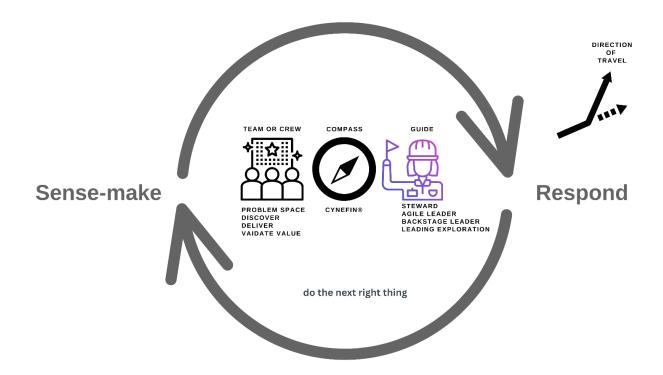
# Kanplexity™



A complexity expansion pack for Kanban

A Cynefin® starter pack for agility underpinned by Kanban

October 2022

Developed and sustained by Orderly Disruption Limited

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## Background

Organizational agility suits our present-day world because of the prevalence of complex work. However, we face many hazards on our way to achieving agility. Given a plethora of choices for dealing with a situation, we can experience analysis paralysis. If we lack trust when working in a complex environment, we can end up experiencing unhealthy conflict. If we fall into a pattern of groupthink, it's more likely we will drift into disaster.

We need to find a way to work together and be open to fresh perspectives from non-experts and experts from different fields of work. We need experiments to settle debates and discover the best ideas for now. Professionals with skills in complexity and agility handle uncertainty with ease.

Many of the approaches that underpin organizational agility fall along a spectrum. They range from being vague and operating purely from values and principles to being more rigid, taking a one-size fits all approach. It's difficult for most people to operate purely from values and perspectives, and context-free recipes don't work well in complex work environments.

Many of us need flexibility in our agile approach with perhaps a little scaffolding in place to ease the path. The type of scaffolding we might need depends on our situation.

## Why Kanplexity?

Agile has its origins in the <u>Manifesto for Software Development (Agilemanifesto.org, 2001)</u>. What we lack is guidance for potential agilists in other sectors.

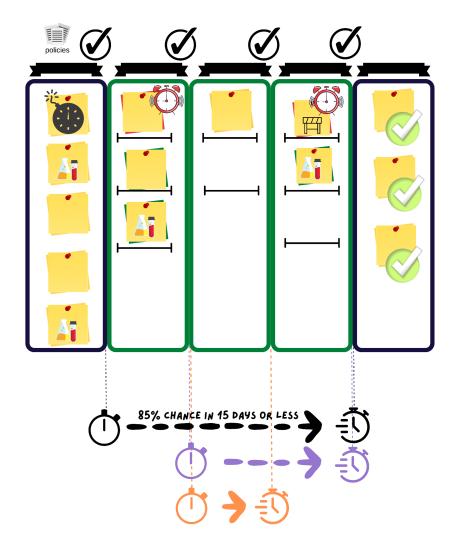
We should strike a balance between the competing forces of doing the right thing, the right way, quickly, (more) predictably, repeatedly, and sustainably (inspired by Magennis, 2022). We should think and act appropriately for the complexity in front of us and only have formal interactions needed for the situation at hand.

## Kanban and complexity

Using tenets of Kanban and Cynefin® sense-making (Cynefin.io, 2022, 1), Kanplexity offers an optional approach to those in non-software settings.

As Kanplexity is an expansion pack for Kanban, this guide does not explain Kanban. The <u>Kanban Guide</u> (<u>Kanbanguides.org. 2022, 1</u>) provides a full description. In short, Kanban is a strategy to optimize the flow of <u>value</u> (<u>Kanbanguides.org. 2022, 2</u>) through a process (an accessible pull-based system). <u>The Kanban Guide helps people deal with complex problems by optimizing signaling (Orderly Disruption, 2022)</u>.

You can use any Kanban or flow approach and still benefit from Kanplexity as long as it abides by the key tenets of the Kanban Guide.



Cynefin® is described in the Cynefin wiki (Cynefin.io, 2022.1). Cynefin followers argue that Kanban alone does not sufficiently deal with complex work. However, we can benefit from the synergy created by using Kanban in tandem with Cynefin.

Kanplexity is a jumping-off point for supporting Cynefin via Kanban.

## Sense-making with Cynefin®

Sense-making is a mental exercise that evaluates situations against our understanding of how the world works. Cynefin is essentially a sense-making compass. Kanplexity relies on the concept of *sense-making* developed as part of the Cynefin framework.

Cynefin helps us to determine the type of response required for our situation, when we should change response types, and how to distinguish and navigate between the following domains:

#### Ordered

- clear people know how to do what they're doing, e.g., write a timesheet
- complicated people know how to find out how to do a task, e.g., do some technical research on a well-established technology, or get a well-respected builder to help with a large project
- Complex Even if the experts get together they won't figure things out without:
  - fresh thinking, e.g., asking an expert from a completely different field of work to contribute to the thinking, set-based design
  - o twisting an old idea, e.g., treating a disease with a drug for a different disease
  - o experimentation, e.g., rapid prototyping ways to reduce hospital waiting lists

#### Chaotic

- "positive chaos" where rules are relaxed for a limited period of time, e.g., an innovation incubator
- o "negative chaos" e.g., catastrophic failure like a crowd crush at a sporting event
- Aporia/Confused (formerly called *disorder*)
  - the expression of a simulated or real doubt, known as aporia or being aporetic it's questioning if one is in the right domain
  - confusion doing what one always did regardless due to lack of awareness

Thick transitional borders known as *liminals* exist between:

- complicated and complex, e.g., innovating in only one dimension
- complex and chaotic, e.g., 20% unmanaged creative time such as "innovation Friday," or a limited innovation time period per quarter such as a hackathon for innovation or invention.

Sense-making is messy. We should not attempt to categorize situations context-free into neat boxes or <u>pigeon-holes (Dictionary.cambridge.org, 2022)</u>.

### States of matter (solid, liquid, gas) as a metaphor

If we use states of matter as a metaphor, you can think of:

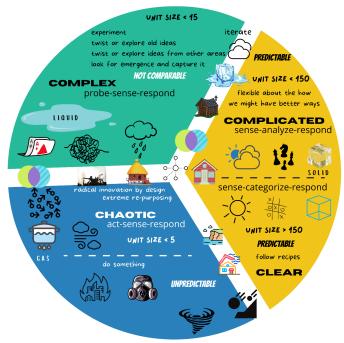
- Ordered as solid
- Complex as liquid
- Chaotic as gas

Imagine the phase shifts from solid to liquid to gas and back again. Often, we need intentional action to catalyze transitions, but sometimes transitions just happen.

#### Typical transitions include:

- Phase shift between chaotic (gas) and complex (liquid) in either direction
- Phase shift between complex (liquid) and complicated (solid) in either direction
- Phase shift between clear (hard solid) and complicated (soft solid) in either direction
- Phase shift from clear (hard solid) to chaotic (gas)
- A deliberate dramatic aporetic turn into complicated, complex, or chaotic

Beware of the risk of a catastrophic move into chaotic from clear; it might be easy to fall in, but it's almost impossible to get out without taking the long road back to clear via complex and complicated.



An unofficial and unauthorized representation of Cynefin®

### Suggested response options

#### For clear work

• Use canned solutions for work that one is already skilled enough to do independently Warning – this area is prone to a dramatic shift into negative chaos caused by over-confidence

#### For complicated work

• Experts work together, or non-experts do analysis

Warning – The complicated domain is prone to analysis paralysis and a lack of constructive debate.

#### For liminal complicated and complex work

• Innovate in one dimension, e.g., experiment to discover for the situation at hand the best idea of many from experts and non-experts alike

Warning – Move work from complicated to complex as soon as experts agree on the next steps.

For complex work - where experts working together are unlikely to get it right the first time

- "Reach across the aisle" and outside, inject fresh thinking
- "Deep listening" to better understand perspectives
- Work together, collaborate, cooperate, discover (to deliver or not deliver)
- Run parallel (even competing) experiments, ideally but not necessarily hypothesis-based
- Twist old ideas for the current situation (aka exaptation)

Warning – Have dampening and amplification strategies for experiment failures and successes.

#### For liminal chaotic and positive chaos

• Create space and time for "deep listening," observing, thinking, discovery, and delivery Warning – Consider limiting the number of dimensions of innovation to avoid transition into negative chaos and speed up the transition into the complex domain.

#### For negative chaos

"Do something" to buy time, ideally not making matters worse

Warning - Be very responsive.

#### For aporia

 Challenge thinking, e.g., Ask, "Are we working in the wrong domain or on the wrong problem?", and, "Is there an opportunity here?"

Warning – Speed is of the essence if what's needed is a change of attack.

## What is Kanplexity?

Think of Kanplexity as a Cynefin starter pack for agility underpinned by Kanban. Kanplexity is not context-free; some adaptation is expected. Kanplexity is for people working together in complex domains. Although Kanplexity can be useful across sectors, it is specially designed for people working outside of software.

The two pillars of Kanplexity are *sense-make* and *respond*. The sense-making and the response type depend on the Cynefin domain and the situation at hand.

Some key tenets underpin Kanplexity:

- Focus on value validation over "when it will be done" "It" isn't always clear
- Learning should be the priority, therefore:
  - o understand the problem to solve and why it's the right problem to solve
  - witness interactions with the customer
  - discover, deliver, measure outcomes and tweak
  - manage expectations about uncertainty over dates
- In the complex domain:
  - form a team or a crew as trust is essential be clear who is in and who is not
  - ideally, the team or crew has three or more people for critical mass (Living Complexity, Leanpub.com, 2022) emergent behavior is less likely in a team or crew that is too small
  - o sidestep from the present into a direction of travel
  - have a person (guide) to cultivate the environment for agility
  - o implement feedback loops

### Kanplexity interactions

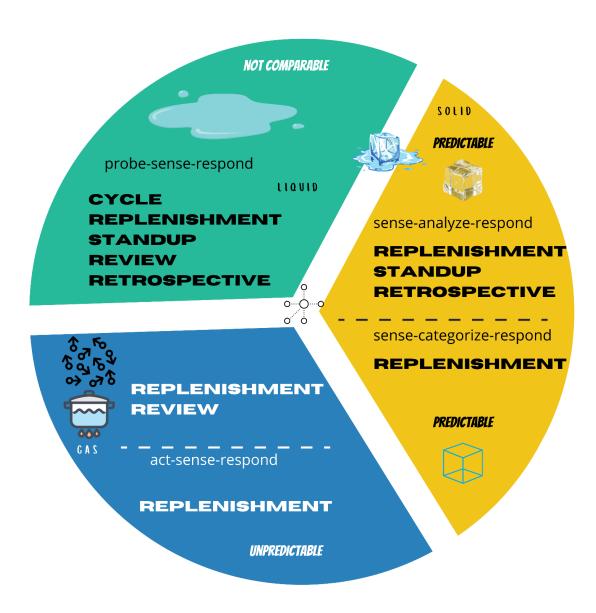
Kanplexity has five interactions, each without a timebox

- Replenishment (just in time) as needed
- Cycle recommended for complex and liminal complicated-complex
- Standup recommended for complicated, complex, and liminal complicated-complex
- Review recommended for complex, liminals, and positive chaos
- Retrospective recommended for liminals, complicated and complex

Provided that the interactions are as described in Kanplexity, one can refer to any of these interactions using other names.

Aim also for free, unconstrained, and informal interactions inside and across boundaries also <u>(Living Complexity, Leanpub.com, 2022)</u>.

#### **SENSE-MAKE & RESPOND**



An unofficial and unauthorized representation of Kanplexity interactions in Cynefin®

### Direction of travel

A *direction of travel* is a loose purpose that can flex depending on what we learn. The direction of travel (Snowden, 2019, 1) evolves, pivots, or stops.

While goals are helpful for complicated work, it's crucial to inform decision-making with evidence for and against the goal's validity.

In the complex domain, the direction of travel:

- Is clear to people on teams or crews and customers.
- Focuses on the short- to medium-term possibilities.
- Is revisited during reviews.



Dave Snowden points to Disney's Frozen II for his favorite illustration of dealing with complexity. In the movie, Anna, the true heroine, sings <u>Do the Next Right Thing (Youtube.com, 2022)</u>. The Cynefin Framework is like a compass for discovering and doing "the next right thing."

We should behave in a way that's appropriate for the Cynefin domains. Often different aspects of a problem are in all domains, so be careful about oversimplifying.

### Kanban explicit policies

Our team or crew should be clear in its policies or working agreement about specifically who (usually more than one person to allow for overlap) owns each of the following:

- The direction of travel creation, re-alignment, evolution, communication
- Reviews of the definition(s) of workflow
- Facilitation and preparation for:
  - pruning, refining, <u>full-kitting (Kanbanguides.org, 2022, 3)</u>, or rightsizing (<u>Kanbanguides.org, 2022, 3</u>) the work, as needed, for all domains
  - o replenishment, as needed, for all domains
  - standup for complicated, complex, and liminal complicated-complex
  - o review for complex, liminals, and positive chaos
  - o retrospective for liminals, complicated and complex
- Review of policies, team alliances, and working agreements

Make best efforts to reduce the number of people involved in the work so that you can avoid having to scale. Smaller numbers also make backlogs less desirable, allowing the team or crew to discover and take action on the (single) next right thing.

#### Guide

In Kanplexity, a person acting as a guide monitors the Cynefin "compass" for the team or crew and facilitates the discovery of "the next right thing." Leadership is not necessarily defined as a position. The guide is a steward, backstage leader, or agile leader (Large Scale Scrum (LeSS), 2022).

Providing they behave as per the tenets of Kanplexity, examples of guides might include change agents, coaches, mentors, teachers, facilitators, service leaders, product leaders, service managers, product managers, managers, leaders, executives, team members, or crew members.

#### The guide:

- Is careful to avoid too much focus on the process at the expense of value
- Promotes value validation over output
- Stewards teams, crews, and the organization for continual improvement
- Resolves issues that teams and crews cannot solve



The guide should carry out certain actions according to various perspectives as follows:

- From a people-interactions perspective
  - o demonstrate compassion (Bloom, 2016)
  - trust the team or crew
  - foster healthy conflict (Youtu.be, 2022.2)
  - regularly check out the ground level experience of customers, teams and crews—aka
     "Go See" (Ballé and Ballé, 2011)
  - use inspired techniques to improve interactions such as <u>Liberating Structures</u>
     (<u>Liberatingstructures.com, 2022</u>) or <u>Ritual Dissent (Cynefin.io, 2022, 2</u>)
- From a systems perspective
  - o arrange for equitable pay or rewards
  - arrange for horizontal growth career paths (perhaps based on skills-based pay) (Joseph H Boyett and Jimmie T Boyett, The Skill-Based Pay Design Manual (ASJA Press 2004))
  - arrange for funding supporting agile work
  - manage stakeholder expectations about uncertainty
- From a learning perspective
  - o witness interactions with the customer and user
  - o get more technically minded to better understand issues and risks
  - o arrange for self-designing teams or crews
  - o embrace slack time, and support using it for learning
  - o give space and time for discovery as needed

### Orientation reference

Cynefin	Encourage	Facilitate	Focus on	Optimize for
Clear	People to follow recipes or "just do it"	Automation, flow, double-checking that clear work is actually clear, not talking about clear work at "standup"	How we work, doing it right, doing it fast, doing it predictably, doing it lots, keep on doing it	Efficiency, flow, predictability, sustainability
Complicated	People to bring expert(s) to bear, allow time for more analysis	Automation, flow, self-management, collaboration (sharing), cooperation (helping), conflict	How we work, doing it right, doing it fast, doing it more predictably, doing it lots, keep on doing it	Efficiency, flow, predictability, sustainability, goals
Liminal between complicated and complex	People to engage in data-informed decision-making, use of cycles	Team or crew self-management, collaboration (sharing), cooperation (helping), deep listening, flow, emergence, twisting old ideas and ideas from other areas (exaptation)	How we work, doing the right stuff, doing it right, doing it fast, doing it more predictably, doing it lots, keep on doing it	Effectiveness, efficiency, flow goals, fresh thinking
Complex	People to engage in data-informed decisions, working together (for example, pairing, swarming, mobbing), running parallel "safe to fail" experiments, use of cycles, keeping options open for as long as possible	Deep listening, discovery (to deliver or not), experimentation, constructive dissent, fresh thinking, collaboration (sharing), cooperation (helping), trust, uncertainty, narrative, dynamic reteaming (Helfand, 2020), flow	How we work, doing the right stuff, doing it right, doing it fast	Fresh thinking, getting "out of the building" to "go see," effectiveness, twisting old ideas and ideas from other areas (exaptation), the direction of travel
Liminal between complex and chaotic, positive chaos	People to engage in data-informed decisions, working together, innovating with customers	Deep listening, multiple perspectives, uncertainty, space and time for experimentation and innovation or invention	How we work, doing the right stuff, doing it fast	Fresh thinking, getting "out of the building" to "go see," effectiveness, the direction of travel
Negative Chaotic	Following the lead of someone credible out of chaotic, journaling, diverse groups independently assess the situation	"do something," triage, shift into aporia	How we work, doing something (being careful to not make things worse) to buy time	Getting into a rhythm in the complex domain
Aporia	Rethinking the domain that applies to the situation/work	Shift to the appropriate domain(s)	How we work, question what we're doing	Fresh thinking, constructive dissent

### Rhythm

Having a routine and rhythm helps us deal with complexity, particularly if customer data, validated learning and flow data inform decision-making. However, the old adage of "everything in moderation" applies:

- Too much rhythm can be a problem. Using the same learning feedback loops for all work, regardless of how well we understand the work, results in talking about simple, clear, and obvious work in the standup to the dismay of bored colleagues.
- Too little rhythm can be a problem. We need to step back and reflect periodically to avoid execution bias (Nota 2021); execution bias is more likely to occur without rhythm. We want to avoid working on the wrong thing, and rhythm helps to rein us in.
- It's possible to deal with complexity without a rhythm, but it takes discipline.

Kanplexity strives to find the right rhythm and balance, and it steps away from a one-size-fits-all approach.



REPLENISHMENT
JUST-IN-TIME INTAKE
WHEN CAPACITY ALLOWS

LIMINALS COMPLEX POSITIVE CHAOS



REVIEW
THE WHY, THE WHAT
THE NEXT RIGHT THING
LEARNINGS FROM EXPERIMENTS
VALUE VALIDATION
MARKET INSIGHTS
DIRECTION OF TRAVEL



COMPLICATED
LIMINAL COMPLICATED-COMPLEX
COMPLEX



COMPLICATED LIMINALS COMPLEX



RETROSPECTIVE THE HOW EFFECTIVENESS DYNAMICS CULTURE FLOW

### The Cycle - for complex, liminal complicated-complex

A *cycle* is a regular "heartbeat" one to several weeks long and contains the standup, the work itself, the review, and the retrospective. It is supplemented by just-in-time replenishment.

During the cycle, act on valuable *work items* as outlined in the optional <u>Definitions for Kanban Guide</u> (<u>Kanbanguides.org, 2022, 2</u>) that are *rightsized* as per the optional <u>Addendum To Kanban Guide</u> (<u>Kanbanguides.org, 2022, 3</u>). If the risk of being unable to harvest potential value for a work item is high we need to discover that quickly and decide whether qualitative and quantitative evidence supports delivery.

When we put outputs in the customers' hands, we should measure the outcomes and effects, and then tweak from what we learn. Deliver work items quickly, put them in the customers' hands quickly, and learn fast. Aim for feedback loops of less than one month while keeping work items valuable.

Be open to a different path if the quantitative and qualitative evidence that we should change the direction of travel mounts. Remember, we must focus on doing the next right thing in the liminal, complex, and positive chaos domains.

### Replenishment - as needed

Replenishment is the intake of right-sized work when capacity allows. Run replenishment just in time for maximum flexibility, informed by the Kanban measures and analytics.

### Standup - for complicated, liminal complicated-complex, and complex

A flow-based standup focuses on ensuring the team or crew is doing everything it can to optimize the flow of value in the direction of travel. The standup takes place around the Kanban board, focusing on where the flow is lacking and on what actions the team or crew can take to improve it. The entire team or crew should attend. The guide may also attend and participate. Keep it snappy. In the complex domain, aim to have a rhythmic frequency of daily or guasi-daily.

The standup does not have to be synchronous. For clear work, discussion at a standup is not necessary or recommended. Where there is a mixture of domains, focusing on complex and complicated work is more useful. Hence, the suggested standup questions are:

- 1. What do we need to work on together (before the next standup)?
- 2. Does any item need extra attention today due to aging, a blocker, or otherwise?
- 3. Are there any things that might impact the team's or crew's ability to complete work that is not represented on the Kanban board with updated information?

Also, consider work planning before the next standup in the following areas:

- Problem space (Indiyoung.com, 2022), investigating if we're looking at the right problem
- Customer interaction observation
- Discovery
- Delivery
- Operations
- Value validation
- Technical debt minimization (Alliance, Letouzey and Whelan, 2019)
- Failure demand minimization (Vanguard Consulting Ltd, 2022, 1)

### Review - for liminals, complex, positive chaos

Reflecting on the what, why, and for whom of the work helps to reduce execution bias. At this interaction, the team, crew, guide, partners, customers, and end users collectively review the learnings, outputs, and validated value. The review is for collaboration on the next right thing to do. During this review, participants discuss market insights, customer analytics, observations, learnings, and feedback. Keep it snappy.

The intent of the review

The customer or end user wants to:

- See if or how we are moving in the direction of travel
- Give and examine feedback on previous releases
- Provide or receive market insights
- Review the results of recent customer interviews and experiments
- Understand the latest changes to decide if they are desirable
- Understand what is possible

#### Tips:

- Focus on essentials and keep the review as short as possible
- Talk about the customer and the customer's needs
- Let the customer play with the outputs
- Tell a compelling story:
  - outline the customer or end-user problem we tackled and how we knew it was the right problem to take on
  - o discuss the pain the customer or end-user has had
  - Present the solution we are providing
  - O How does the customer or end-user benefit from the solution?

(Küsters, 2019, adapted with permission)



(Küsters, 2019)

Review

(YouTube, 2019, 2)

Retrospective - for complicated, liminal complicated-complex, and complex

Stepping back to "sharpen the saw" and reflecting on the how of the work reduces execution bias. A retrospective is an opportunity for the team or crew to inspect itself regarding culture, agility adoption, interpersonal dynamics, and how work gets done. It's also the time to examine how the team observes customer interactions, workflow definition, and flow analytics that help determine improvements we can make. The person serving as the guide strives for psychological safety to enable this type of vulnerability sharing. The team or crew should take action to make necessary improvements within the retrospective. Keep the interaction snappy.

### **Endnote**

Context is king. Kanplexity is deliberately flexible but not so flexible that it enables simple "rebranding" of non-agile work.

We hope Kanplexity helps people who are authentic about agility, whether in product management (En.wikipedia.org, 2022, 5), project management (En.wikipedia.org, 2022, 4), Lean (En.wikipedia.org, 2022, 3), Agile, Theory of Constraints (Theory of Constraints Institute, 2022), DevOps (2nd edn, IT Revolution Press), the Vanguard Method (Vanguard Consulting Ltd, 2022, 2), or otherwise.

Kanplexity recommendations are based on the results of many experiments, and benefits diminish the more of them we ignore. Being open to the recommendations helps us avoid the road to negative chaos.

### License



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## Overlays from Kanplexity on the Cynefin® diagram



Unofficial and un-authorized overlays (States of matter [solid, liquid, gas], gas bottle, gas mask, flame, saucepan, weather symbols, and Kanplexity interactions in brown or white text) on top of underlying Cynefin® diagram. The original underlay of Cynefin® diagram © 2001-2022 Cynefin.io. Offered for license under the Attribution ShareAlike license of Creative Commons, accessible at http://creativecommons.org/licenses/bysa/4.0/legalcode and also described in summary form at http://creativecommons.org/licenses/by-sa/4.0/, by using Cynefin® , you acknowledge that you have read and agree to be bound by the terms of the Attribution ShareAlike license of Creative Commons.

## History and Acknowledgments

Many people influenced Kanplexity without knowing it, and they may or may not agree with the content.

The now famous <u>HBR paper on Cynefin (Snowden and Boone, 2022)</u> refers to several years of work prior to 2007. Profound gratitude to Dave Snowden, Mary E. Boone, their colleagues, and all those practitioners who have contributed to <u>Cynefin (Cynefin.io. 2022. 1)</u>.

The EU Field Guide for managing complexity (and chaos) in times of crisis (Centre, 2022) was a significant inspiration for Kanplexity; thanks to Alessandro Rancati and Dave Snowden.

Intent-Based Leadership® (Intent-Based Leadership® International with L David Marquet, 2022) and David Marquet's focus on execution bias, the red work, and the blue work (InfoQ, 2022, 2) had a key influence on Kanplexity; deep gratitude to David Marquet.

A heartfelt thank you also goes to the following people:

- Teams, crews, and guides who used Kanplexity, and those who continue to do so
- Andy Carmichael, Daniel Vacanti, Jim Benson, Nader Talai, Nigel Thurlow, Steve Tendon, and Troy Magennis for their inspiration on the topic of Kanban
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## **Appendix**

#### **Definitions**

Kanplexity<sup>™</sup> does not seek to redefine words in the dictionary. Nevertheless, readers might find it helpful to understand what some words mean in the context of Kanplexity, namely:

- Product An item (physical, virtual, digital, or hybrid) that is produced or a service, offered for sale
  to serve a customer's need or want, or a metaphorical vehicle (a vehicle that continually runs) for
  delivering value, where:
  - external customers and end users know what is produced or served when we mention it
  - people are expected to pay for consumption/use of it using money, data, or some other consideration

A Product can be built upon the building blocks of platforms, systems, sub-systems, or components. Examples include a chair, a cake, or an e-learning service.

- **Platform** An item (physical, virtual, digital, or hybrid) that is produced or service or a metaphorical vehicle (a vehicle that continually runs) that:
  - underpins and enables value but does not in itself deliver value, usually but not always unrecognized by external customers and end users
  - Is often mistakenly labeled a product, e.g., an enterprise resource planning (ERP), a
    customer relationship management (CRM) system, an e-learning system, a podcast
    hosting and redistribution system, unless we sell those systems, in which case they might
    be platforms as products.

A platform can be built upon the building blocks of systems, sub-systems, or components.

#### Service

- Assistance or advice is given to customers
- Rental of a product, platform, system, sub-system, component, or experience
- Labor-originated delivery of value

Examples include house painting, access to Amazon Prime, or professional printing of graphic designs from Canva. Some commoditized services are products.

 Team A team does the work. A team in the face of complexity is small, diverse (Syed, 2019), self-managing (Less.works. (2019), and cross-skilled, where members care about each others' work and learn how to do their work. Team members give, reward, and earn trust. Executives need to cultivate an environment where the team is ready, willing, and able for work in the problem space, discovery, delivery, and value validation.

- Crew A crew does the work. A crew in the face of complexity is diverse (Syed, 2019) and
  cross-skilled. Trust is a byproduct of intensively trained individuals, each of whom has a specific
  well-honed skillset. They have trained how to team up quickly, e.g., airline pilots quickly team up
  with other flight crew they have never worked with before. Executives need to cultivate an
  environment where the crew is ready, willing, and able for work in the problem space, discovery,
  delivery, and value validation.
- Deep listening (Medium, 2022) Without a script, listen to your teammates, crew members, stakeholders, your boss, and their bosses. Listen to your customers, users, consumers, the people you do not yet support, and those who will get by without your idea just fine. Get beneath the shallow stuff and find out what the flow of intentions, snags, and workarounds sounds like for other people. Focus your intent on curiosity about what others say, without the rest of the world and your goals intruding. Who knows where the conversation might end up! Deep Listening is applicable in all domains.

## Organizational agility

<u>Organizational agility (Orderly Disruption Limited, 2022)</u> is about people sense-making and responding quickly, calmly, and appropriately to their environment. Think of it as being about:

- Dealing with a given **situation** quickly, calmly, and appropriately
- Positive customer and stakeholder perceptions of the quality of response to the situation, also known as the optics
- Having a sense for the best response types for the situation, a guiding compass
- Inspired, intentional, diverse, authentic, psychologically safe, trustful, and compassionate people interactions
- Human-centric adaptiveness to the situation informed by customer conversations, observation
  of customer interactions, customer analytics, flow analytics, and the results of experiments, and
  maybe ...
- A little bit of luck

Organizational agility is unsustainable without cultivating a humane environment for the sustainable flow of value from customer- and data-informed people. If the person acting as a guide is an executive, then they are expected to cultivate an environment for agility to grow.

#### For example:

- Organizing for value in a direction
  - o acting to resolve the dynamics frustrating people
  - decluttering organization, orchestration, offerings, processes, and workflows including HR, Finance, Legal, Regulatory Affairs, Compliance, Procurement, etc.
  - developing capability and speed for rapid reaction
  - o discovering, delivering, and validating value in a direction
  - o focusing and finishing (Benson, 2022)
- Changing the decision-making ecosystem. For example:

- autonomy
- alignment
- o bottleneck considerations
- o evolving towards leadership without *leader* being a position
- o focusing on future revenues as well as current revenues
- horizontal skill growth, perhaps based on skills-based pay (Joseph H Boyett and Jimmie T Boyett, The Skill-Based Pay Design Manual (ASJA Press 2004))
- measurement
- o more frequent funding cycles
- o slack time time to think or catch up, or help others

### Multi-team or multi-crew patterns

Favor (in no particular order):

- Teams or crews using their preferred approaches
- Teams or crews designing their own Kanban boards and interactions
- Expansion of the definitions of workflow and interactions upstream or downstream of each team or crew so each team or crew and the organization can attain better empathy and flow
- An overall workflow to give end-to-end flow visibility and optimize end to end flow
- Co-creation of cross-team interactions based on pruning, refining, full-kitting, or rightsizing the work, as needed
- Multi-level Kanban board design patterns
- Validating value as quickly as possible
- Beyond Budgeting's 12 principles (Beyond Budgeting Institute, 2019)
- Elimination of interdependencies between teams or crews
- Flight Levels (What is Flight Levels? What does it help with? Flight Levels Academy, 2022)
- Prokanban.org Scaled Portfolio Kanban (ProKanban.org, 2022)
- Obeya as per The Collaboration Equation (1st edn, Modus Cooperandi Press 2022)

#### Try (in no particular order):

- An island or archipelago of agility (InfoQ, 2022, 1)
- Large Scale Scrum (Vodde and Larman, 2019) for product development
- Scrum.org's Nexus (Scrum.org, 2019) for product development
- Throughput Accounting (Throughput accounting Wikipedia, 2022,1)

#### Avoid (in no particular order):

- Traditional approaches such as waterfall for liminal complicated-complex, complex, liminal complex-chaotic, chaotic, aporia
- "Agility in a box" or the "Agile industrial complex" (context free methodology/cookbook)

- Patterns absent of discovery; many ideas should never get built
- Team-output-owner or team-Product-Owner roles (James, 2019)
- Coordination roles they were ok for complicatedness, but they are not optimal for 21st-century complexity (McChrystal et al., 2015)
- The <u>"bullwhip effect" (Johnson, 2019)</u> as cited in the <u>Beer Game (YouTube, 2019, 1)</u> in the Fifth Discipline (Senge and Senge, 1990) avoid an increase in WIP or queues caused by the <u>"bullwhip effect" (Lee, H., 2019)</u>.

### About projects with complex work

A <u>project (Dictionary.cambridge.org, 2022)</u> is a construct that frames a piece of work with a beginning, middle, and end.

While justifications for carrying out work as projects tend to be about value, we often forget about validating value using this structure. We tend to regard the initial potential value as fulfilled without even checking if we have indeed harvested it. For example, we might think we're doing the right things because market share is rising strongly, but maybe that's only due to reducing our prices.

Even worse, we sometimes generate <u>failure demand (Vanguard Consulting Ltd. 2022, 1)</u>, worsening the customer experience. Indeed, projects are not alone in this regard; "feature factories" are bountiful, where teams focus on building features rather than solving customer problems.

There are some world-class projects that include value validation, and the people involved are authentic about agility. But, given the short- to medium-term nature of most projects, there tends to be a lack of readiness, willingness, and ability to deal with systemic organizational issues that impede agility even if solving them would improve project results.

Time-limited project teams also seem counterproductive when considered in the context of the Tuckman model of group development. To disband a project team after a few months of getting to the performing stage is sad. To have a team with a deadline while they're still in the storming or norming stages is even sadder. Note that although there has been some debate over the validity of the Tuckman model, it has not been proven invalid (The Oxford Review, YouTube.com, 2022).

If using a project structure, avoid fixed dates where possible, especially arbitrary dates:

- Fixed dates impede readiness, willingness and ability to engage in discovery. Do we want to deliver what is likely to be the wrong thing on time or something better, possibly later (but possibly sooner)?
- The <u>Change Curve (The Oxford Review, 2022)</u> is another factor to consider. While it might seem that some teams or crews can only get better, it can always get worse. After a change like implementing Kanplexity, for example, initial performance can worsen in the short term. A team getting used to a change is not ideal for a project with a fixed date, even if we use smaller changes with smaller change curves.

One recommendation is to use a long-term team, weigh the relative value of the portions of each project against each other, and feed the team with the most valuable portions. This approach attempts to maximize outcomes with minimal outputs while minimizing task switching.

Avoid dedicated teams or crews for short- to medium-term projects. Assembling a dedicated project team or crew could lead to the delusion of unlimited capacity, despite flow bottlenecks.

Favor long-term over short-term teams. Optimize for flow, not <u>people utilization (Youtu.be, 2022, 1)</u>. Teaming is a skill, so if you reteam, consider authentic <u>Dynamic Reteaming (Helfand, 2020) or (Youtube.com, 2022,2)</u>.

### References

'Manifesto For Agile Software Development' (Agilemanifesto.org, 2001) <a href="https://agilemanifesto.org/">https://agilemanifesto.org/</a> accessed 27 September 2022

Alliance, A., Letouzey, J. and Whelan, D. (2019). *Introduction to the Technical Debt Concept* | *Agile Alliance*. [online] Agile Alliance. Available at: <a href="https://www.agilealliance.org/introduction-to-the-technical-debt-concept">https://www.agilealliance.org/introduction-to-the-technical-debt-concept</a> [Accessed 9 Sep. 2019].

Boyett J, and Boyett J, The Skill-Based Pay Design Manual (ASJA Press 2004)

Ballé, M. and Ballé, F. (2011). The lean manager. Cambridge, Mass.: Lean Enterprise Institute.

(Benson, 2022). Benson, J., 2022. *Product — Personal Kanban Thrive Blog — Personal Kanban*. [online] Personal Kanban. Available at: <a href="https://www.personalkanban.com/pk/category/Product">https://www.personalkanban.com/pk/category/Product</a> [Accessed 29 May 2022].

Benson J, The Collaboration Equation (1st edn, Modus Cooperandi Press 2022)

Beyond Budgeting Institute. (2019). Beyond Budgeting Institute - Enabling business agility. [online] Available at: <a href="https://bbrt.org/">https://bbrt.org/</a> [Accessed 22 Mar. 2019].

Bloom, P. (2016). Against Empathy: The Case for Rational Compassion.

Pigeonhole' (Dictionary.cambridge.org, 2022) <a href="https://dictionary.cambridge.org/dictionary/english/pigeonhole">https://dictionary.cambridge.org/dictionary/english/pigeonhole</a> [Accessed 15 September 2022].

'Project' (Dictionary.cambridge.org, 2022) <a href="https://dictionary.cambridge.org/dictionary/english/project">https://dictionary.cambridge.org/dictionary/english/project</a> accessed 20 September 2022.

(Centre, 2022). Centre, c., 2022. Managing complexity (and chaos) in times of crisis: a field guide for decision makers inspired by the Cynefin framework.. [online] Op.europa.eu. Available at:

https://op.europa.eu/en/publication-detail/-/publication/712438d0-8c55-11eb-b85c-01aa75ed71a1 [Accessed 31 May 2022].

 $Col \ J, \ 'Why \ You \ Might \ Need \ An \ Island \ Of \ Agility' \ (\textit{InfoQ}, 2022, 1) \\ \leq \underline{\text{https://www.infoq.com/articles/need-island-agility/}} \\ = \underline{\text{An Island Of Agility'}} \\ = \underline$ 

Coleman J, 'How Kanban Helps People Solve Complex Problems' (Orderly Disruption, 2022)

<a href="https://orderlydisruption.com/blogs/orderly-disruption/how-kanban-helps-people-solve-complex-problems">https://orderlydisruption.com/blogs/orderly-disruption/how-kanban-helps-people-solve-complex-problems</a> [Accessed 15 September 2022].

'Cynefin' (Cynefin.io, 2022, 1) < https://cynefin.io/wiki/Cynefin [Accessed 15 September 2022].

'Ritual Dissent' (Cynefin.io, 2022, 2) <a href="https://cynefin.io/wiki/Ritual dissent">https://cynefin.io/wiki/Ritual dissent</a> accessed 16 September 2022

(What is Flight Levels? What does it help with? - Flight Levels Academy, 2022). Flight Levels Academy. 2022. What is Flight Levels? What does it help with? - Flight Levels Academy. [online] Available at: <a href="https://www.flightlevels.io/flightlevels/">https://www.flightlevels.io/flightlevels/</a> > [Accessed 29 May 2022].

(Helfand, 2020). Helfand, H., 2020. Dynamic Reteaming. 2nd ed. [S.l.]: O'Reilly Media, Inc.

Young I, 'X Explanations Problem Space' (Indiyoung.com, 2022)

 $<\underline{\text{https://indivoung.com/explanations-problem-space/\#:}}\sim: \text{text=The}\%20 \text{problem}\%20 \text{space}\%20 \text{is}\%20 \text{about.in}\%20 \text{favor}\%20 \text{of}\%20\%E2\%80\%9Cpe} \\ = \underline{\text{rsons}\%E2\%80\%9D} > \text{accessed 26 September 2022}$ 

'Intent-Based Leadership® International With L David Marquet - IBLI' (Intent-Based Leadership® International with L David Marquet, 2022) <a href="https://intentbasedleadership.com/">https://intentbasedleadership.com/</a> accessed 18 September 2022

James, M. (2019). How Misconceptions About the Scrum Product Owner Role Harm Your Organization and What To Do About It. [online] YouTube. Available at: https://www.youtube.com/watch?v=cr2rjaGmUzo [Accessed 22 Mar. 2019].

Johnson, I. (2019). Bullwhip Forrester Effect: How Sudden Demand Increases Affect Supply Chains. [online] YouTube. Available at: <a href="https://www.youtube.com/watch?v=OTnSXMhqQ-g">https://www.youtube.com/watch?v=OTnSXMhqQ-g</a> [Accessed 22 Mar. 2019].

Coleman J, and Vacanti D, 'Kanban Guide' (Kanbanguides.org, 2022, 1) <a href="https://kanbanguides.org">https://kanbanguides.org</a> [Accessed 15 September 2022].

(Kanbanguides.org, 2022, 2) <a href="https://kanbanguides.org/wp-content/uploads/2020/10/Definitions-for-Kanban-Guide-1-1.pdf">https://kanbanguides.org/wp-content/uploads/2020/10/Definitions-for-Kanban-Guide-1-1.pdf</a> accessed 18 September 2022

'Optional Definitions In Addendum To Kanban Guide' (Kanbanguides.org, 2022, 3)

<a href="https://kanbanguides.org/wp-content/uploads/2020/10/Addendum-to-Kanban-Guide-implementation-options-details-2-1.pdf">https://kanbanguides.org/wp-content/uploads/2020/10/Addendum-to-Kanban-Guide-implementation-options-details-2-1.pdf</a> accessed 16 September 2022

Keith McCandless H, 'Liberating Structures - Introduction' (*Liberatingstructures.com*, 2022) <a href="https://www.liberatingstructures.com">https://www.liberatingstructures.com</a> accessed 16 September 2022

Kim G and others, The Devops Handbook (2nd edn, IT Revolution Press)

'Kristen Bell - The Next Right Thing (From "Frozen 2"/Lyric Video)' (Youtube.com, 2022) < <a href="https://www.youtube.com/watch?v=w6g1yQV0dIY">https://www.youtube.com/watch?v=w6g1yQV0dIY</a> [Accessed 15 September 2022].

Küsters, M. (2019). Your Sprint Reviews suck, and that's why!. [online] Failfastmoveon.blogspot.com. Available at: https://failfastmoveon.blogspot.com/2019/03/your-sprint-reviews-suck-and-thats-why.html [Accessed 27 Mar. 2019].

 $Minudel\ L, 'Living\ Complexity'\ (Leanpub.com,\ 2022) \le \underline{https://leanpub.com/livingcomplexity} / \\ > accessed\ 28\ September\ 2022 / \\ > accessed\ 2022 / \\ > accessed\ 2022 / \\ > accessed\ 2022 / \\ > access$ 

Lee, H. (2019). Supply Chain Master: Prof. Hau Lee. [online] <a href="https://www.youtube.com/watch?v=b0dExw3es40">https://www.youtube.com/watch?v=b0dExw3es40</a> [Accessed 22 Mar. 2019].

Less.works. (2019). Self-Management- Large Scale Scrum (LeSS). [online] Available at: <a href="https://less.works/less/management/self-managing-teams.html">https://less.works/less/management/self-managing-teams.html</a> [Accessed 23 Mar. 2019].

'Management' (Large Scale Scrum (LeSS), 2022) < https://less.works/less/management | accessed 1 October 2022

(Magennis, 2022). Magennis, T., 2022. Six Dimensions of Team Performance: Agile Forecasting and Metrics Newsletter by Troy Magennis. [online] Available at: <a href="https://us4.campaign-archive.com/?u=2e49da536055048c07f5f061d&id=b3c1352a56">https://us4.campaign-archive.com/?u=2e49da536055048c07f5f061d&id=b3c1352a56</a> [Accessed 29 May 2022].

McChrystal, S., Fussell, C., Silverman, D. and Collins, T. (2015). Team of Teams.

Marquet L, Leadership Is Language: The Hidden Power Of What You Say And What You Don't (Nota 2021)

Marquet D, 'David Marquet On The Difference Between Red-Work And Blue-Work' (*InfoQ*, 2022, 2) <a href="https://www.infoq.com/podcasts/david-marquet/">https://www.infoq.com/podcasts/david-marquet/</a>> accessed 19 September 2022

'So, What Is Organizational Agility? 2022 UPDATE' (Orderly Disruption Limited, 2022)

<a href="fittps://orderlydisruption.com/blogs/executive-agility/so-what-is-organizational-agility-2022-update">fittps://orderlydisruption.com/blogs/executive-agility/so-what-is-organizational-agility-2022-update</a> accessed 19 September 2022

'Applying Scaled Portfolio Kanban' (ProKanban.org, 2022) <a href="https://prokanban.org/applying-scaled-portfolio-kanban/">https://prokanban.org/applying-scaled-portfolio-kanban/</a> accessed 18 Sep. 2022

Wilkinson D, 'Is The Change Curve A Myth?' (*The Oxford Review*, 2022) <a href="https://oxford-review.com/is-the-change-curve-real">https://oxford-review.com/is-the-change-curve-real</a> accessed 20 September 2022

Scrum.org. (2019). Scaling Scrum with Nexus. [online] Available at: https://www.scrum.org/resources/scaling-scrum [Accessed 22 Mar. 2019].

Senge, P. and Senge, P. (1990). The Fifth Discipline. 1st ed. Random House Business.

(Snowden and Boone, 2022). Snowden, D. and Boone, M., 2022. *A Leader's Framework for Decision Making*. [online] Harvard Business Review. Available at: <a href="https://hbr.org/2007/11/a-leaders-framework-for-decision-making">https://hbr.org/2007/11/a-leaders-framework-for-decision-making</a> [Accessed 29 May 2022].

Snowden, D. (2019, 1). ... which way I ought to go from here? - Cognitive Edge. [online] Cognitive Edge. Available at: https://cognitive-edge.com/blog/which-way-i-ought-to-go-from-here/ [Accessed 28 Mar. 2019].

Syed, M. (2019). Rebel Ideas: The Power of Diverse Thinking. 1st ed. John Murray (10 Sept. 2019).

'Five Focusing Steps, A Process Of On-Going Improvement' (Theory of Constraints Institute, 2022) <a href="https://www.tocinstitute.org/five-focusing-steps.html">https://www.tocinstitute.org/five-focusing-steps.html</a> accessed 27 September 2022

'Failure Demand' (Vanguard Consulting Ltd, 2022, 1) <a href="https://beyondcommandandcontrol.com/failure-demand">https://beyondcommandandcontrol.com/failure-demand</a> accessed 20 September 2022

Seddon J, 'John Seddon And The Vanguard Method' (Vanguard Consulting Ltd, 2022, 2)

<a href="https://bevondcommandandcontrol.com/john-seddon-and-the-vanguard-method/">https://bevondcommandandcontrol.com/john-seddon-and-the-vanguard-method/</a> accessed 27 September 2022

Vodde, B. and Larman, C. (2019). LeSS Framework- Large Scale Scrum (LeSS). [online] Less.works. Available at:

Vodde, B. and Larman, C. (2019). LeSS Framework- Large Scale Scrum (LeSS). [online] Less.works. Available at <a href="https://less.works/less/framework/index.html">https://less.works/less/framework/index.html</a> [Accessed 22 Mar. 2019].

(Throughput accounting - Wikipedia, 2022,1). En.wikipedia.org. 2022. *Throughput accounting - Wikipedia*. [online] Available at: <a href="https://en.wikipedia.org/wiki/Throughput-accounting#:~:text=Throughput%20accounting%20(TA)%20is%20a,relatively%20new%20in%20management%20accounting">https://en.wikipedia.org/wiki/Throughput accounting#:~:text=Throughput%20accounting%20(TA)%20is%20a,relatively%20new%20in%20management%20accounting</a> [Accessed 29 May 2022].

'All Models Are Wrong - Wikipedia' (En.wikipedia.org, 2022,2) < https://en.wikipedia.org/wiki/All models are wrong > accessed 20 Sep. 2022

'Lean Manufacturing - Wikipedia' (En.wikipedia.org, 2022, 3) <a href="https://en.wikipedia.org/wiki/Lean\_manufacturing">https://en.wikipedia.org/wiki/Lean\_manufacturing</a> accessed 26 Sep. 2022

'Project Management - Wikipedia' (En.wikipedia.org, 2022, 4) <a href="https://en.wikipedia.org/wiki/Project\_management">https://en.wikipedia.org/wiki/Project\_management</a> accessed 27 Sep. 2022

 $Product\ Management -\ Wikipedia'\ (En.wikipedia.org, 2022, 5) < \underline{https://en.wikipedia.org/wiki/Product\_management} > accessed\ 27\ Sep.\ 2022$ 

Young I, 'Listening Deeply' (Medium, 2022) <a href="https://medium.com/inclusive-software/listening-deeply-fe55ac43bd32">https://medium.com/inclusive-software/listening-deeply-fe55ac43bd32</a> accessed 23 Sep. 2022

YouTube. (2019, 1). Beer Distribution Game. [online] Available at: https://www.youtube.com/watch?v=PlXpJhOpeH4 [Accessed 22 Mar. 2019].

YouTube. (2019, 2). Steve Jobs Introducing The iPhone At MacWorld 2007. [online] Available at: <a href="https://www.youtube.com/watch?v=x7qPAY9JqE4&t=141s">https://www.youtube.com/watch?v=x7qPAY9JqE4&t=141s</a> [Accessed 29 Mar. 2019].

'Is Tuckman's Model Of Group Development Still Valid Or Not?' (*Youtube.com*, 2022,1) < <a href="https://www.youtube.com/watch?v=15wU-rOAT1U">https://www.youtube.com/watch?v=15wU-rOAT1U</a> accessed 20 September 2022

'Heidi Helfand On Dynamic Reteaming, The Evolution Of Teams, Eco Cycle Mapping And The Bus Factor.' ( *Youtube.com*, 2022,2) <a href="https://www.youtube.com/watch?v=hH-HaE-Dy3Q">https://www.youtube.com/watch?v=hH-HaE-Dy3Q</a> accessed 20 September 2022

Kniberg H, 'The Resource Utilization Trap' (Youtu.be, 2022, 1) <a href="https://youtu.be/CostXs2p6r0?t=1">https://youtu.be/CostXs2p6r0?t=1</a> accessed 21 September 2022

Lencioni P (Youtu.be, 2022, 2) <a href="https://youtu.be/GCxct4CR-To">https://youtu.be/GCxct4CR-To</a> accessed 29 September 2022