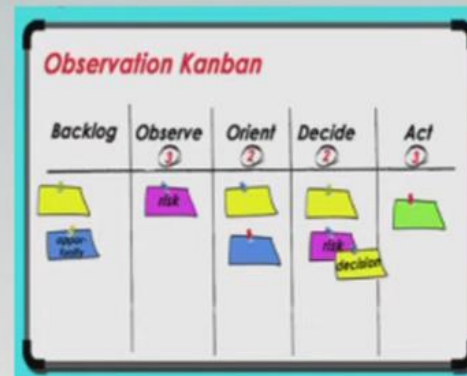
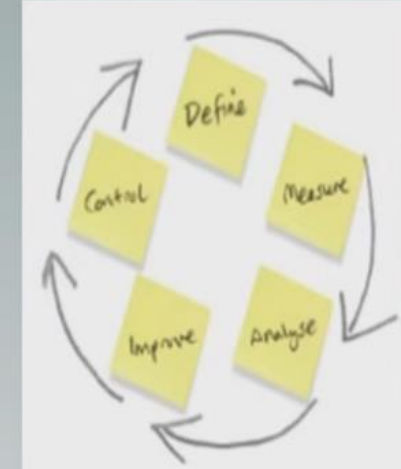
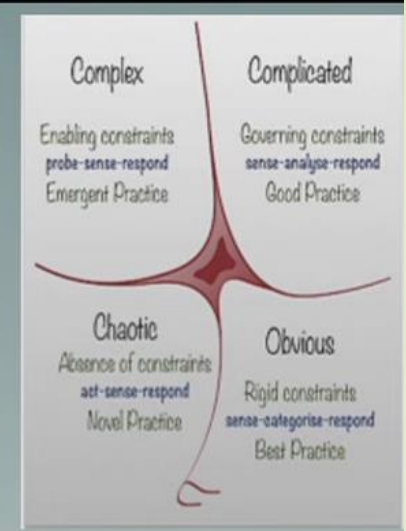
Policies help to control the flow of work and for others members to understand how to use the system.

Practice 5 – Feedback Loops



Practice 6 – Improve Collaboratively Using Scientific Models & Method

- What do you change?
 - How do you decide?
 - Who should decide?
- Scientific Method requires measurement
- Data is your friend
 - Shows improvement (or not)
 - Allows meaningful discussions around completion



The AD Report

THEME: "What are we trying to do?"

Background:

- Background of the problem
- Current required for full understanding
- Importance of the problem

Current Conditions:

- Diagram of current situation (or process)
- Highlight weaknesses with blue arrows
- What should the system look like?
- Current of the problem(s), i.e., constraints

Future Analysis:

- (or probability)
- Best body think of each cause

Target Conditions:

- Diagram of proposed new process
- Current measures used as fully viable
- Measure the target (quantity, when)

Implementation Plan:

2017	2017	2017	2017

Follow Up:

2017	2017	2017	2017



Thank you for your attention!