

Agile Project Management

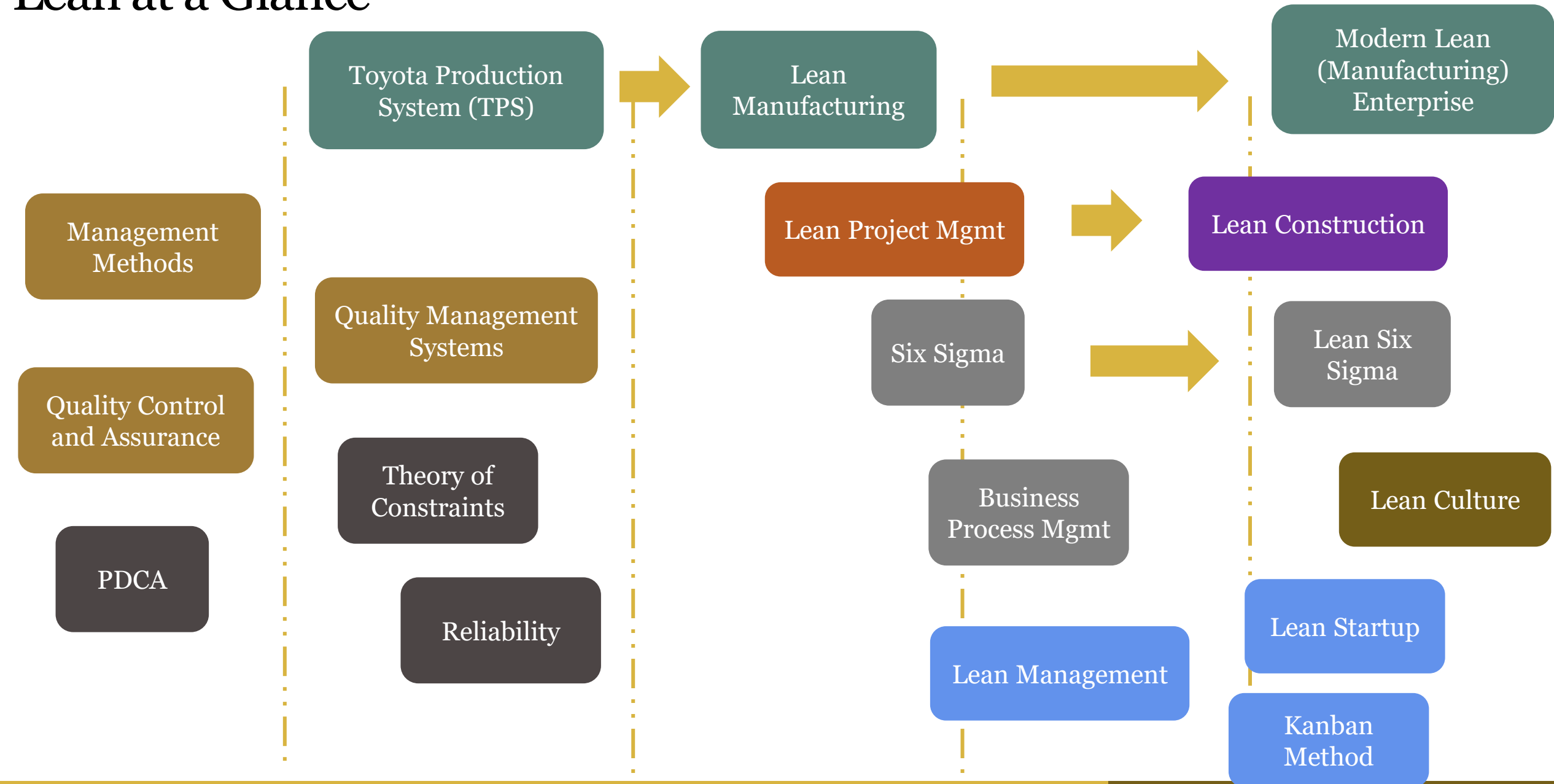
Managing Projects under Uncertainty



Nariman Dorafshan, 2023

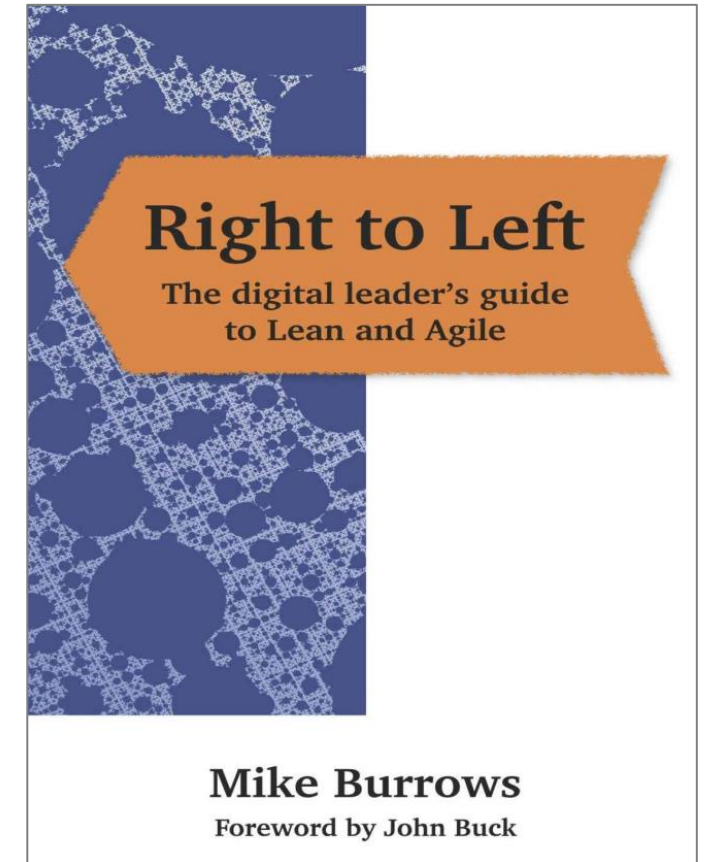
Session 08 Summary

Lean at a Glance



Lean:

The **strategic pursuit** of **flow**,
a **deliberate** process of **organizational**
learning



Mike Burrows, *Right to Left*,
New Generation Publishing, 2019

Lean:

The pursuit of flow as **strategic imperative**,
an **open-ended** and **purpose-driven endeavor** that
continuously and deliberately engages people at **every level**
of the organization in a **learning process**

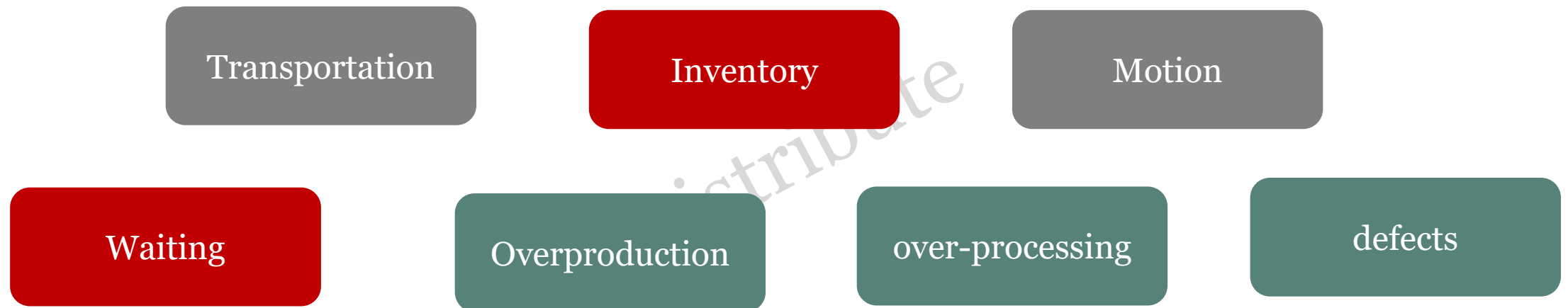
Mike Burrows, *Right to Left*,
New Generation Publishing, 2019

Lean Principles

- Principle 1: Identify value
 - Principle 2: Map the value stream
 - Principle 3: Create flow
 - Principle 4: Establish pull
 - Principle 5: Pursue perfection
- Womack, Jones, & Roos, “The Machine That Changed the World”, 1991; brought the term *lean production* to prominence.

Lean's Wastes

7 Classis Wastes:



8th Waste:

Unfulfilled human
potential

Some wastes are universal

- **Excess inventory** is simultaneously a cause and a symptom of waste
- Whether you're **waiting** for something physical or virtual, the impact is much the same
- By definition, **over-production, over-processing**, and similar excesses must be wasteful
- **Defects** are so insidious that it usually pays to “*stop the line*” and deal with them at source the moment they are discovered

Inventory

- Inventory is so fundamental that it features in a key mathematical relationship, *Little's law*.
- Averaged over *suitable periods* of time:

$$\textit{Time in process} = \textit{Inventory} / \textit{Throughput}$$

- Where:
 - *Time in process* is the time taken for similar units of work to pass through the system (or part thereof)
 - *Inventory* is the number of those units of work in the system
 - *Throughput* is the rate at which those units pass through the system per unit of time

Why do obsessed with Inventory?

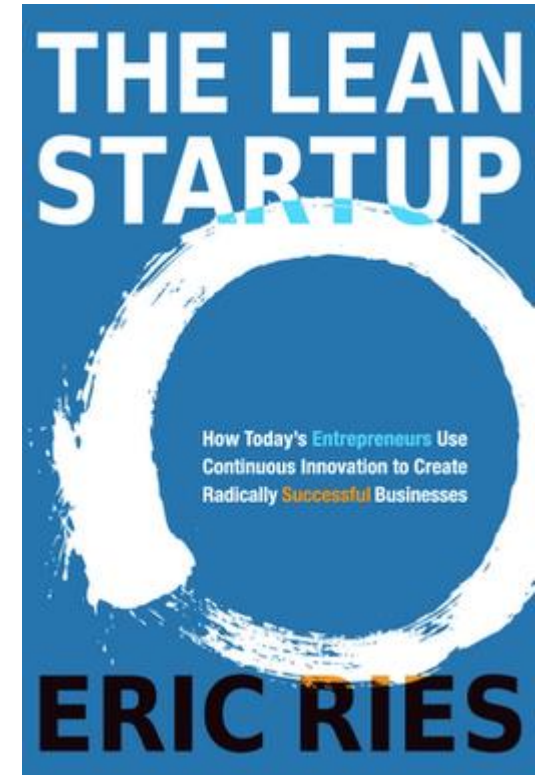
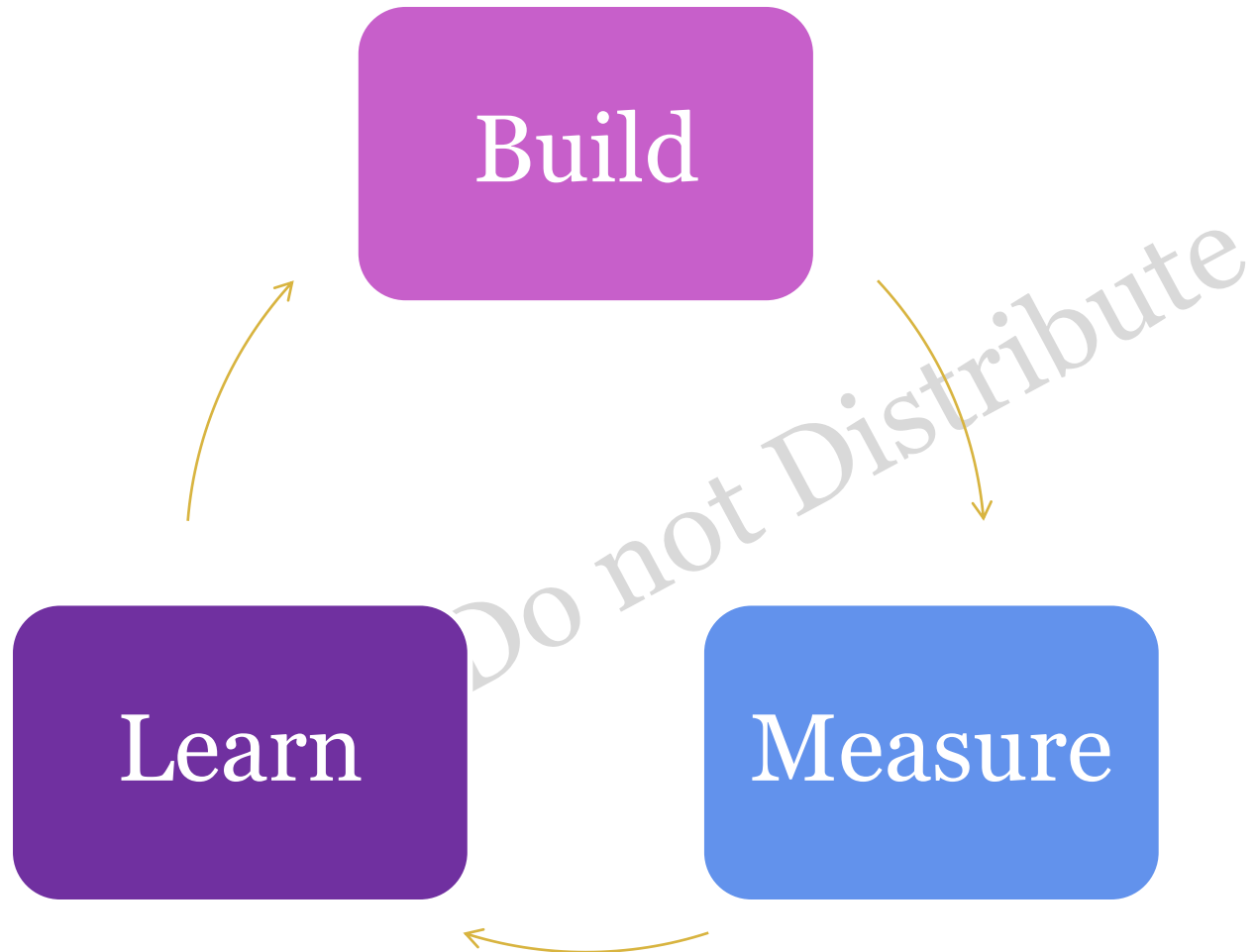
- Once you grasp Little's law, Lean's apparent obsession with inventory seems only sensible!
 - If you can reduce inventory without unduly impacting throughput, time in process must also reduce.
 - If you can eliminate delays, you will see inventory reduce or throughput increase (and perhaps both).

Variation and Overburdening

Not counted among the 7 wastes but in important categories of their own:

- *Variation* – inconsistency, unpredictability, unevenness, or irregularity – whether of demand, flow, quality or some other measure of system or product performance
- *Overburdening* – people and systems over-stressed and unable to perform at their best, the result of excess inventory, unexpected demand, management failure, or some other cause

The Lean Startup (2011)



Eric Ries
(1978-)



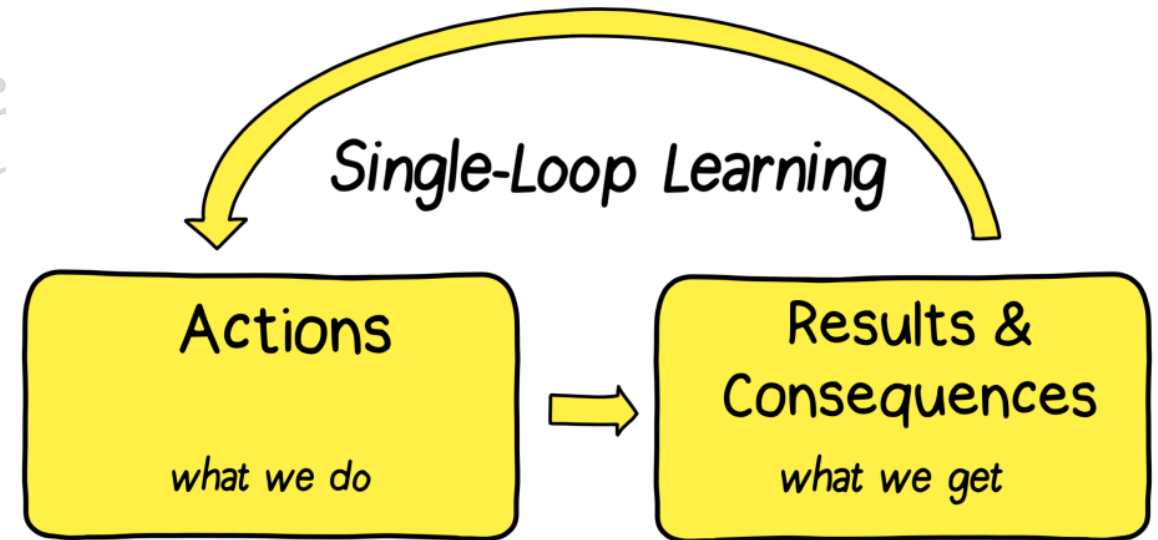
Part 5.1

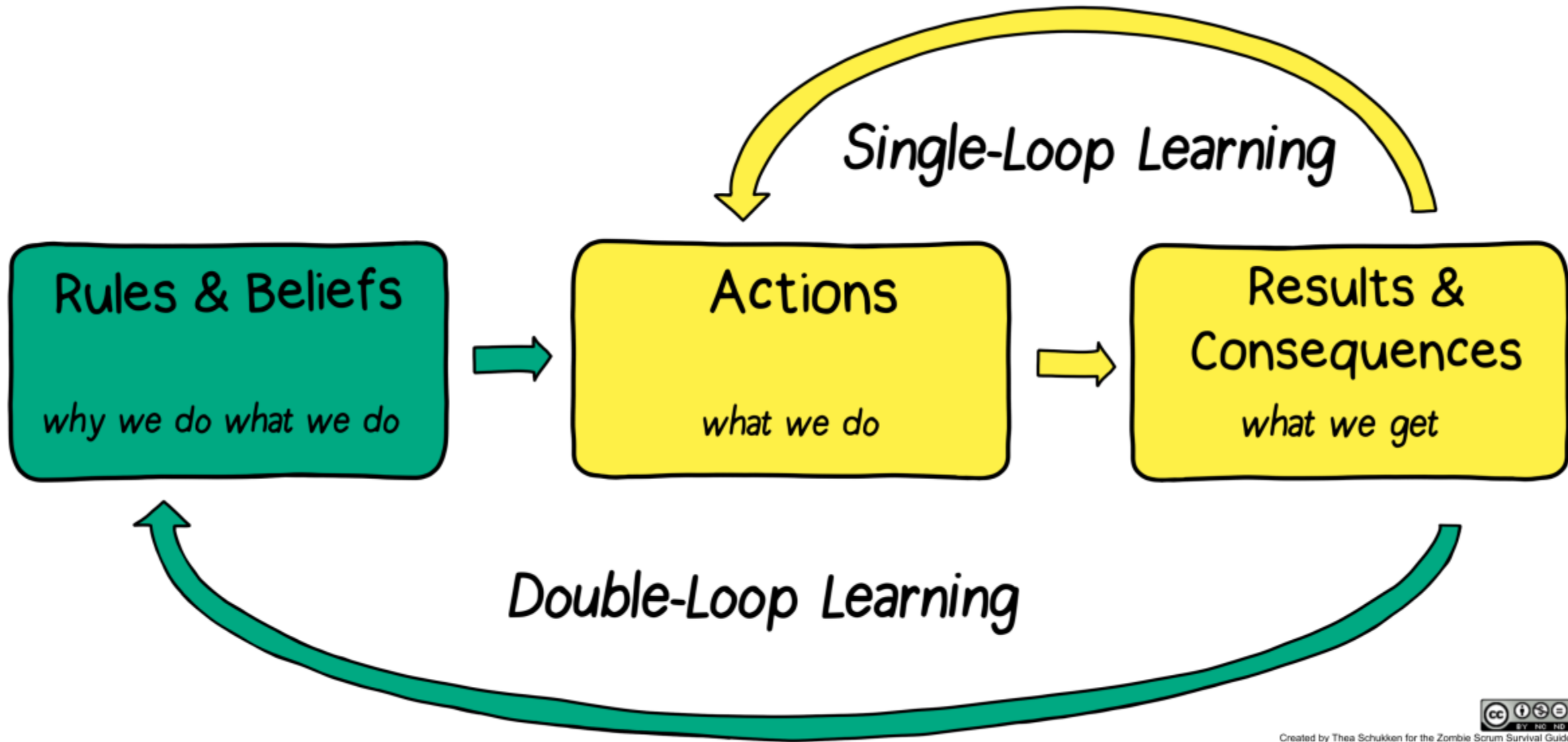
Learning

How do we learn?

Single-Loop Learning

Single-loop learning focuses on solving a problem within an existing system that is defined by sets of beliefs, structures, roles, procedures, and norms.

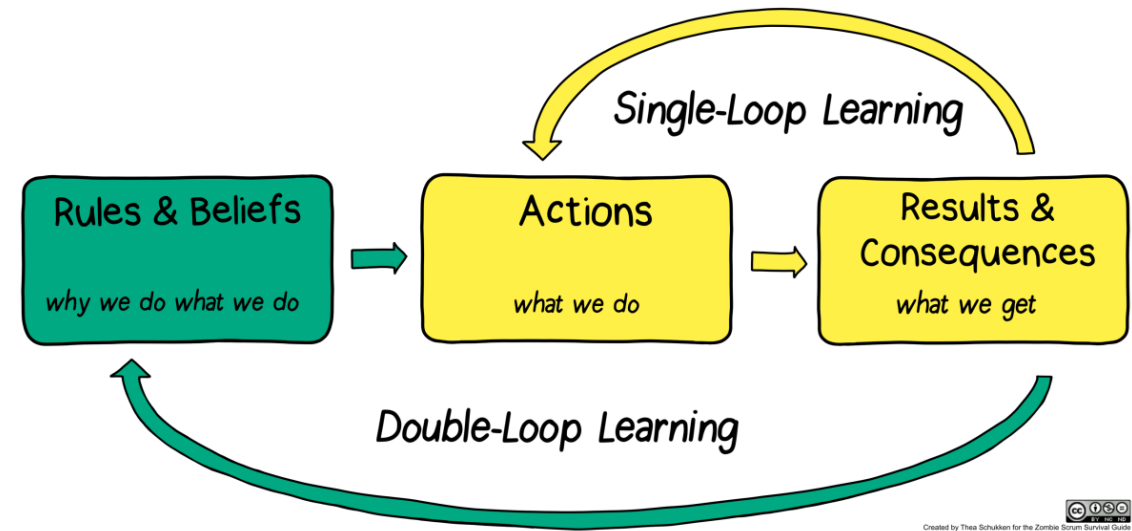




Source: Argyris, C. On Organizational Learning, Cambridge, MA: Blackwell, 1993

Double-loop learning

- It is about challenging and changing the system.
- It helps people change (sometimes deeply held) assumptions and beliefs.
- Asking “Why we do what we do?”



Why DLL is important?

- Although both types of learning are important for continuous improvement to happen, Argyris emphasizes double-loop learning (DLL) as particularly important for non-routine, complex work where teams have to constantly challenge not only how they do work, but also why.

Do not Distribute

Why Organizations Struggle

- The many changes that organizations have to go through to transition from plan-based approaches to empirical ways of working mean that organizations need to employ a high degree of DLL to change underlying beliefs about risk, control, management, and professionalism.
- Organizations that find themselves unable to change the rules, norms, and beliefs that stand in their way will struggle to stay competitive.
- Argrys notes that highly-trained professionals in particular often struggle to practice DDL, as it involves challenging the practices and skills that have made them successful in the past.

Chris Argyris (1923-2013)



- One of the founders of Organizational development, Learning Organizations

On Organizational
Learning

2ND EDITION

Chris Argyris

- Chris Argyris on [Motamem](#)



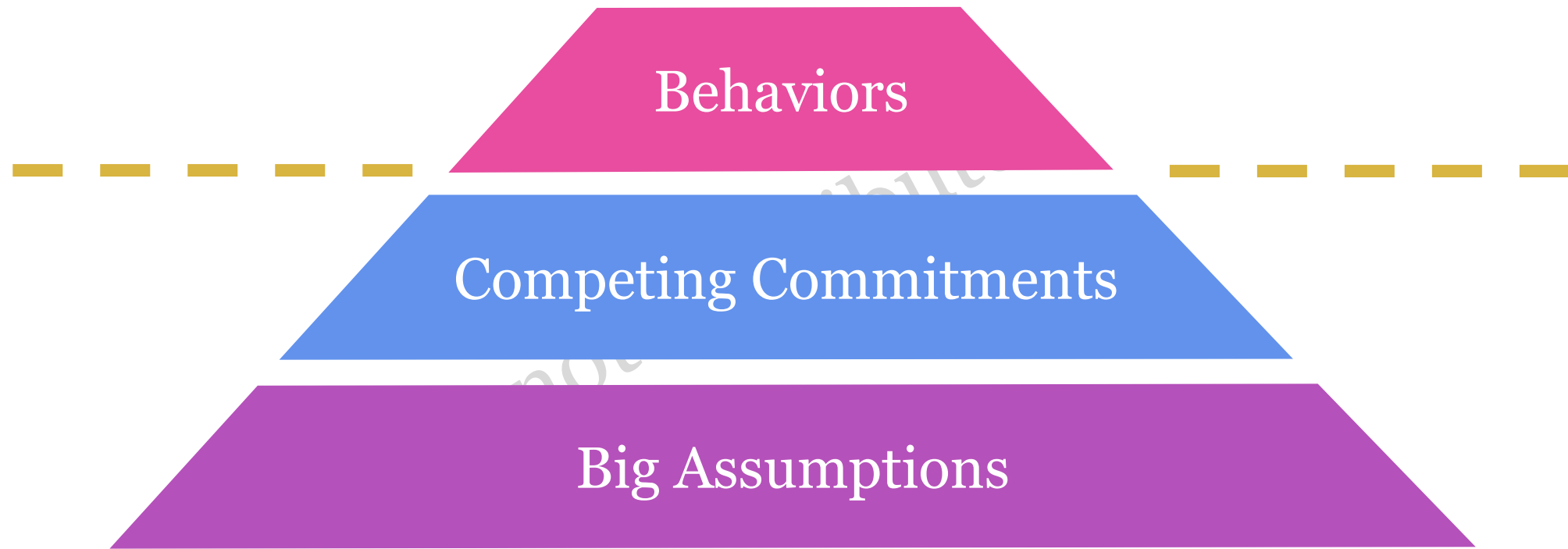
کریس آرگریس و فاصله بین دانستن و عمل کردن

Theory-in-Use vs. Espoused Theory

کریس آرگریس و فاصله بین دانستن و عمل کردن

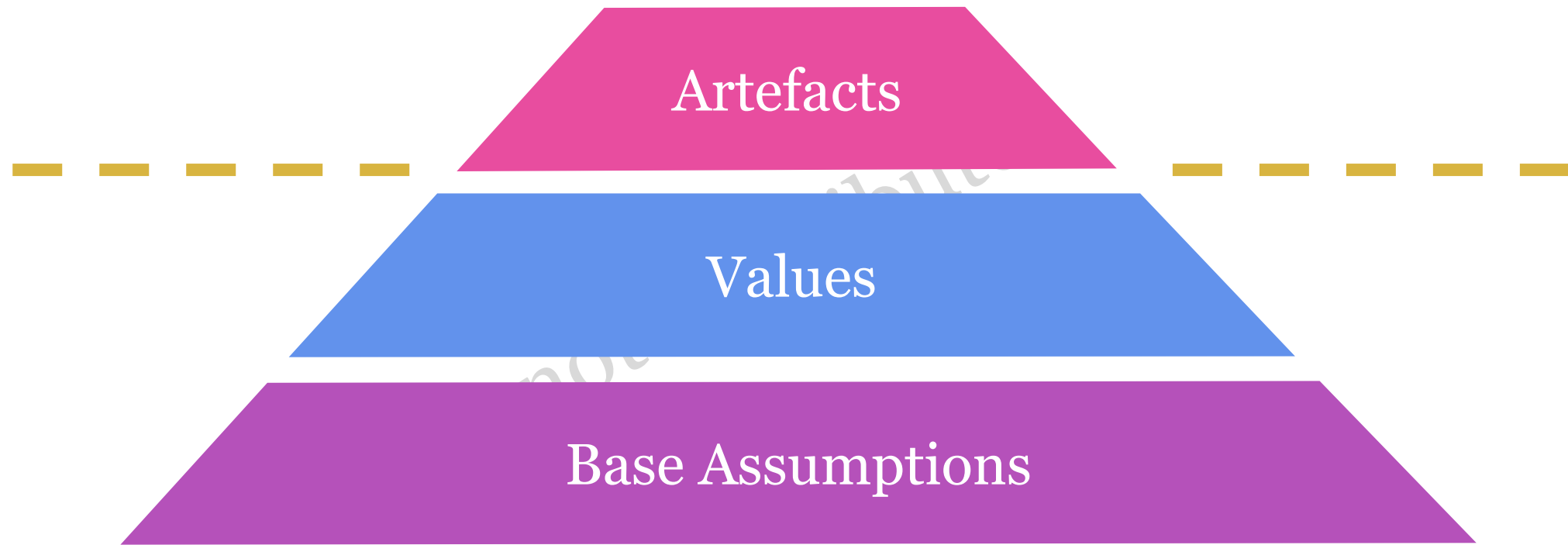
Theories-in-use نظریه مورد استفاده	Espoused Theories نظریه مورد حمایت
نظریه‌ای که فرد در شرایط واقعی، بر اساس آن رفتار می‌کند و تصمیم می‌گیرد.	نظریه‌ای که فرد به شدت از آن دفاع می‌کند و باور دارد که در دنیای واقعی بر اساس آن رفتار می‌کند و تصمیم می‌گیرد.

Kegan and Lahey's Immunity to Change



Kegan and Lahey, “[Immunity to Change](#)”, Harvard Business School Publishing, 2009

Edgar H. Schein's Organizational Culture Model



How can we
disconfirm these?

Ecocycle Planning

Analyze the Full Portfolio of Activities and Relationships
to identify Obstacles and Opportunities for Progress

juggling too many balls

- How often have you found yourself juggling too many balls?
- You may start dropping things left and right in a frantic effort to keep everything in the air.
- You will also find yourself unable to pick up new balls as it will only add stress and chaos. This may happen to you personally. Or in your team. Or in your entire organization.



Background

- Ecocycle planning is part of the repertoire of Liberating Structures.
- Its purpose is to analyze the full portfolio of activities and identify obstacles and opportunities for progress in a markedly non-linear way.
- That makes it an excellent way to periodically reflect on your work together and to decide what to focus on next.

Do not Distribute

In these situations,
we have to **rediscover** our focus and
creatively ‘destroy’ what isn’t valuable anymore.

Ecocycle Planning is about exploring
what it is that you're keeping in the air (but shouldn't),
and what it is that you aren't (but should)

A metaphor from nature

The name of this Liberating Structures borrows from the ecological cycle of life.

- Plants, for example, grow from seeds when they land in fertile ground (**gestation** or **renewal**).
- When the ground is fertile enough, seedlings will sprout that in turn depend on sufficient sun, shelter and minerals to grow (**growth**).
- When these conditions have been met, seedlings grow into plants that bear fruits and/or spread new seeds (**maturation**).
- But eventually, even mature plants die and are composted to become energy for new plants.
- Or their removal simply makes place for new seeds to grow (**creative destruction**).

Even daily life works

- The work that we do in daily life can be plotted onto this cycle.
- We often embark on activities that may become valuable at some point, but require our energy and time to grow.
- Other activities are more mature in that we can do them without much effort to get a lot of value out of them.
- But as with plants, sometimes we need to stop activities (destroy them) to make space for something new in our agenda's

Gestation or Renewal



- Represents all the activities that you think would be useful to you (personally or) as a team, but you are not doing at the moment

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Birth

- Represents the activities that you have just started doing as a team, or that you have been investing in.
- Although not fully valuable yet, and probably take effort and discipline to do, they will become increasingly valuable as you keep doing them.



BIRTH

Maturity



- Represents the activities that are comfortable and valuable to you as a team.
- It doesn't take much effort or discipline to do them.
- It's become part of your rhythm as a team

Creative Destruction

- Represents the activities that have either lost their value to you as a team or need to be reinvented in order to become useful again.
- Perhaps by doing it in a different way, or from a different perspective.
- Or you want to stop doing them altogether



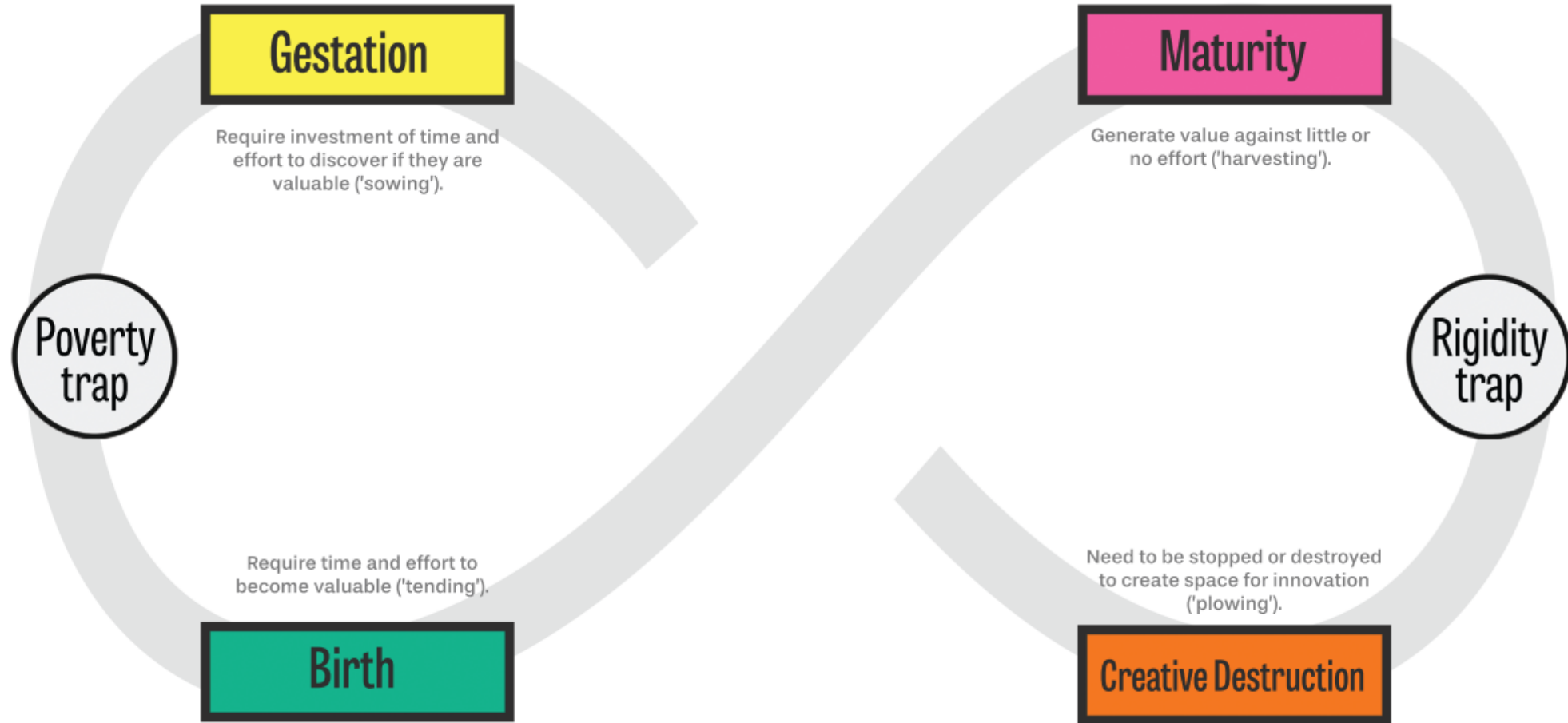
Poverty Trap and Rigidity Trap

- Some activities may get stuck in the Poverty Trap or the Rigidity Trap.
- **Poverty Trap:**
holds the activities that **aren't getting the energy and time** they **need to grow into something valuable**,
- **Rigidity Trap:**
holds the activities that are **costing us energy and time** while **their value is diminishing or diminished**.

Intrinsically Multi-layered

- As in nature, **ecocycles are multi-layered** in that every activity on the ecocycle **contains another ecocycle**, only on a lower level.
- So, one ecocycle may describe your personal hobbies or all the products you're working on as a team.
- A lower-level ecocycle can describe the activities you perform for one specific personal hobby or one particular product that you're working on.
- This layering also emphasizes that **everything is related**. **Change on one level impact activities on other levels.**

Ecocycle Planning



One suggested way of doing this (~60 mins)

- The steps of this structure are detailed in later slides.
- The timeboxes are indicative.
- It would be helpful to give a personal example while introducing Ecocycle Planning phases.
- You can combine it with ideation activities to think about 15% solutions for the obstacles you've found

Steps (1/4)

- **Step 1) Introduce Ecocycle Planning**, (5 min):
 - Explain the metaphor with an example, preferably a personal one;
 - If you're doing a group Ecocycle, bring a large version (the larger the better) or model it on the floor;
 - You can hand-out printouts of the Ecocycle to help people understand the model.
- **Step 2) Personal Reflection**, (5 min):
 - Invite people to **individually**, and **in silence**, **generate** a numbered list of activities that occupy their time.

Steps (2/4)

- **Step 3) working in pairs, (5 min):**
 - Invite people to work in pairs to share and plot the activities on the Ecocycle
- **Step 4) working in small groups, (10 min):**
 - Invite the pairs to pair up to form small groups and have them share and finalize the placement of activities and write them on stickies
- **Step 5) adding to the larger Ecocycle, (5 min):**
 - Invite the small groups to put their stickies on the larger Ecocycle that they share with all the other groups (5 min);

Steps (3/4)

- **Step 6)** reflect on emergent patterns, (15 min):
 - Use 1-2-4-ALL to have the small groups to focus on activities for which there is consensus among the groups and to reflect on the patterns that emerge out of the distribution of all the stickies.

- Ask:

“What do we need to creatively destroy or stop to move forward?”

What do we need to invest in?”

Steps (4/4)

- **Step 7)** identify [first-action steps](#) both of traps (each 10 min)
 - Invite the small groups to identify first-action steps or [15% Solutions](#) that can help stop activities in the *Rigidity Trap*;
 - Repeat for items in the *Poverty Trap* when you have the time.
- **Step 8)** explore activities for which there is [disagreement](#), (10 min):
 - If you have the time, invite the small groups to explore activities for which there is no consensus. When possible, identify first-action steps.

Tips (1/2)

- Include people with different perspectives and different stakes. This helps create a more complete picture;
- If you use small-scale versions of the Ecocycle (like A4 or letter), invite people to number the activities and put the numbers in the model rather than the activities. This leaves more space and makes it easier to identify patterns;
- Bring a personal example of an Ecocycle. People often struggle with the quadrants and the abstractness of the model. An example helps. But it also helps to emphasize that it isn't about getting it 100% right;

Tips (2/2)

- If you're daring, you can plot people instead of activities. This can help you identify the relationships that are starving and those that may be getting in the way as they are now. Rather than ending relationships that aren't helpful, you can use the Ecocycle Planning to discover which relationships may be in need of a shake-up in their dynamic in order to become fruitful again;

Do not Distribute

Possible Combinations (1/2)

- A single Liberating Structure is helpful. But their true power becomes apparent when you combine them into strings.
- Here are some potential variations:
 - Follow-up with a 1–2–4–ALL, [15% Solutions](#) or [25/10 Crowd Sourcing](#) to discover strategies and first steps that can help stop activities that are in the rigidity trap or reignite activities in the poverty trap;
 - Follow-up with a [What, So What, Now What](#) to identify patterns and discover meaning and actions together;

Possible Combinations (2/2)

- When using Ecocycle Planning on an individual level, follow-up **with Troika Consulting** to give and get help;
- Precede with a **Nine Whys** to first clarify the purpose of the group. Then identify all the activities and the work that the group does in order to achieve that purpose. Or simply use the purpose statement generated during Nine Why's to help the group identify what is valuable and what isn't;
- Embed within a **Panarchy** to emphasize and explore ecocycles on many levels and how they interact;

Blank Template

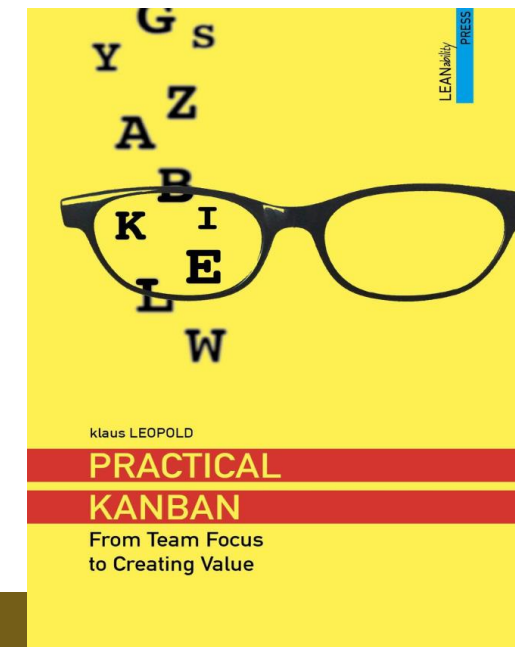
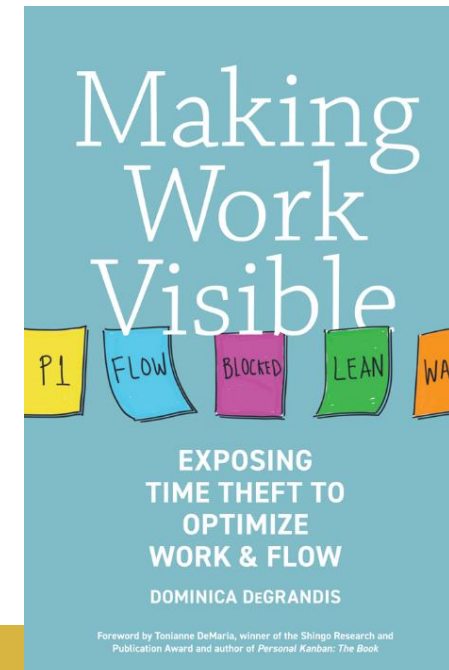
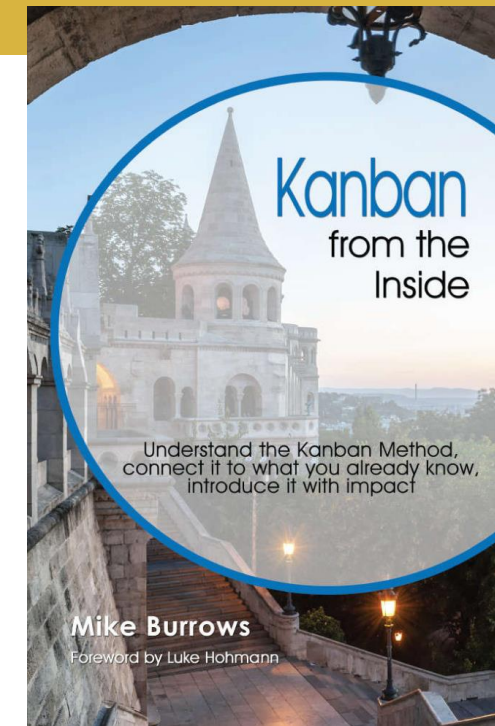
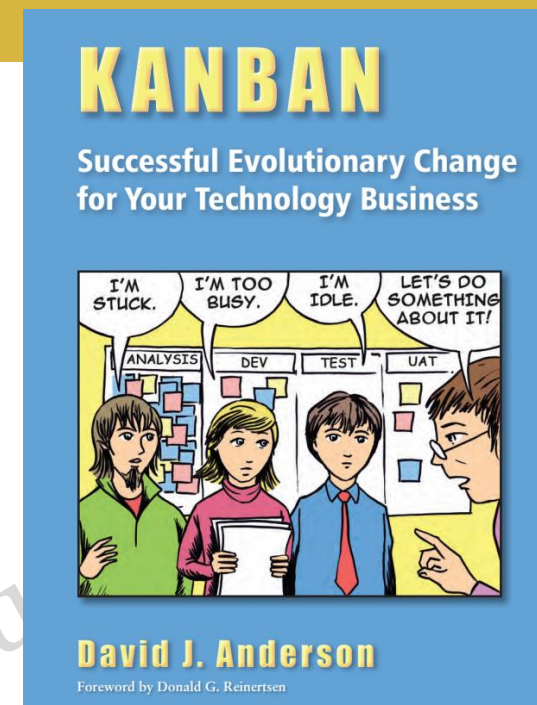
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Part 2.3

Kanban Method

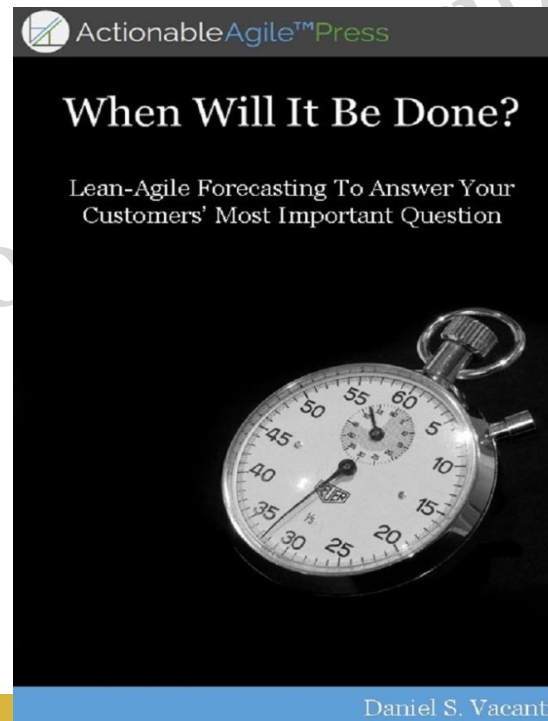
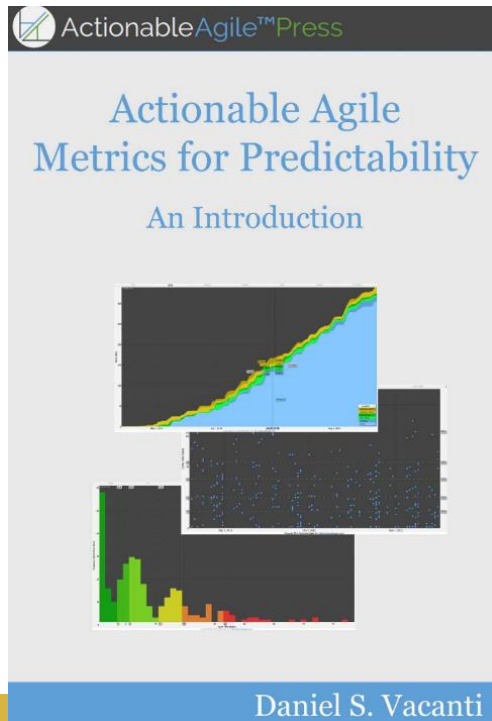
References Used in this Section – 1

- Aderson, “[Kanban – Successful Evolutionary Change for your Technology Business](#)”, Blue Hole Press, 2010
- Burrows, “[Kanban from the inside](#)”, Blue Hole Press, 2014
- Kanban University, “Kanban System Design Course Book and Material”, 2021
- DeGrangis, “[Making Work Visible](#)”, IT Revolution, 2017
- Leopold, “[Practical Kanban](#)”, LEANabiligy Press, 2017
- Flight Levels, “Flight Level 1 Course Material”, 2022



References Used in this Section – 2

- Vacanti, “[Actionable Agile Metrics for Predictability](#)”, ActionableAgile Press, 2015
- Vacanti, “[When Will It Be Done](#)”, ActionableAgile Press, 2018
- Leopold & Kaltenecker, “[Kanban Change Leadership](#)”, Wiley & Sons, 2015



What is Kanban

A **Method**

For knowledge work
management

... having

Principles and Practices

To guide you in managing work and
improving the way you do it

... using

Kanban Boards

Visualizing your work
and its flow

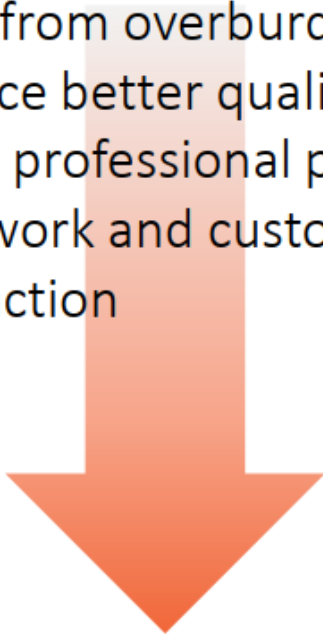
... and

Kanban Systems

to ensure work on an item starts only
when there is both customer demand
and system capacity

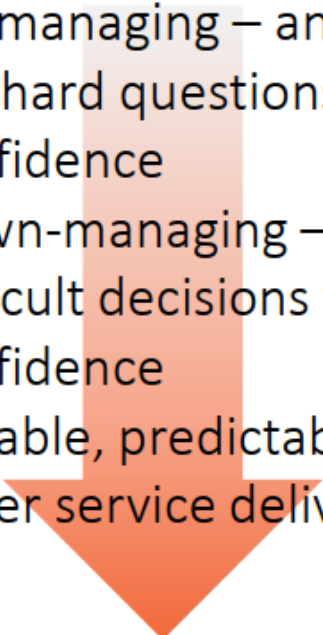
Motivation For The Kanban Method (The Kanban Agendas)

Line-Level, Individual Contributors

- Relief from overburdening
 - Produce better quality
 - Take a professional pride in their work and customer satisfaction
- 

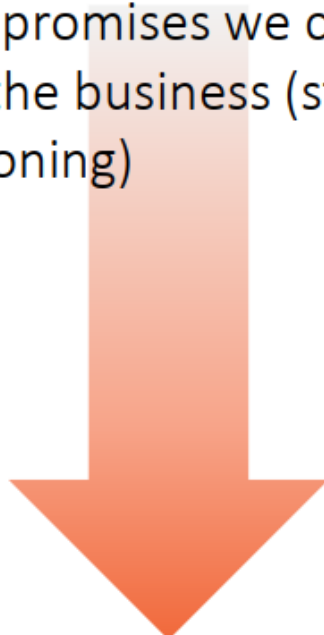
SUSTAINABILITY

Mid-Level Management

- Up-managing – answer the hard questions with confidence
 - Down-managing – make difficult decisions with confidence
 - Reliable, predictable, faster service delivery
- 

SERVICE ORIENTATION

Senior-Level Management

- Make promises we can keep
 - Lead the business (strategy, positioning)
- 

SURVIVABILITY

What does Kanban mean?

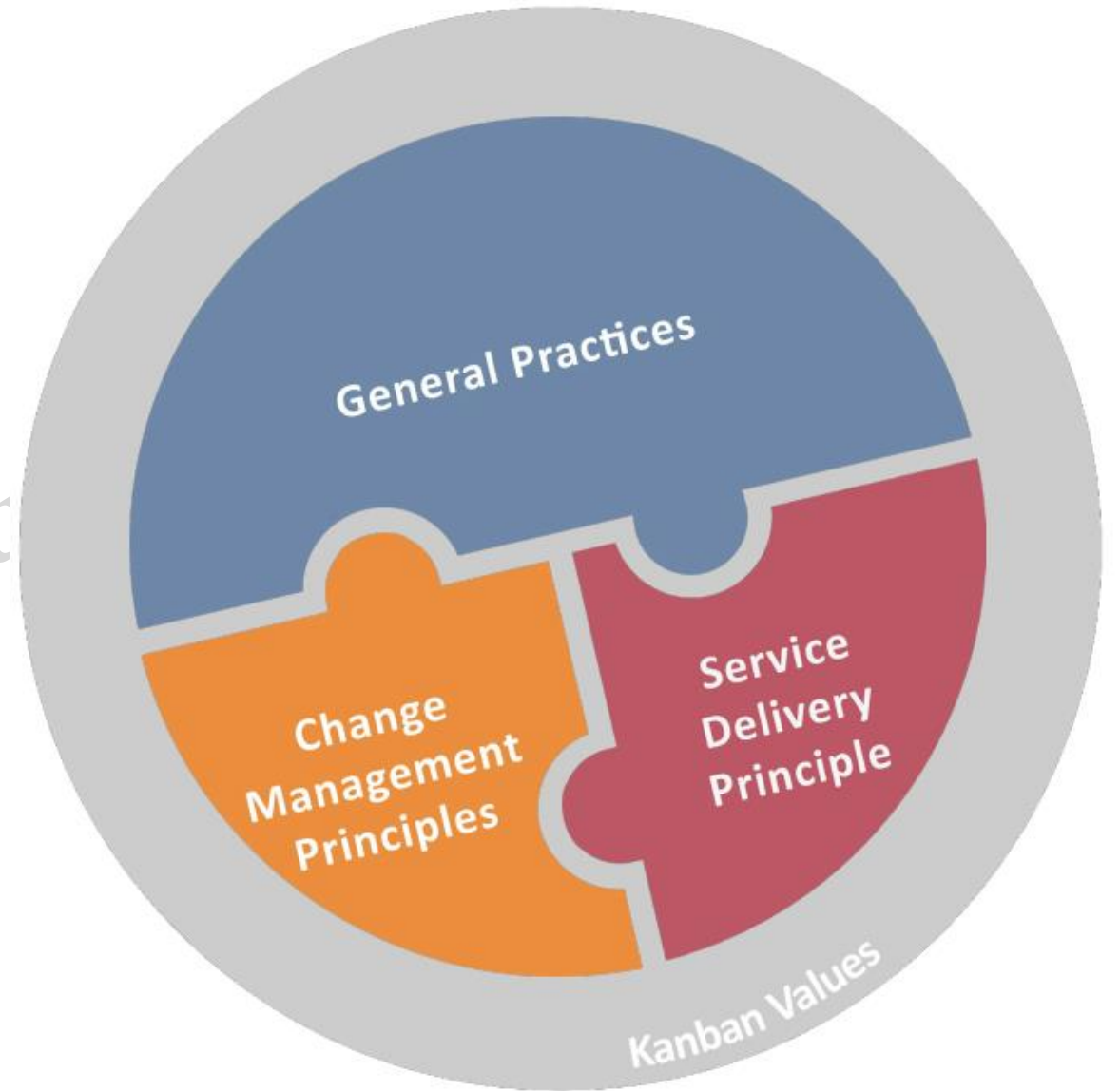
A Kanban System consists of a quantity of “kanban” (かんばん) signal cards in circulation.



ENT COPY

Elements of the Kanban method

Do not Disturb



Kanban Method Principles

Do not Distribute

Change Management Principles

1. Start with what you do **now**
 - Understanding **current processes**, as actually practiced
 - **Respecting** existing roles, responsibilities, and job titles
2. **Gain agreement** to pursue improvement through **evolutionary change**
3. Encourage **acts of leadership** at **all levels**

Do not Distribute

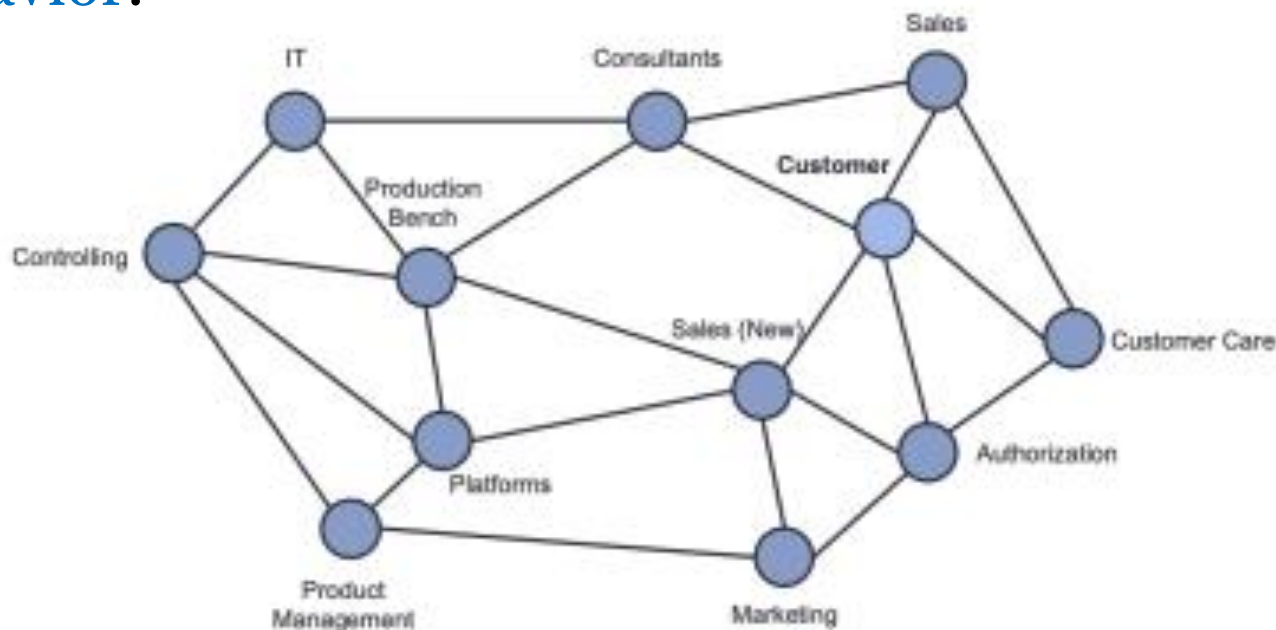
What is a Service?



Service Delivery Principles

Your organization is

a network of **interdependent** services
with policies that determine its **behavior**.



Service Delivery Principles

1. Understand and focus on the **customer's** **needs** and **expectations**
2. **Manage the work**; let workers **self-organize** around it
3. **Regularly review** the **network** and its **policies** to **improve outcomes**

Do not Distribute

A Review of Educational Objectives

Keywords:

- Kanban
- Service
- Change Management
- Service Delivery

- Remember the distinction between kanban and Kanban
- Remember the definition of the Kanban Method
- Understand the motivation for the Kanban Method and give examples for each different level
- Understand “Change Management Principles” and explain them in your words
- Understand “Service Delivery Principles” and explain them in your words
- Understand how these principles are related to the original 5 principles of Lean

Kanban Practices – Introduction

Applied at a service-oriented Kanban System

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Kanban Method: General Practices



Visualize



Limit WIP



Manage Flow



Make Policies
Explicit



Implement
Feedback
Loops



Improve
Collaboratively,
Evolve
Experimentally

(using models and
the scientific method)

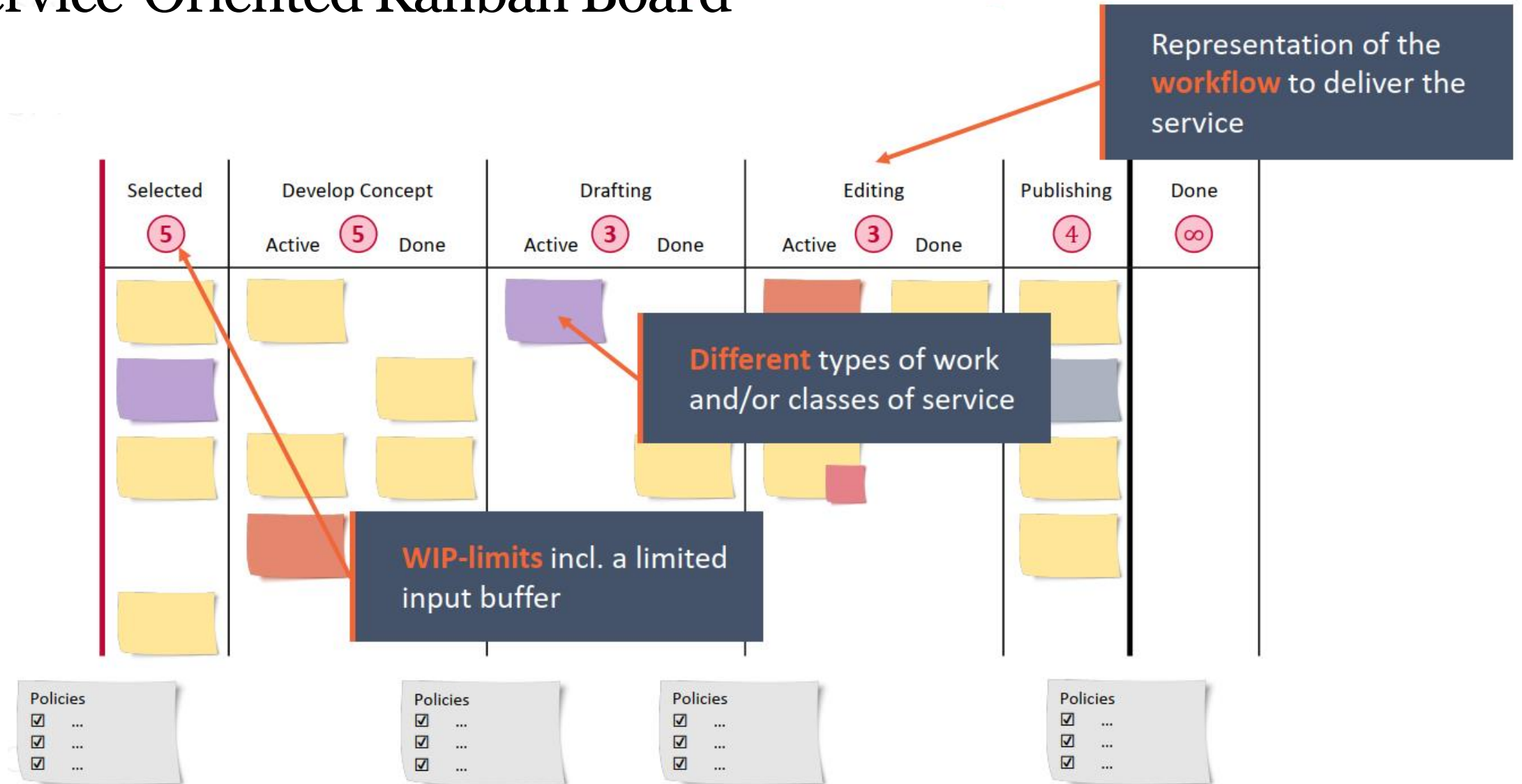
Visualize



- A **Kanban board** is one way to visualize **Work** and the **progress** it goes through
- For a Kanban system,
 - The **commitment** and **delivery points** must be defined,
 - And **WIP limits** must be displayed

Do not Distribute

A Service-Oriented Kanban Board



Where do the column names come from?

Do not Distribute

Value Stream Pipeline

- A simplified pipeline, as used in Software development



Limit Work in Progress (WIP)



- Introducing and respecting WIP limits
 - Change a “push” into a “pull” system,
 - In which new items are not started until work is completed.

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Pull Systems

- Definition of a Pull System:

A system for Scheduling and delivering work, only when both demand exists, and delivery capacity is available.

- In Kanban Systems:

Kanban Systems use WIP limits to represent the available capacity and to signal the need to pull items

Do not Distribute

How do Kanban Systems work?

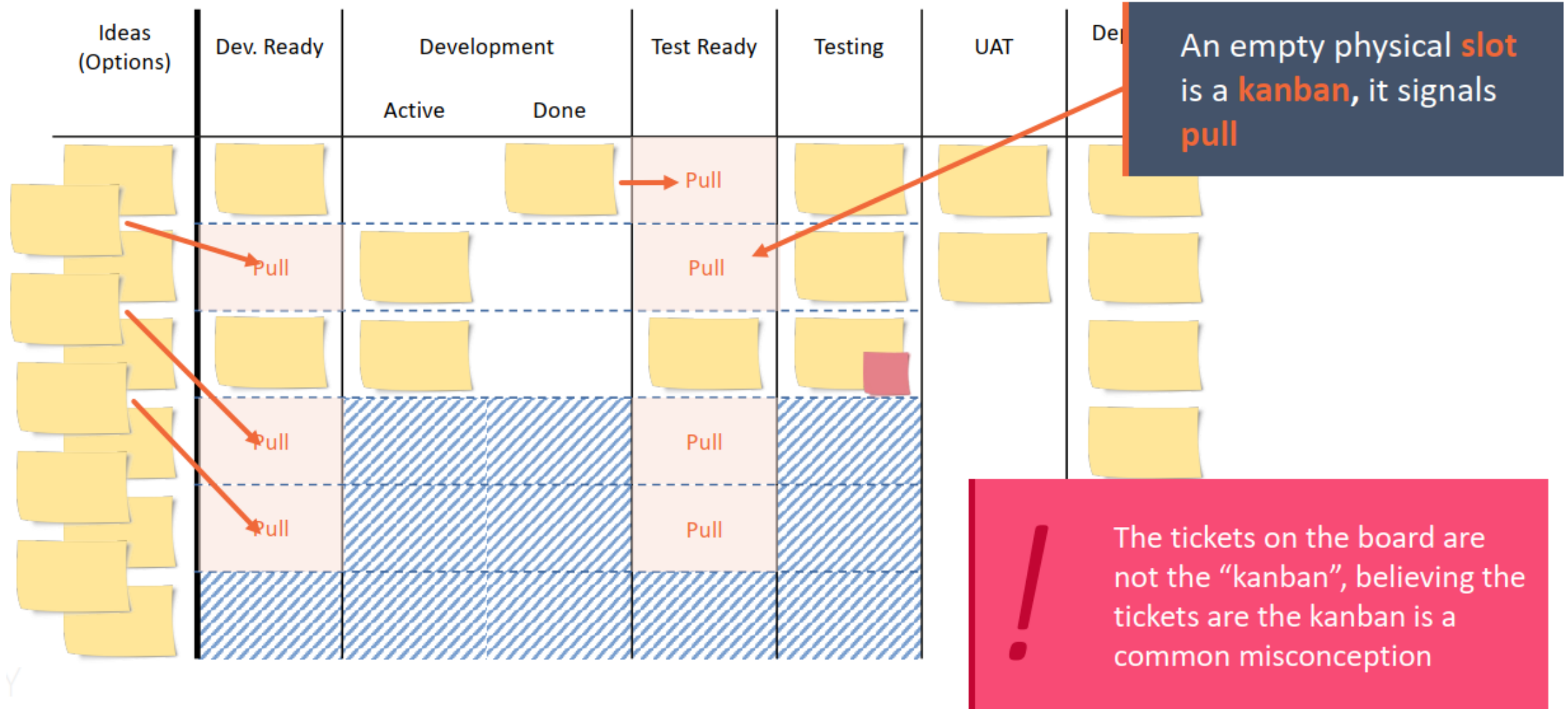
- Kanban Systems create signals to indicate when work should be started.
- The work item cards are not the pull signals!
- The system limits are designed to ensure:
 - **Enough** work is started to maintain continuous working
 - **Not too much** work is started to maintain efficient and effective working

Arrival 10:30	A 1 - 1		Central Plant of Toyota Motors
Ohashi Foundry	Item Number 53018-60011	Identification	Assembly n° 2
	Item Name Line pressure radiator	Used in Car type: FJ (I)	
Shelf n° 1 - below	21	Box Type Special	50
	Kanban pieces order	Capacity of the box 30	

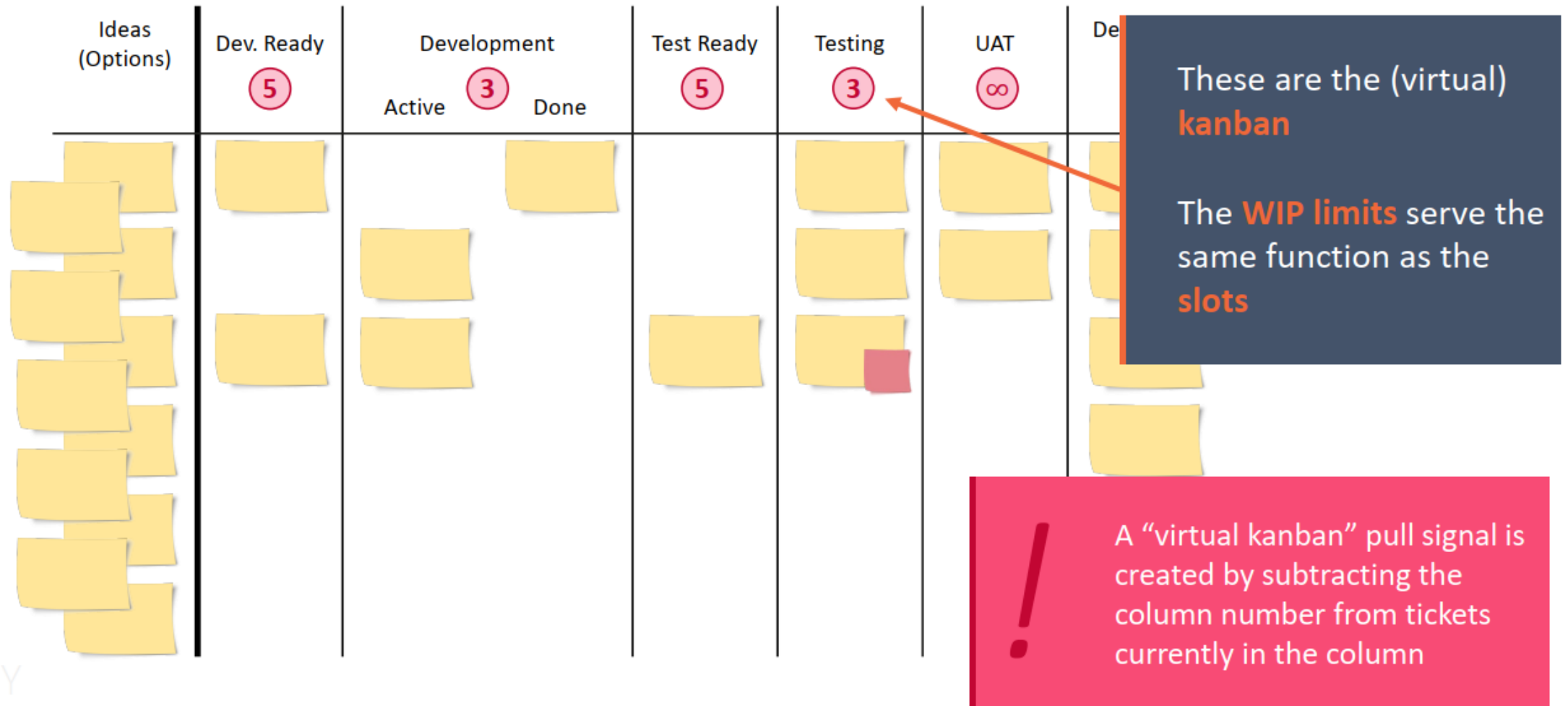
Inspired by “Kanban Card” from manufacturing

- When parts have been used up, the Kanban card attached to their container is sent back up the line
- Creates a visual signal that the item are needed

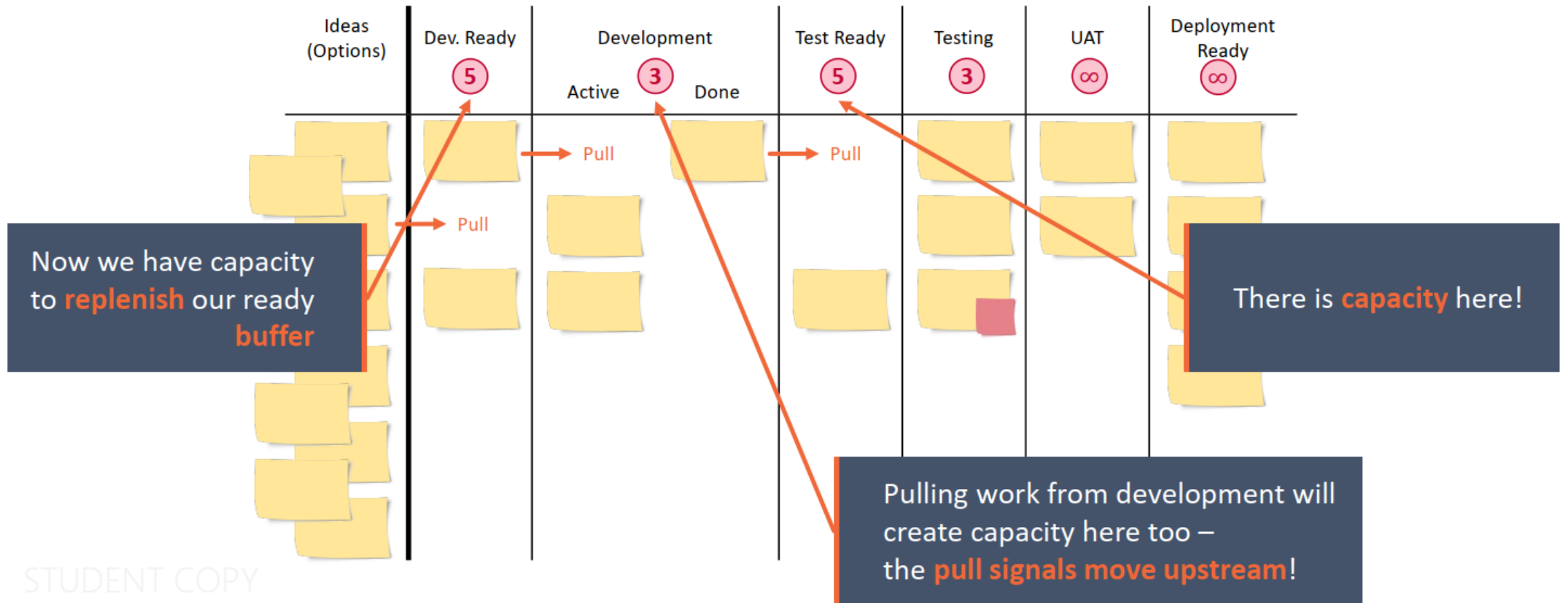
Representing with Slots



Declaring a Kanban Quantity



Kanban Systems are Pull Systems



Manage Flow



- The Flow of Work in a Kanban System should
 - Maximize the delivery of value,
 - Minimize lead times,
 - And be as smooth (predictable) as possible

Do not Distribute

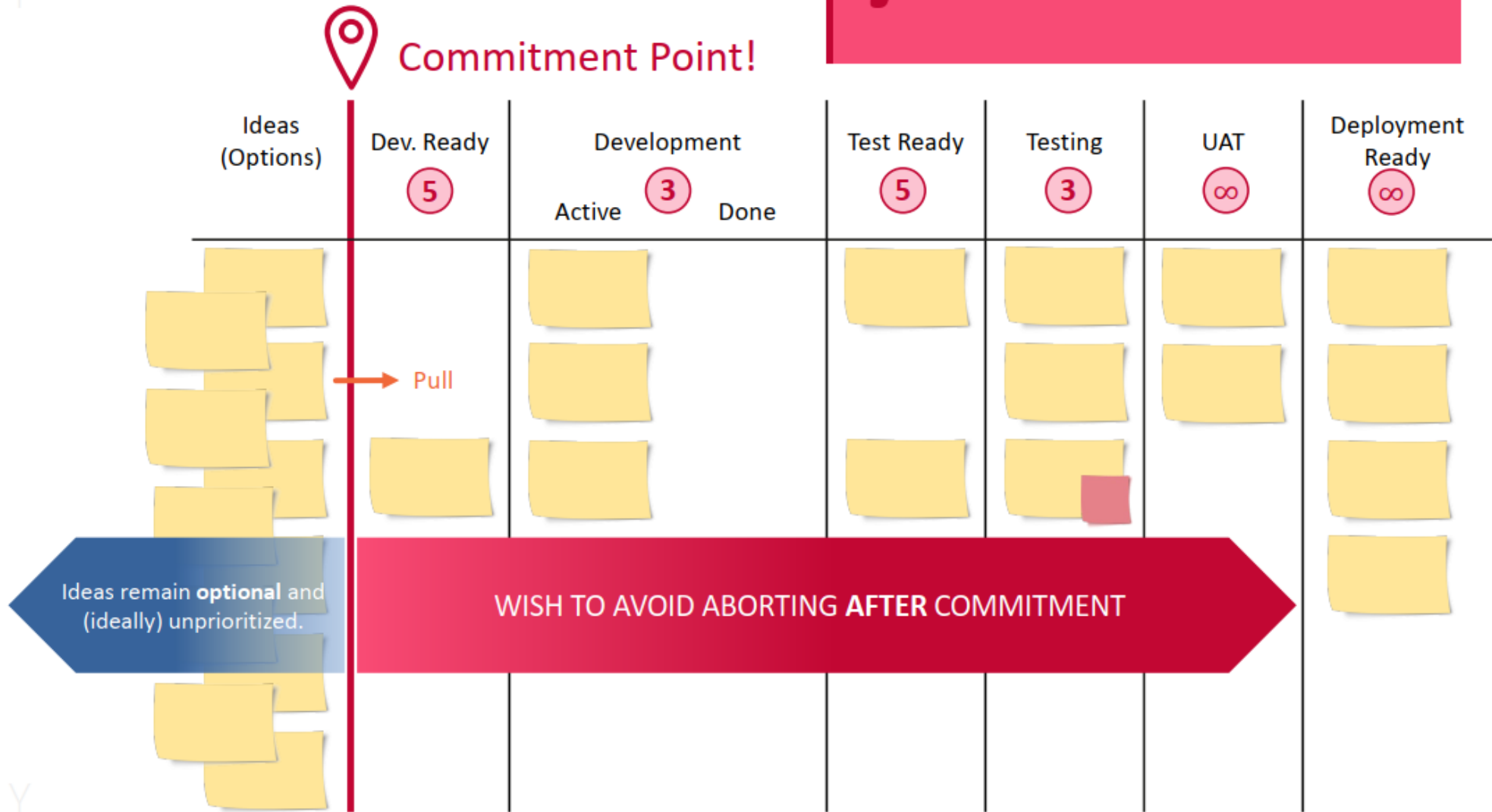
Core Metrics and Charts
will be covered later

Options and Commitment

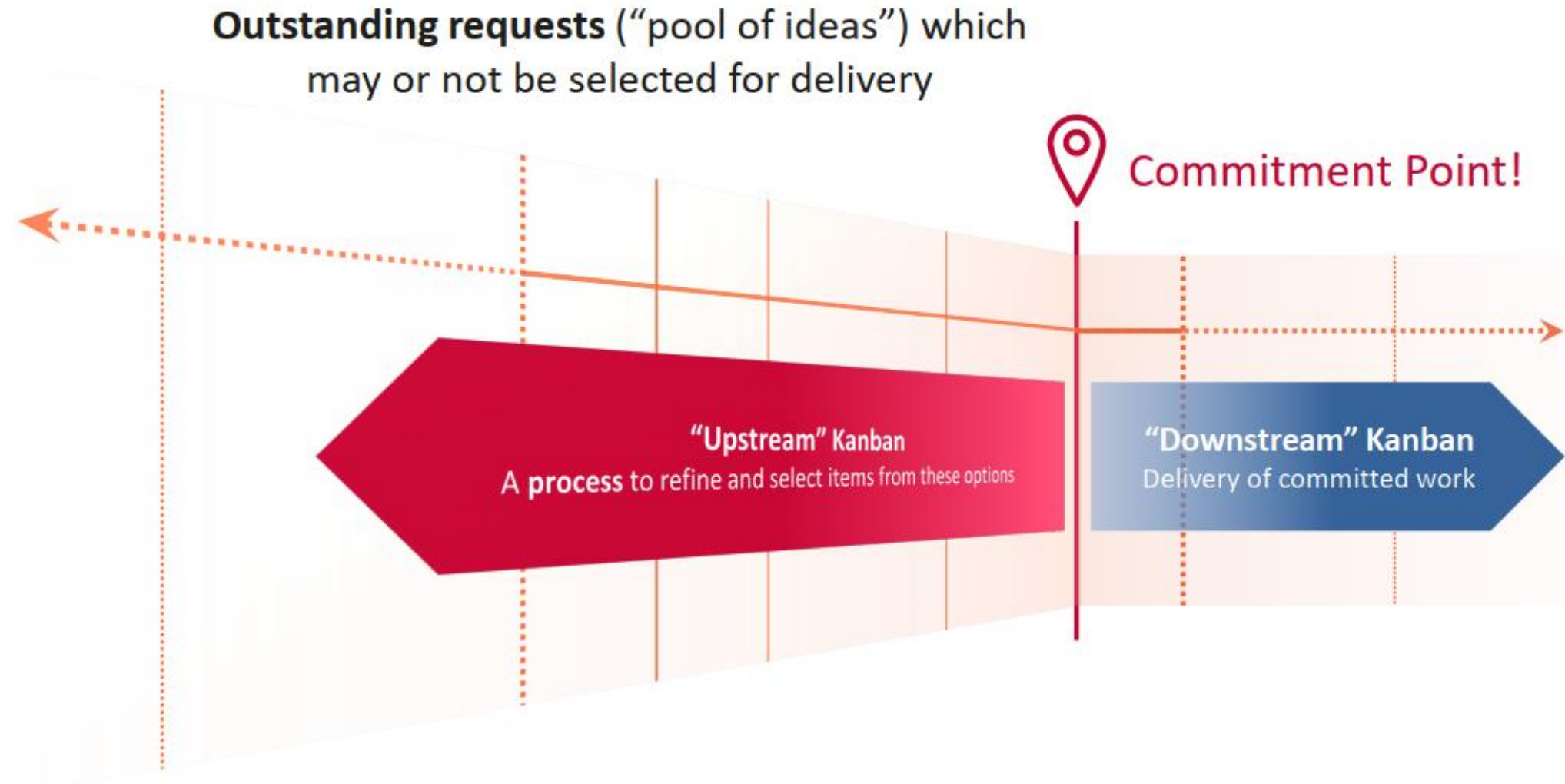
Kanban systems defer commitment.

Work items are options, chosen or discarded
as late as possible

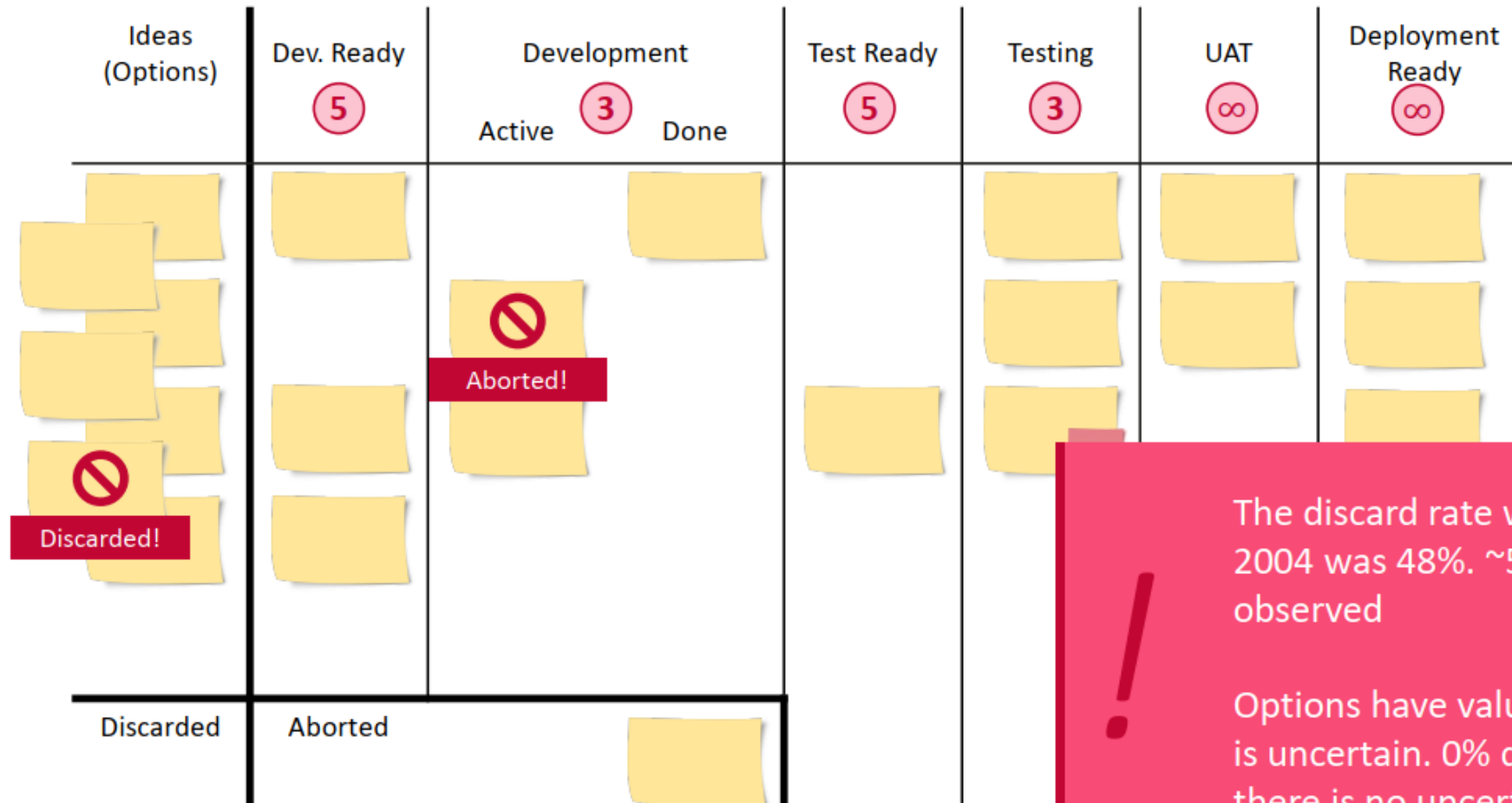
Commitment is differed



In Front of the Commitment Point...



Option Discard Rates



The discard rate with Microsoft XIT in 2004 was 48%. ~50% is commonly observed

Options have value because the future is uncertain. 0% discard rate implies there is no uncertainty about the future

Make Policies Explicit



A process expressed as workflow and policies

- Creates constraints in action,
- Is empowering within constraints,
- And results in emergent characteristics than can be tunes by experiment.

Do not Distribute

How to Make Policies Explicit

- A seemingly simple, yet very powerful practice!
- Make sure policies are
 - Sparse (only a few of them)
 - Simple
 - Well-defined
 - Visible
 - Always applicable
 - Readily changeable

Do not Distribute

Examples of Policies in Kanban System

- WIP Limits (at different Levels)
- Pull Criteria / Exit Criteria
- Definition of Ready for Implementation (at Commitment Point)
- Replenishment Policies: How does new work get selected
- Standards / Definitions of work item types, lanes on the board, ticket colors, ticket layout, etc.
- Classes of Services (CoS)
- Capacity Allocation

Implement Feedback Loops

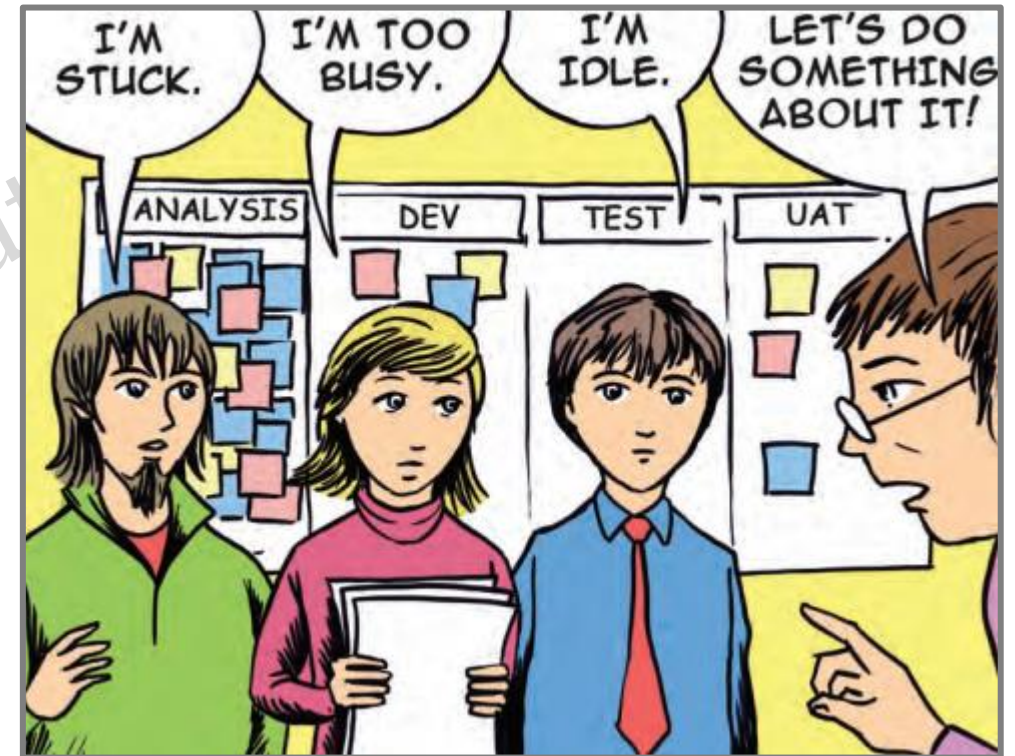


- Feedback loops are an essential part of any controlled process
- Are especially important for evolutionary change.
- Kanban defines specific feedback opportunities called “cadences”.
- Cadence: the beat, time, or measure of rhythmical motion or activity

Do not Distribute

Feedback loops to run and improve a service

Which feedback mechanisms do you know from your experience to manage and improve a service?



Team Retrospective

Reflect on how the team manages their work
and how they can improve.

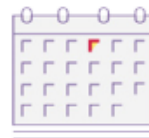


Done in front of the Kanban board, focusing on the completed work items.
Collect observations / occurrences, e.g. missing / consider doing, ideas
worth exploring further, annoying / enjoyable, and issues related to current
policies.

Categorize the collected feedback and define improvement actions.



Attended by the whole team,
often with a facilitator.



Should be held regularly,
limited to one hour.

Kanban Meeting

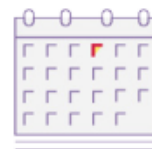
How can we deliver the work items in the system quickly?
Has capacity become available? What should we pull next?



Walk the board from right to left. Manage work, not workers!
Focus on completing work items and resolving issues.
Discuss priorities and team member pull decisions. Any options for collaboration? Treat issues that require more time after the meeting.
Discuss work items ready to be started. Dependencies or risks?



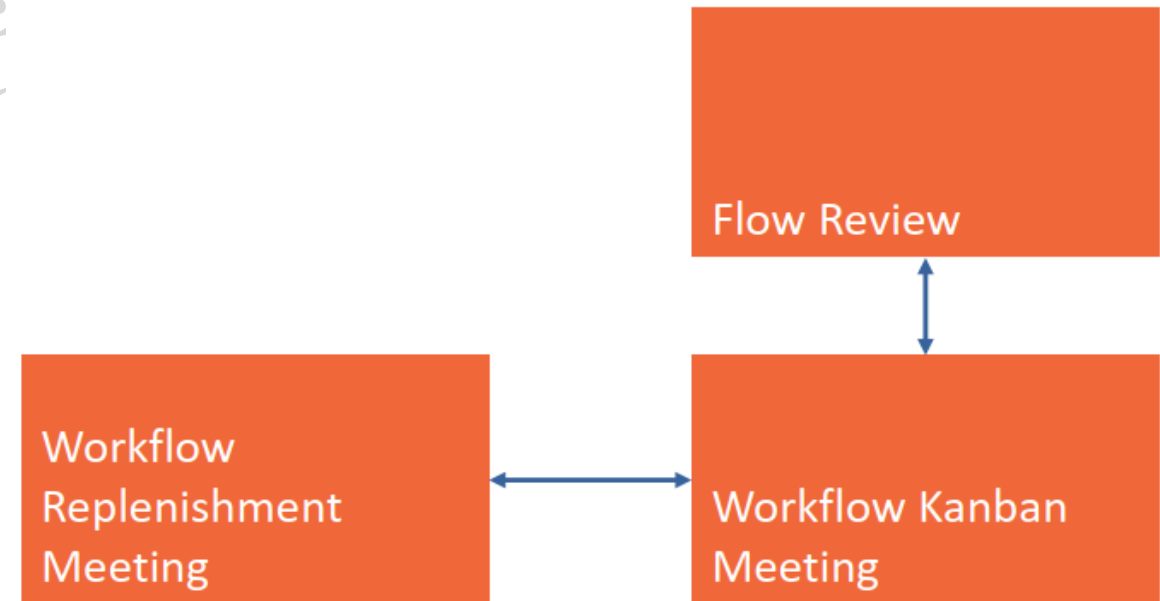
Everyone involved in the work at the board, usually someone moderates.



Meeting typically held daily at the same time in front of the board. 15min max!

Feedback loops to manage and improve a service

- The suggested core cadence for one service:
 - Workflow Replenishment Meeting
 - Workflow Kanban Meeting
 - Flow Review
- Recurring events should happen with a regular frequency
- The specific frequency is a contextual design choice



Workflow Replenishment Meeting



Allow the service team(s) to select work requests and refill the Next-to-Start column so that they do not run out of work for the next period.



- Observations resulting in changes to behavior or policies at Replenishment Meetings
- Policy changes / portfolio changes

- Decisions regarding what to pull
- System changes (to Kanban Meeting)



Leads or representatives of the teams involved in the workflow



Make sure the requested work is clearly defined
Consider technical aspects and dependencies between service teams



Weekly,
see arrival rate
of info



20 - 30 mins

Replenishment: on Demand or at Regular Events?

- On-demand replenishment is a struggle for “lower maturity organizations”;
 - They are helped by predictable, regularly scheduled events; weekly or bi-weekly replenishments are common.
 - Scrum Guide: “Predictability reduces Complexity.”
- On-demand system replenishment may be possible where coordination effort is low and business owners are (almost) instantly available.

Workflow Kanban Meeting



Involve the service teams in a collaborative conversation about the status of the work, queues between stages of the workflow and problems that affect the flow of work.



- Commitments
- Decisions about new initiatives and capacity allocation
- Policy changes

- Shared understanding of how to best to flow current work
- Improvement suggestions



Immediate service group or team doing the work (4-50 people)



Scope: End-to-end workflow of a service
The identified issues are resolved after the meeting by team members with relevant knowledge and skills



Weekly, depending on coordination cost



10-20 mins

Flow Review



Develop an initial quantitative understanding of the delivered service, facilitating work planning and improving predictability.



- Progress and system capability data from Kanban Meeting and tracking system
- Actions from Risk Review

- Defined actions to improve capability
- Communication of decisions



(parts of the) service delivery team, optionally team leads



Compare current capability with defined target conditions
Discuss possible improvement actions



Twice a month 30 min



Improve Collaboratively, Evolve Experimentally



- Kanban is fundamentally an improvement method.
- It starts from the organization as it is now,
and then pursues continuous and incremental improvement

Do not Distribute

Evolutionary Change

- Improve Collaboratively
 - Everyone involved in working with the system, shares responsibility at the system!
 - Create an environment for people to feel safe to suggest improvements

Do not Distribute

Evolutionary Change – Cont.

- Evolve experimentally using models (e.g., Little's Law, Theory of Constraints)
- And scientific method
 - Acquiring knowledge involving careful observation
 - Formulating hypotheses
 - Experimental and measurement-based testing of deductions
 - Refinement of the hypotheses based on the experimental findings

Kanban Practices – Revisited

Applied at a service-oriented Kanban System

Do not Distribute

Kanban Method: General Practices



Visualize



Limit WIP



Manage Flow



Make Policies
Explicit



Implement
Feedback
Loops



Improve
Collaboratively,
Evolve
Experimentally

(using models and
the scientific method)

Limit Work in Progress (WIP)



- Introducing and respecting WIP limits
 - Change a “push” into a “pull” system,
 - In which new items are not started until work is completed.

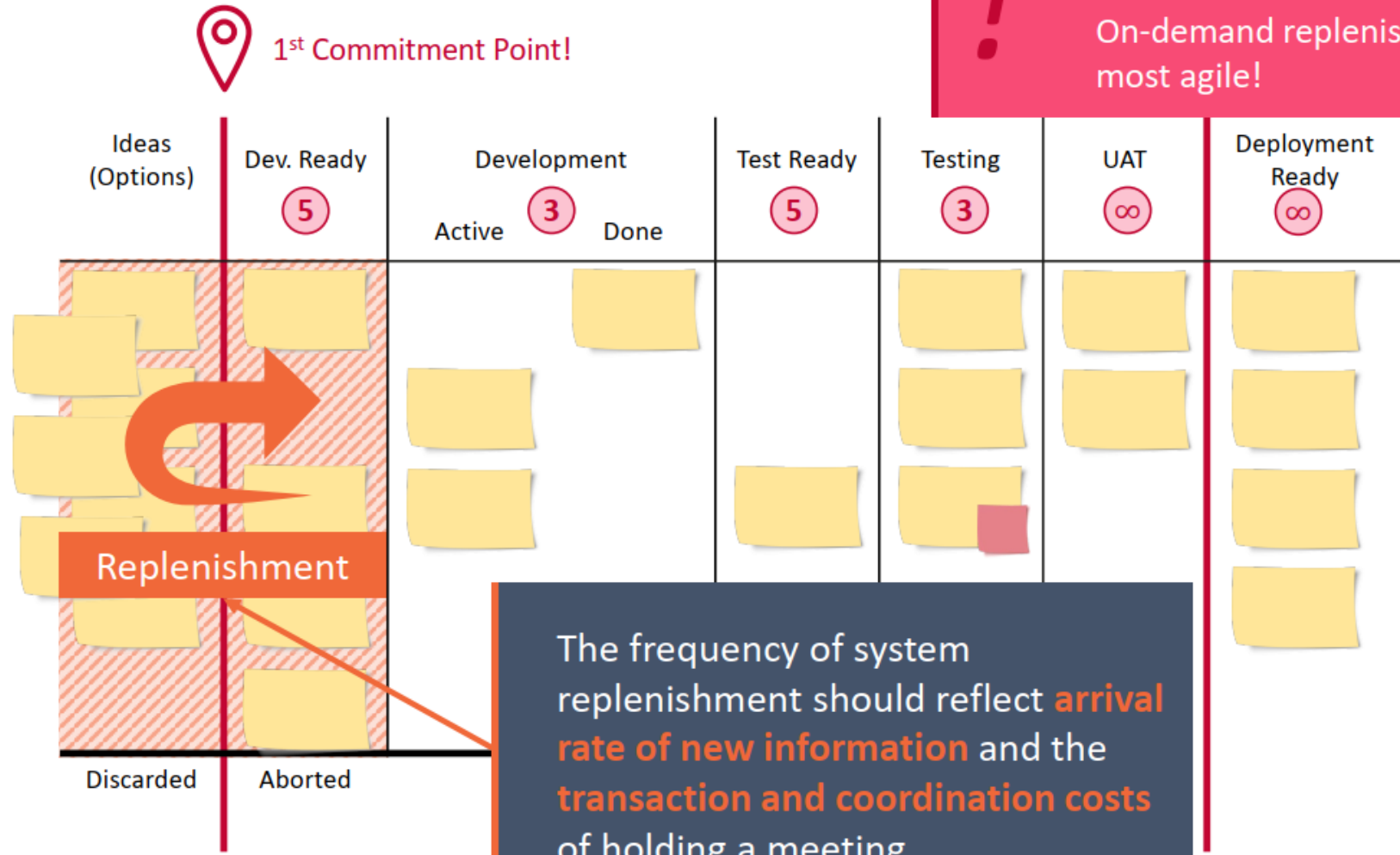
Do not Distribute

Agility is delivering the right work at the right time.

Managed replenishment and delivery options
maximize agility.

To Replenish: to put new supplies into something, or to fill something again

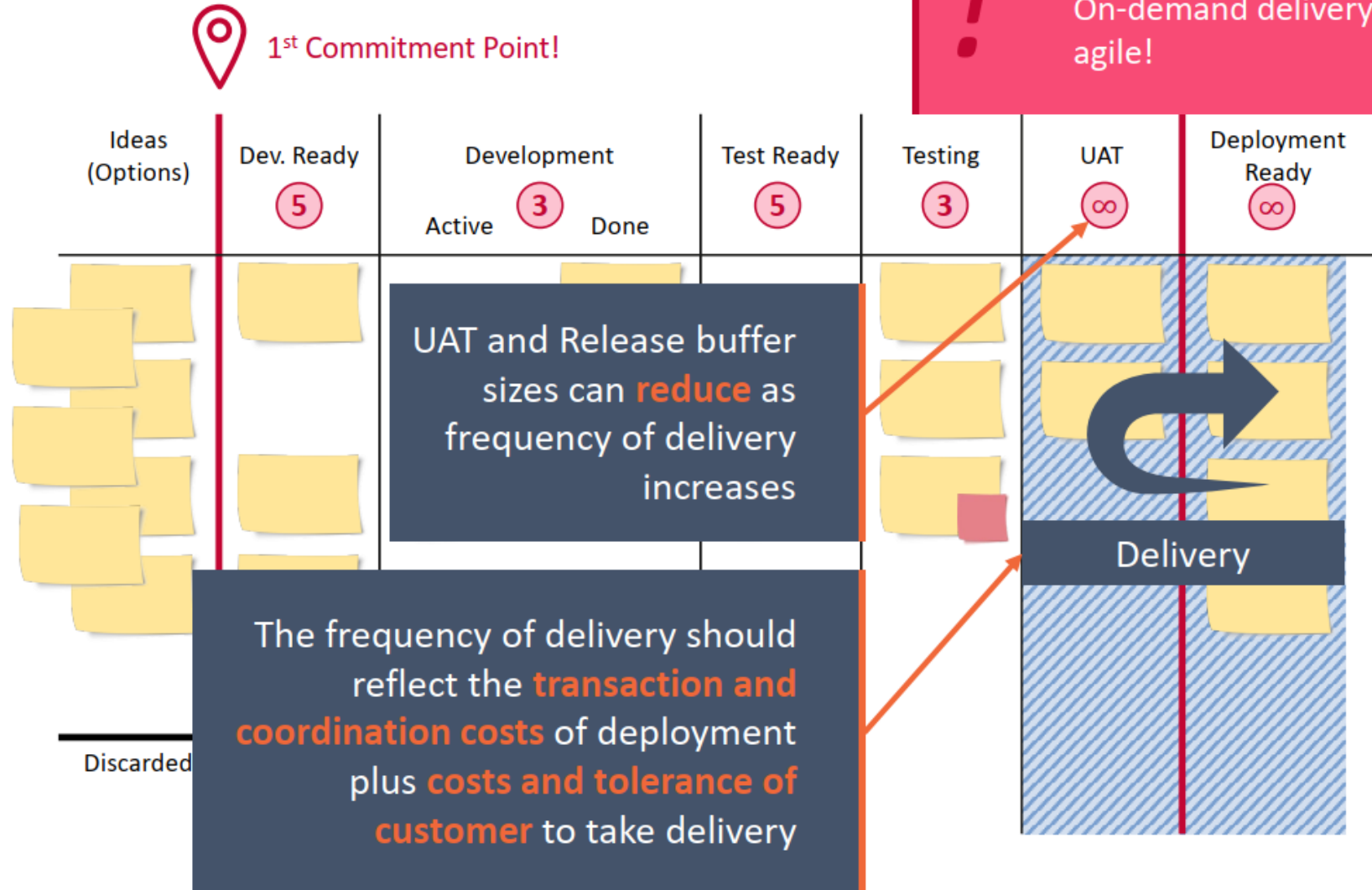
Replenishment Frequency



! Frequent replenishment is more agile.

On-demand replenishment is most agile!

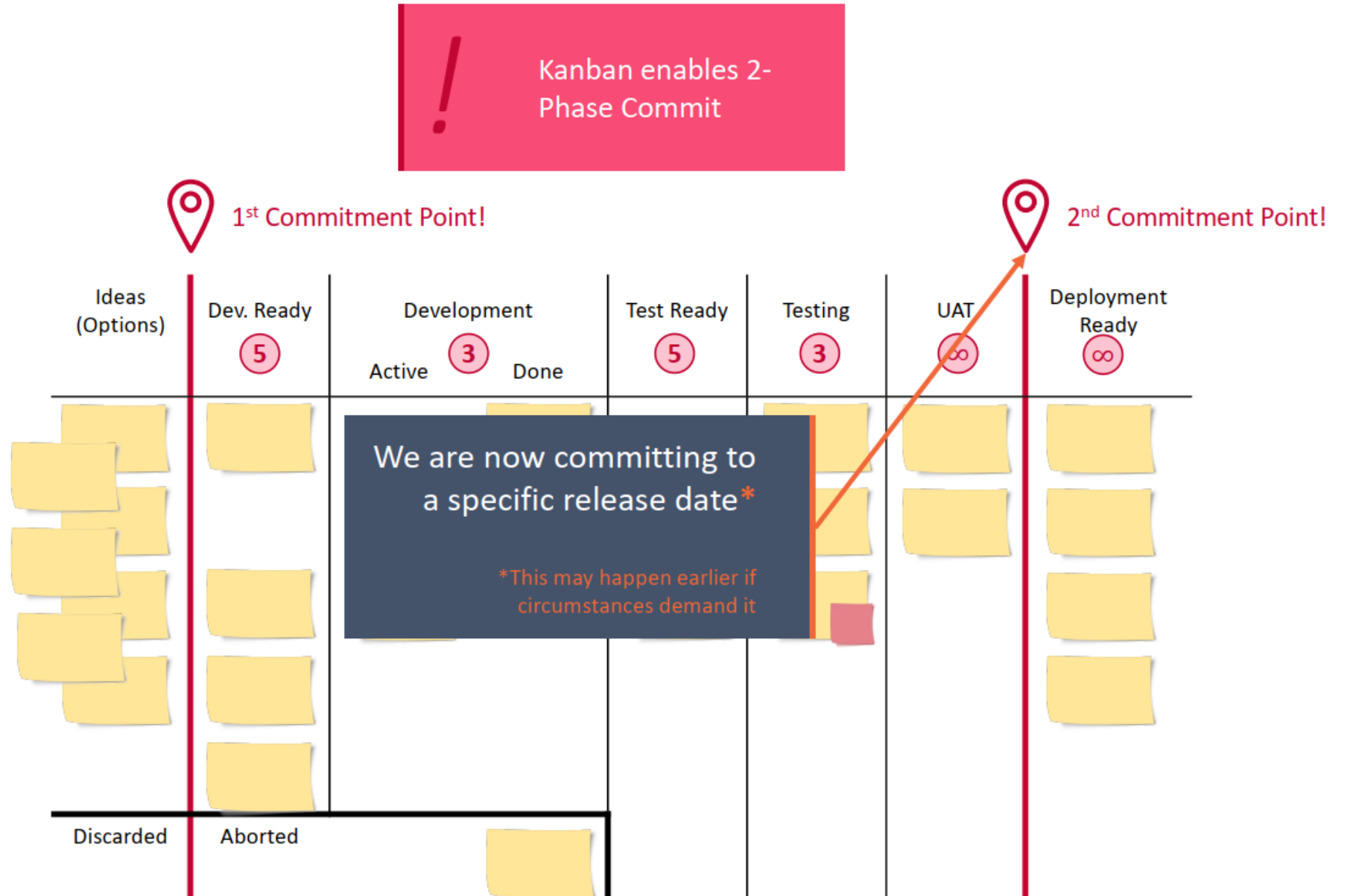
Delivery Frequency



Frequent delivery is more agile

On-demand delivery is most agile!

Deferred Delivery Commitment



Manage Flow



- The Flow of Work in a Kanban System should
 - Maximize the delivery of value,
 - Minimize lead times,
 - And be as smooth (predictable) as possible

Do not Distribute

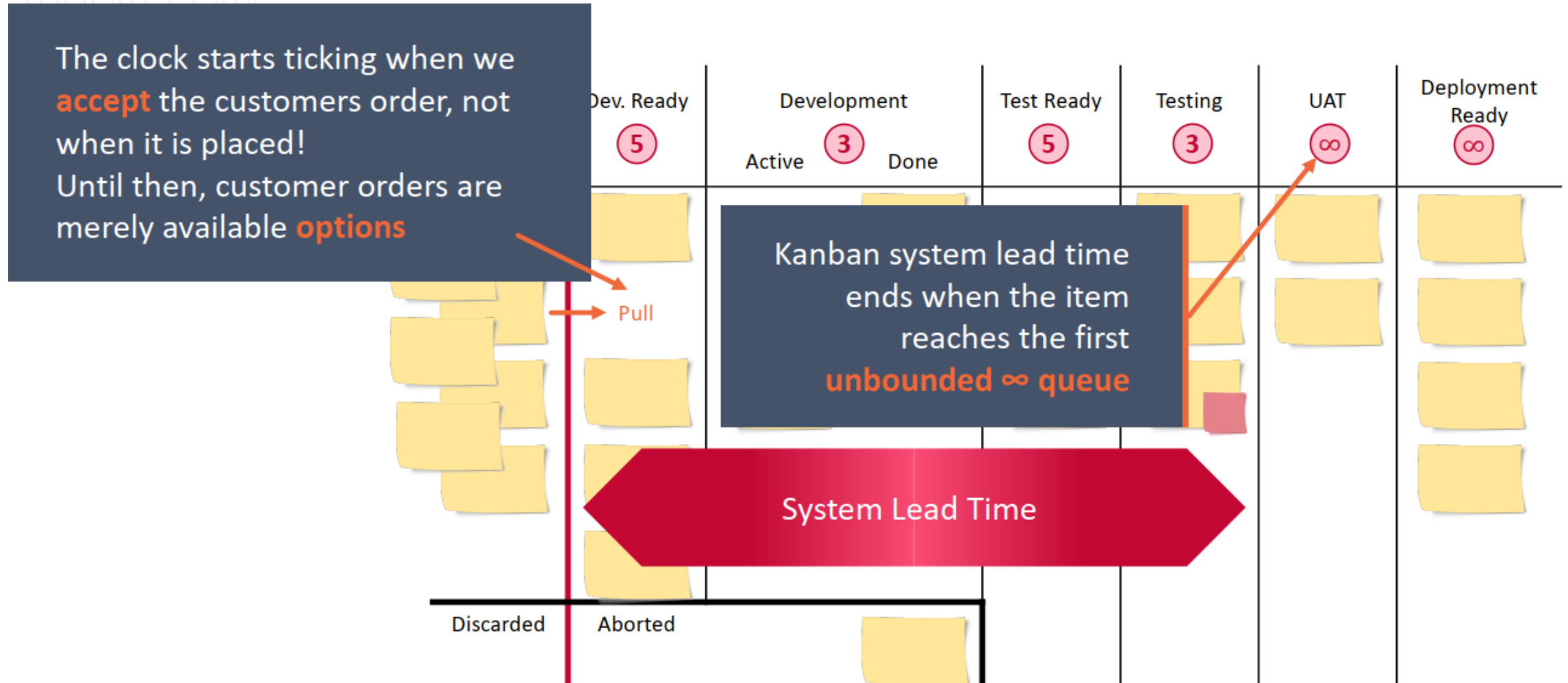
Core Kanban Metrics and Charts

Do not Distribute

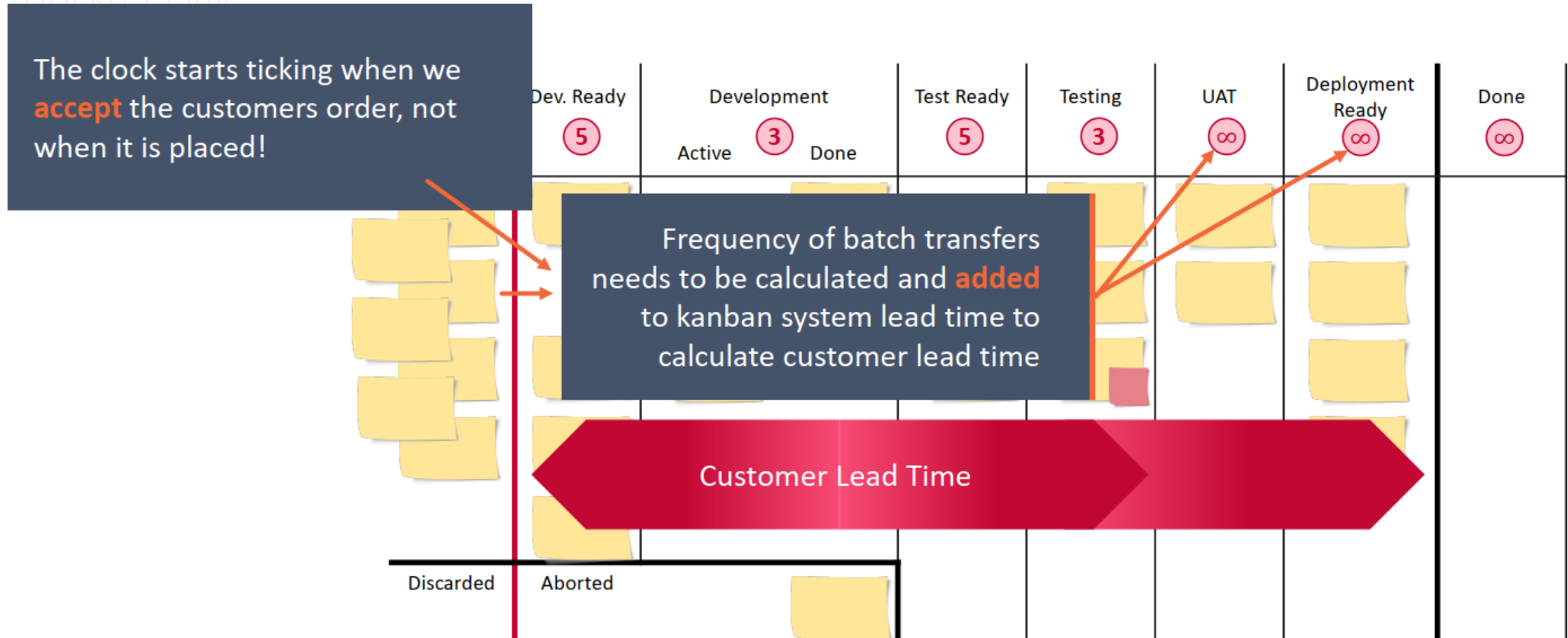
How can we measure and understand
the behavior of flow-based systems?

Do not Distribute

Metric Definition: Kanban System Lead Time

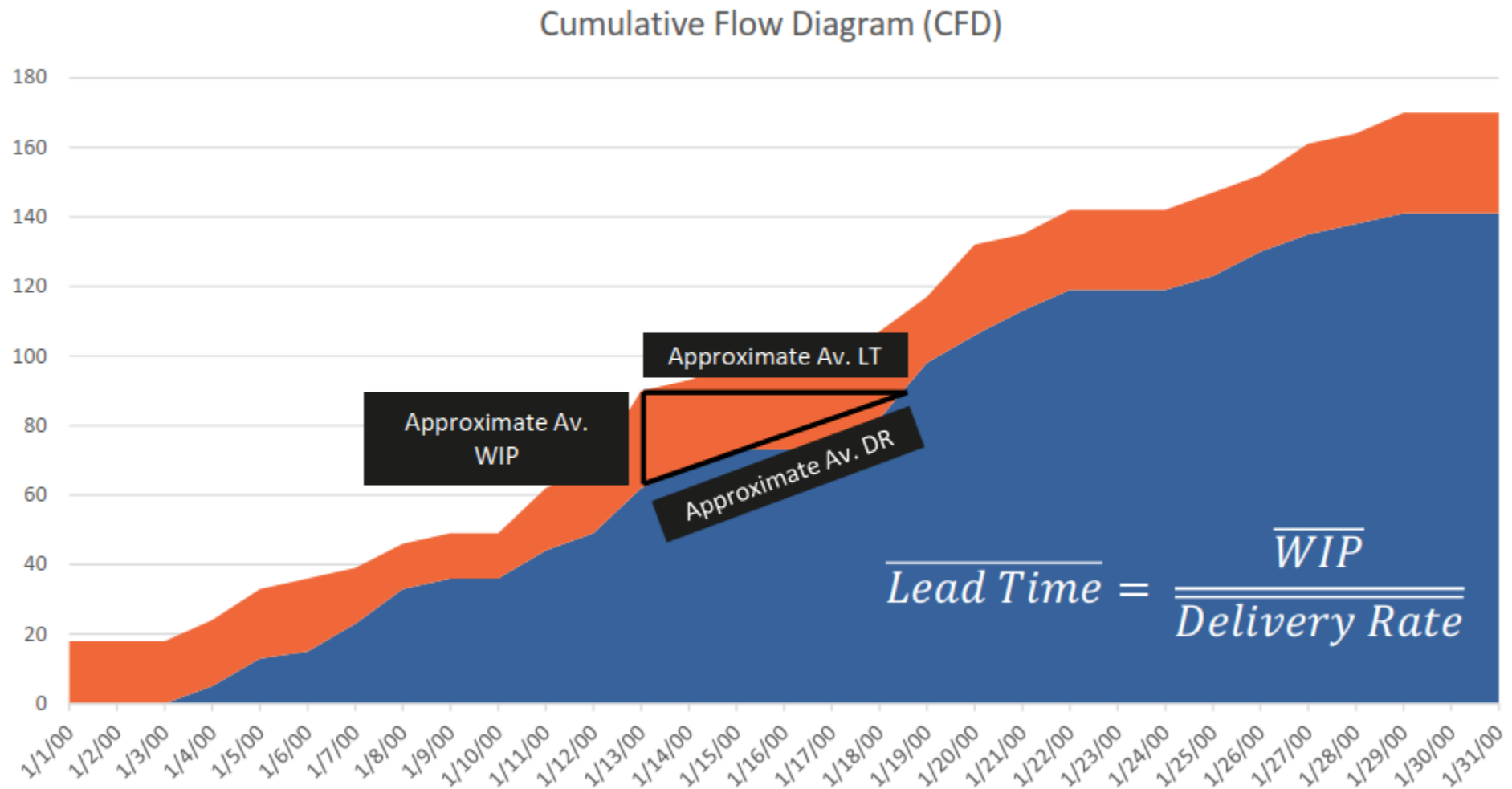


Metric Definition: Customer Lead Time



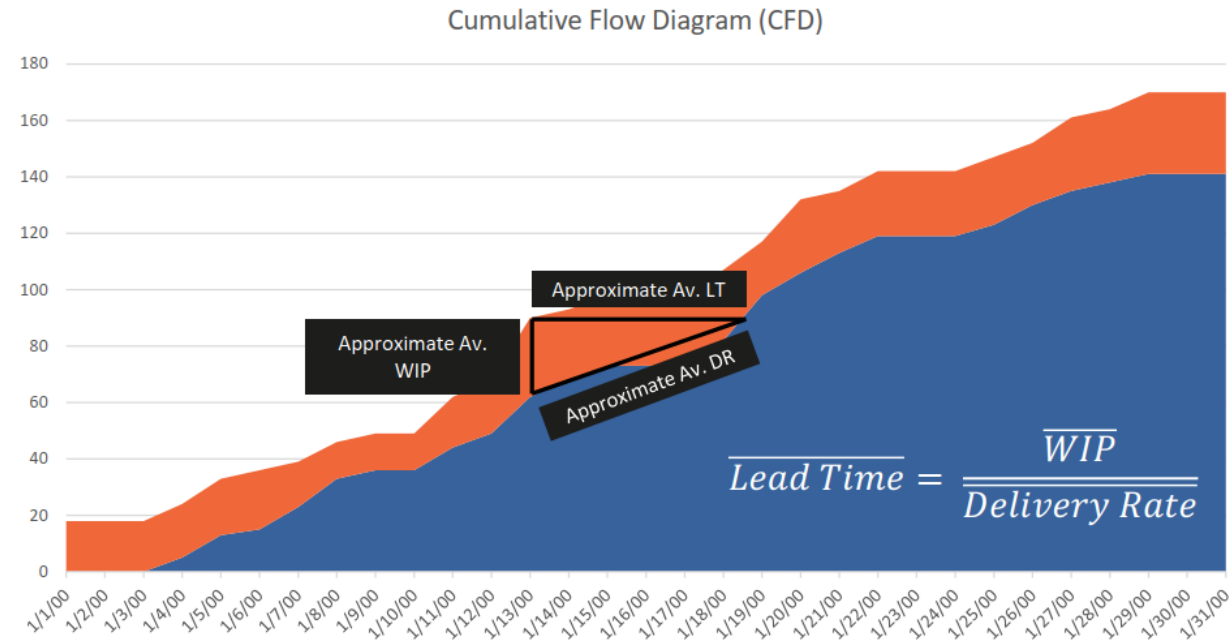
TUDENT COPY

Little's Law – a Relationship of Averages



Little's Law

- Assume that the system is not “trending” over the period of averaging.
- The number of items entering and leaving system must be similar, and the average “age” of items in progress must not be increasing or decreasing.
- Despite this restriction, the formula has proven useful in many circumstances for understanding **how flow systems behave as WIP changes**



Flow Efficiency - Introduction

- Where would you prefer to travel?
- How fast and smooth will your travel be?



Few delays



Traveling time largely determined by delays

Flow Efficiency

$$\text{Flow Efficiency} = \frac{\text{Work Time}}{\text{Lead Time}}$$

- Flow efficiency measures the share of total lead time which is spent actually adding value (or knowledge)
 - Work item is the sum of all the times during which a work item is actively being worked on
 - Work time excludes wait time caused by delays
 - The higher the flow efficiency , the less delays

Summary: Key Metrics to Understand System behavior

Lead Time

Delivery Rate

Flow Efficiency

Failure Demand

Initial Quality

Blockers

WIP Levels

Discard / Abort
Rates

Make Policies Explicit



A process expressed as workflow and policies

- Creates constraints in action,
- Is empowering within constraints,
- And results in emergent characteristics than can be tunes by experiment.

Do not Distribute

Classes of Services (CoS)

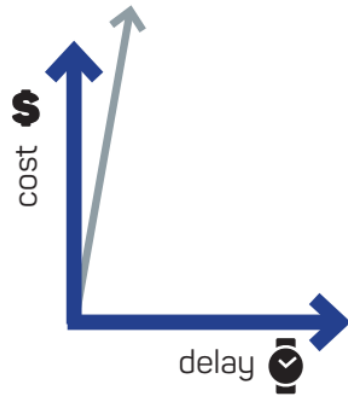
- Defines how categories of items are treated in a system, a set of policies is defined that apply to certain work type(s)
- Recognize different kinds of customer expectation
- Treat of work items in a differentiated manner to better manage lead times and risks – be able to respond at reasonable cost
- Can impact order of selection and delivery – qualitative categories before any quantitative ranking

CoS - Cont

- Make explicit both internally and externally
- Can be indicated with colors, shapes, stickers, swim lanes, etc.
- ... forming the basis for reliable commitments to stakeholders!

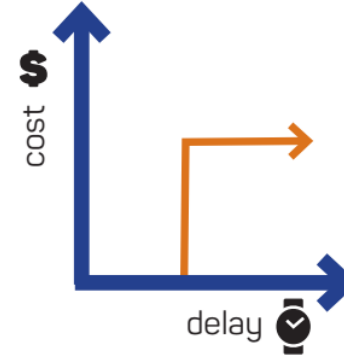
Do not Distribute

Classes of Services mapped to Cost or Impact of Delay



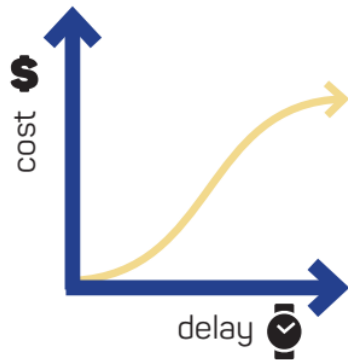
EXPEDITE

Critical and immediate cost of delay; it can exceed other kanban limit (bumps other work).



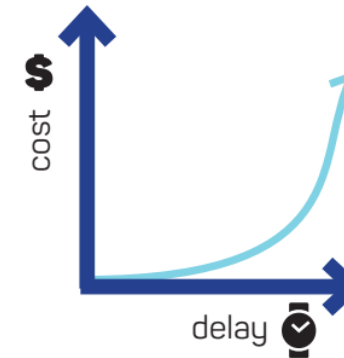
FIXED DATE

Cost of delay goes up significantly after deadline.



STANDARD

Increasing urgency, cost of delay is shallow but accelerates before levelling out.



INTANGIBLE

Cost of delay may be significant but is not incurred until significantly later (if at all).

What will happen if
you don't finish the item
at that time?

Implement Feedback Loops



- Feedback loops are an essential part of any controlled process
- Are especially important for evolutionary change.
- Kanban defines specific feedback opportunities called “cadences”.
- Cadence: the beat, time, or measure of rhythmical motion or activity

Do not Distribute

Workflow Kanban Meeting



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Scope: End-to-end workflow of a service
The identified issues are resolved after the meeting by team members with relevant knowledge and skills



Weekly,
depending on
coordination cost



10-20 mins

How to Run a Workflow Kanban Meeting

- One person facilitates
- **“Walk the board”** from right to left:
 - Go through the tickets from right (most close to completion) to left (most recently started)
- Remember to **manage work, not workers!**
- The facilitator may solicit a status update on a ticket or simply ask if there is additional information that is not on the board yet.

How to Run a Workflow Kanban Meeting – cont.

- More mature organizations may only discuss blocked items, and not discuss every ticket on the board
- There will be discussion of pullable tickets in “Done” queues. Which ticket should be pulled next and by whom?

Do not Distribute

Flow Review



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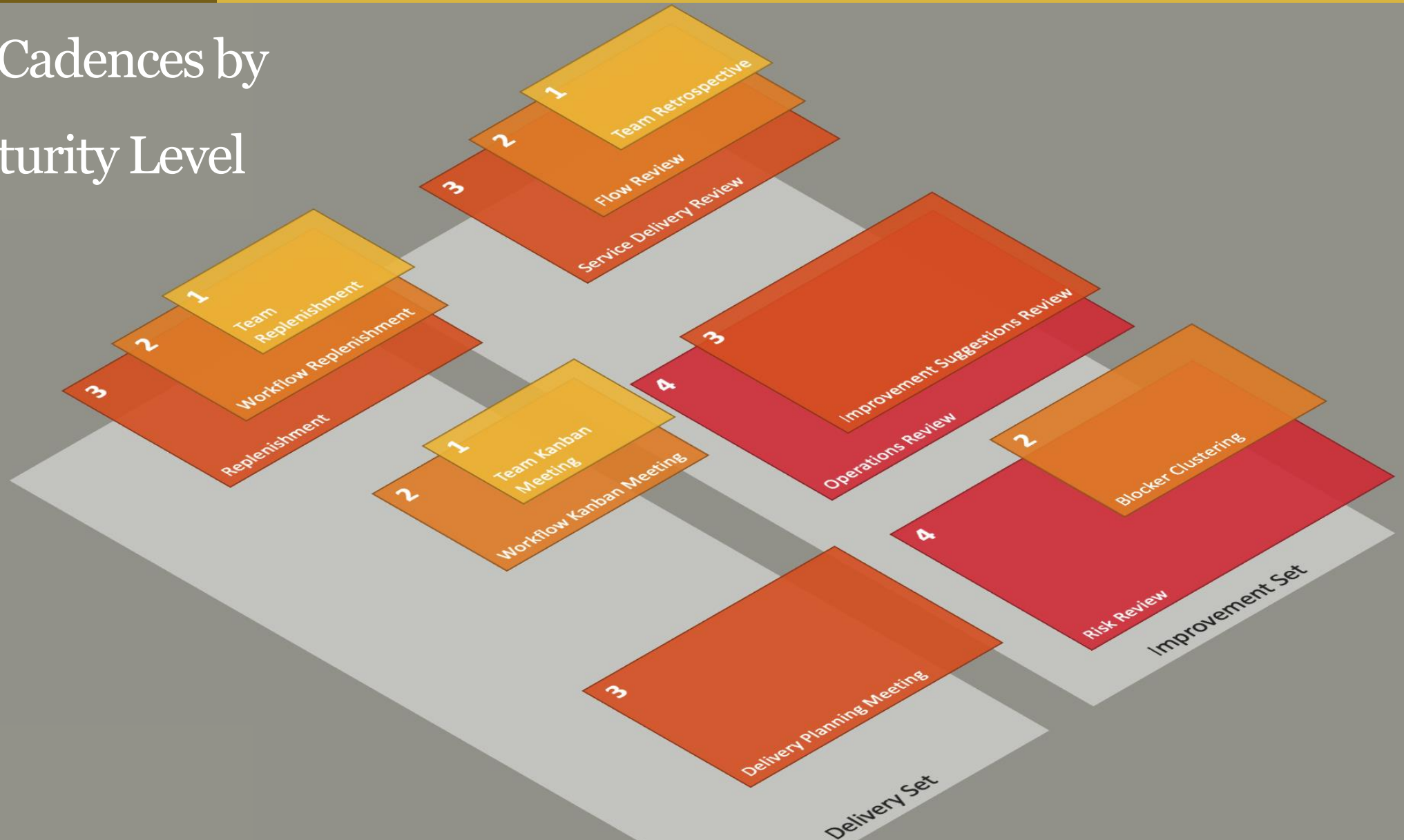
Twice a month 30 min



Typical Data Prepared for a Flow Review

- **Distribution of the demand** per work type
- **Range of Blocker time** per blocker cause
- **Range of defect and rework time** per cause
- Work items with **high age**
- Average and distribution of:
 - **Customer Lead Time** per type of work
 - **Arrival rate** of the demand
 - **Throughput** per type of work for a period
 - **System lead time** per type of work

All Cadences by Maturity Level



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