cprime

# Scrumban

## Practitioner's Guide

By: Eugene Lai

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# INTRODUCTION

**As of 2021, there are over 50 known software development framework systems and models in the world.**

Introduced in the late-1990s, Scrum has become the most popular Agile method, currently utilized by millions of practitioners around the world. With its combination of simplicity and flexibility, Scrum has been accredited with many high-profile successes over the past 20 years. Given its evolution over this period of time, Scrum has become a staple for many of the most prominent and successful organizations in the world such as Amazon, Microsoft and Google. For practitioners who have mastered Scrum, there remains a plethora of possibilities to enhance the application of Scrum principles and practices in pursuit of pushing the boundaries of value, efficiency and quality.

Another key development framework that has been compared to Scrum and often integrated closely with Scrum teams is the Kanban approach. Initially founded by Taiichi Ohno as part of the Toyota Production System, Kanban has also risen significant in the world of Agile development over the past two decades.

# INTRODUCTION CONT'D

By emphasizing key principles such as visualizing the world, optimizing workflow, and limiting work-in-process, Kanban is an effective and complimentary augmentation to Scrum for many teams who seek to further accelerate their capabilities. Many Agile development teams that have achieved meaningful successes with Scrum principles and techniques have realized that they can adopt key elements of Kanban with minor customizations to improve their existing workflow.

This paper is intended to provide a brief overview of the Scrumban approach, which amalgamates the power of both Scrum and Kanban in an effort to highlight key benefits and techniques that will empower an experienced Scrum team to elevate their performance. In addition, this paper will explore various usage scenarios, customization approaches and anti-patterns that practitioners will often encounter within a Scrumban implementation.

# PART 1: SCRUM VS. KANBAN VS. SCRUMBAN

## Scrum Overview

Initially conceived in the late 1990s, the Scrum framework has become the most popular and most widely adopted Agile method over the past 20 years. Published in 2001, the Scrum Guide framework quickly permeated many software development organizations due to its elegant simplicity and the subsequent freedom it provided for teams to define specific practices and behaviors within their given business context. The sheer number of books, training courses and certification programs that have entered the market in recent years demonstrate success of this framework across the globe.

Scrum offers basic constructs that allow teams to institute repeatable yet adaptable approaches to building complex products and services. Most Scrum teams use the four basic fundamental practices (known as "events"): Sprint Planning, Daily Scrum, Sprint Review and Sprint. Working in short and defined cycles known as "Sprints", Scrum teams design, build, test and deliver working products iteratively and incrementally.


## Kanban Overview

Unlike Scrum, the term "Kanban" is often misunderstood, due to its dual meaning. Introduced by Toyota Motors in the 1950s within the context of lean manufacturing, Kanban can be implemented as a process optimization method as well as a "signboard", which is a literal translation of the Japanese term "Kan-ban". Most organizations view Kanban as the physical board which teams can use to manage and track work. However, the power of Kanban resides in the ability for teams to optimize their flow of value through foundational principles such as:

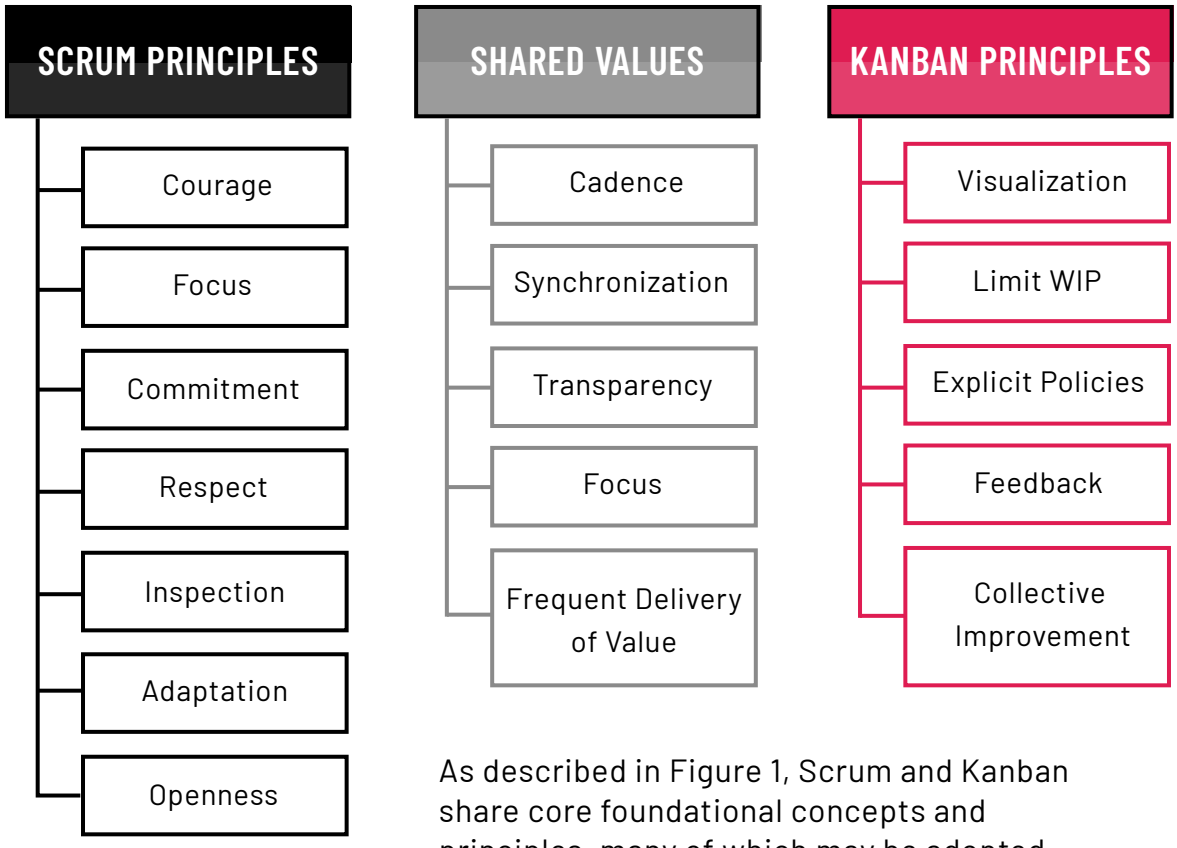
1. Visualize workflow
2. Limit Work-in-Process (WIP)
3. Manage the flow (pull)
4. Make policies explicit
5. Implement feedback loops
6. Improve collaboratively, evolve experimentally

## Scrumban Overview

Scrumban is a unique method due to its absence of a single authoritative definition. While both Scrum and Kanban have been defined, publicized, studied and deployed by many organizations over the span of decades, Scrumban is not a formal model, which provides an opportunity for further exploration and discovery. Based on its name, one would assume that Scrumban is a combination of elements extracted from the Scrum framework and the Kanban method. While this is accurate, it is important to evaluate how Scrumban may be applied as part of a larger strategy within Agile organizations.

While some organizations will view the lack of a formal definition to Scrumban as an impediment to effective deployment, many Agile teams take advantage of this concept to empirically experiment with this hybrid approach in pursuit of improved performance. Assuming an Agile team has developed a culture of continuous improvement, this team could further accelerate its growth in meaningful ways through inspection and adaptation.

### Figure 1




As described in Figure 1, Scrum and Kanban share core foundational concepts and principles, many of which may be adopted within the Scrumban approach.

## Table 1: Scrum vs. Kanban vs. Scrumban

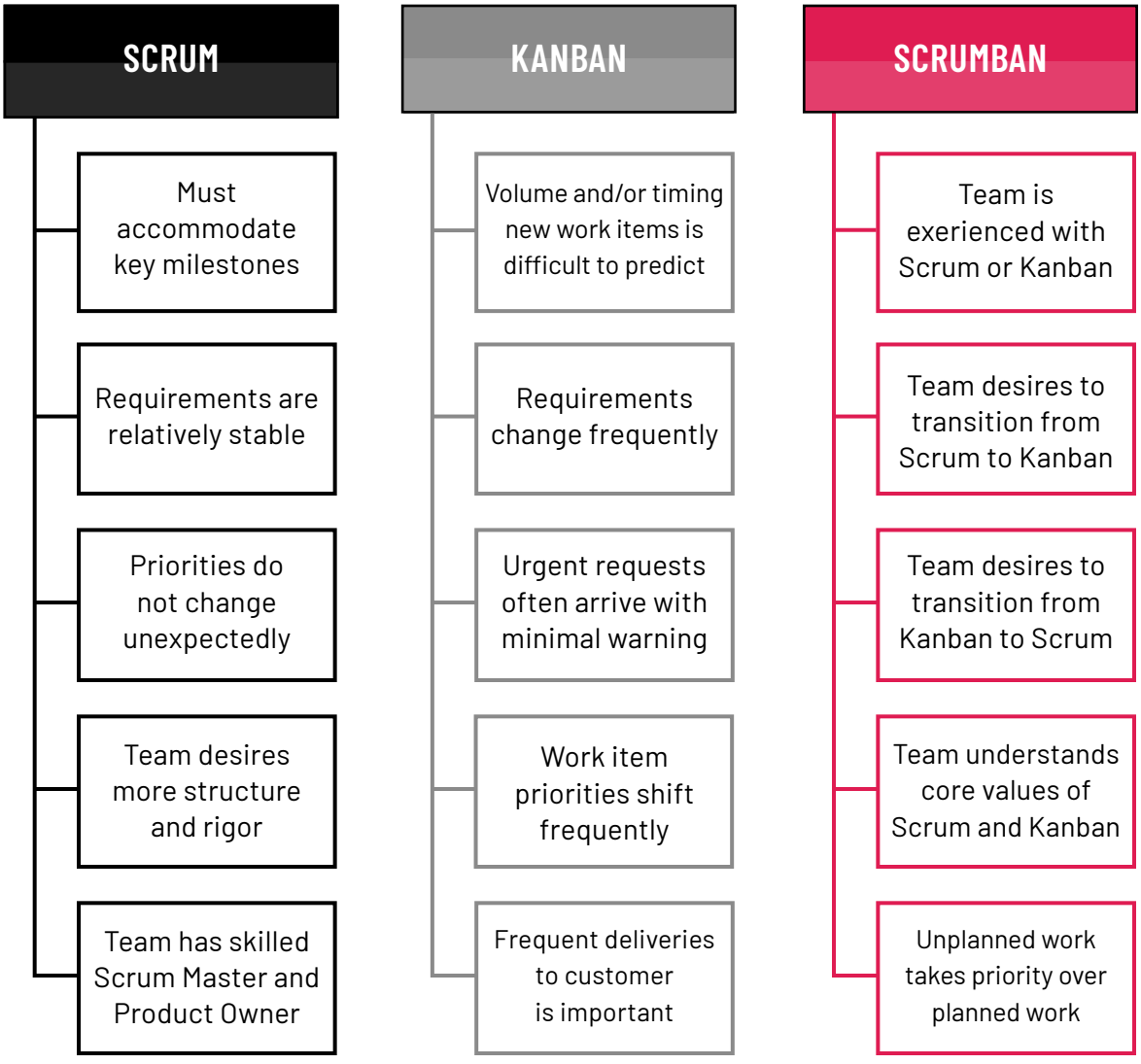
| | SCRUM | KANBAN | SCRUMBAN |
|---|---|---|---|
| Team Size | 3 to 9 | No specific rule | 3 to 9 |
| Team Roles | Product Owner, Scrum Master, Developers | No specific rule | No specific rule; customizable |
| Team Configuration | Cross-functional | No specific rule | No specific rule; customizable |
| Iterations | Sprints no longer than 1 month | No iterations; continuous flow | Iterations or continuous flow |
| Daily Meeting | Daily Scrum | Optional | Optional |
| Planning Approach | Sprint Planning | Replenish backlog when needed | No specific rule; customizable |
| Inspection Approach (Product) | Sprint Review | No specific rule; customizable | No specific rule; customizable |
| Inspection Approach (Process) | Sprint Retrospective | No specific rule; customizable | No specific rule; customizable |
| Prioritization Method | Once per Sprint | No specific rule; customizable | No specific rule; customizable |
| WIP Limit | Implemented at the Sprint level (within Sprint Backlog) | Customizable; may be implemented at workflow, team, or individual level | Customizable; may be implemented at workflow, team, or individual level |
| Work Item Sizing/ Estimation | Work items estimated | Not required; may be similar or difference size | No specific rule; customizable |
| Additional Workflow States (Board Columns) | None | "Ready for Work" | Customizable |

As described in Table 1, there are a large number of similarities and differences between these three approaches that should be considered when attempting to select the optimal method for a specific business domain. In Part 2 of this guide, specific deployment strategies for Scrumban will be explored in more detail, which may serve as a reference for organizations to design a sustainable Agile transformation strategy.

# PART 2: SELECTION TECHNIQUES

Understanding when to apply each of these three methods is often one of the biggest challenges that organizations encounter. While there are many factors that must be considered, there are some general characteristics that can help decide which approach is optimal for any given situation. Figure 2 below describes some of the key project and organizational attributes that may help organizations determine the best approach for a given scenario. It is important to note that unique project scenarios may require experimentation in order to determine the most suitable method.

## Figure 2



# PART 3: SCRUMBAN DEPLOYMENT STRATEGY

Within the overall Agile deployment strategy, Scrumban is a powerful tool that is often forgotten or ignored due to its relative lack of maturity and formality. In Part 3 of this guide, several usage scenarios will be explored to describe potential applications of Scrumban for teams and organizations that may have different business objectives.

Organizations that deploy Agile methods for the first time have many factors to consider. Some organizations that have already made investments in similar process transformations may benefit from examining the following factors as well in order to re-energize their continuous improvement mindset, or to further leverage the Agile model across different parts of the organization.

1. **Project Scope** – Which project to apply "Agile"
2. **Duration** – How much time to experiment with a new method
3. **Methodology/Framework** – Which approach to deploy
4. **Resource Scope** – How many people to engage within the initiative

## Scenario 1: Scrum to Scrumban to Kanban


The first usage scenario for Scrumban is as a transitional state for a team that been successful with the Scrum framework. Many organizations that have cultivated effective Scrum teams may wish to explore a transition to Kanban for more frequent deliveries or a more flexible, optimized workflow that accommodates unexpected shifts in work item priorities.

In this case, implementing Scrumban as an intermediary step towards a continuous, timebox-less method may offer an effective change management strategy. It is worth noting that some teams and organizations may leverage Scrumban as an experiment to explore the benefits of limiting work-in-process, and might find that Scrumban offers a harmonious balance of predictable cadence as well as optimized value flow, therefore deciding to forego the transition to Kanban.

Teams have a variety of options with respect to transitioning from Scrum to Scrumban. Some of these possible practices are described below. While modifications to the Scrum framework is possible, it is also highly advisable that this be done with caution, per the Scrum Guide. Since the four key events of Scrum were intended to work together as a cohesive framework, excessive or unfocused tailoring of Scrum can often lead to the degradation of overall team effectiveness and performance.

1. Apply WIP limits to one (or more) workflow state.
2. Introduce "Definition of Ready" to complement "Definition of Done".
3. Modify Scrum-specific events to reduce level of rigor.

## Scenario 2: Kanban to Scrumban to Scrum


Another popular strategy for deploying Scrumban is the reverse of the first scenario. Some organizations may choose to deploy Kanban in lieu of Scrum due to its simplicity of ease of implementation. However, as organizations and teams evolve over time, there may be a need to apply a more rigorous, more structured approach that provides more predictable product (or service) deliveries. In this case, Scrumban may be applied as the transitional step to introduce Scrum practices and concepts to a team that may not have knowledge of Scrum events and terminology.

In this situation, Scrumban may be used to define specific Scrum team roles such as the Scrum Master and the Product Owner, both of which can require significant adjustment for teams that have not been exposed to the Scrum framework.

With regards to augmentation of Kanban to deploy a Scrumban approach, teams may consider the following options:

1. Apply more rigorous, cadence-based practices (e.g. as Sprint Planning).
2. Introduce Scrum roles and responsibilities (e.g. Product Owner and/or Scrum Master).
3. Apply coordinated estimation process to assess size of work items

# PART 4: SCRUMBAN ANTI-PATTERNS

While Scrumban has many of the benefits of both Scrum and Kanban, there are also potential pitfalls that teams should avoid in order to gain as much value as possible from this strategy. Part 4 of this guide provides examples of risks and possible issues that teams should be aware of when attempting to apply Scrumban.

## Table 2: Anti-Patterns and Mitigation Approaches

| ANTI-PATTERN | BEHAVIOR | IMPACT | ROOT CAUSE | MITIGATION STRATEGY |
|---|---|---|---|---|
| **Uninformed Customization** | Customizing the method without understanding the impact. | Ineffective team collaboration, inconsistent delivery of value. | Lack of experience and/or knowledge of Scrum/Kanban values, principles and practices. | Consult experts and/or hire experienced team members to support the implementation. |
| **Unfocused, Perpetual Customization** | Team continuously implements changes in the method without clear objectives. | Change fatigue, low morale, poor customer satisfaction. | Eagerness to ex-periment with different configurations overshadows the desired outcome. | Establish and prioritize end-state vision and desired outcomes. |
| **Not Inspecting Impact of Change** | Team is unable to determine the benefit of the change that was deployed. | Change fatigue, unclear return on investment. | Absence of key metrics for measuring quantifiable change in team performance. | Apply value stream mapping; establish metrics to monitor trends over time. |

Because Scrumban is not formally defined in published literature, it provides significant freedom to teams that wish to explore new ways of working in order to discover what works best in their specific situation. However, with this freedom also comes significant risks of negative outcomes that may be characterized as anti-patterns—unproductive and suboptimal behaviors that can lead to disastrous outcomes. Table 2 describes some of the common errors that teams may encounter while attempting to implement Scrumban.

**Uninformed Customization:** Teams that have not yet accrued sufficient, direct experience with Scrum and/or Kanban may often fall into the trap of over-customizing both methods. This can lead to ineffective and unpredictable delivery of value to the customers. Consulting experienced team members or experts prior to architecting a Scrumban approach will increase the chances of success.

**Unfocused, Perpetual Customization:** Teams that experiment excessively can often experience change fatigue due to lack of focus on the desired end-state, which can lead to low morale and poor customer sentiment. Defining what "good" looks like will reduce the likelihood of this scenario becoming reality.

**Not Inspecting the Impact of Change:** Although iterating to attain an optimal Scrumban approach is generally an effective strategy, some teams fail to measure the impact of each incremental change, which can lead to the second aforementioned anti-pattern (unfocused customization). By implementing a measurement approach, such as building a process that monitors key metrics like Lead Time or Cycle Time, the team will be able to objectively evaluate the effects of a change and determine whether it was a positive change.

## CONCLUSION

Scrum and Kanban have risen to the top in terms of popularity due to their simplicity and proven effectiveness. The hybrid approach, Scrumban, evolved from the success of these approaches and provides a unique opportunity for organizations to deploy a method that is better suited for their given context and objectives. As with all frameworks and methods, when applied with the appropriate mindset, Scrumban can serve as another powerful tool within the toolbox of teams that aspire to fulfill their highest potential. If effectively paired with empiricism, most organizations can leverage this tool to gain or sustain a competitive edge.

# ABOUT THE AUTHOR

Mr. Eugene Lai is a seasoned innovator in technology and process engineering with over 25 years of experience delivering high-impact solutions within PMOs and Agile teams. In previous roles as Lead Software Engineer, Chief Scrum Master, Principal Program Manager, Technical Consultant and Agile Coach, Mr. Lai orchestrated several SDLC and Agile Engineering initiatives by applying a variety of methodologies and frameworks such as Disciplined Agile, Large Scale Scrum, Scrum at Scale, Scaled Agile Framework, Scrum and Kanban. Furthermore, by leveraging diverse industry experience, Mr. Lai has delivered dozens of training workshops which empowered teams to successfully deploy high-value business solutions.

As a prolific contributor to the project management and Agile community, Mr. Lai has published over 200 whitepapers and blog articles. In addition, Mr. Lai architected the Agile Mergers & Acquisitions Framework and co-authored the book "Agile M&A: Proven Techniques to Close Deals Faster and Maximize Value". Mr. Lai currently holds several professional certifications including Certified Enterprise Agile Coach, Certified Kanban Coach, Certified Scrum Master, SAFe Program Consultant (SPC), Agile Certified Practitioner (PMI-ACP), Project Management Professional (PMP) and Program Management Professional (PgMP).

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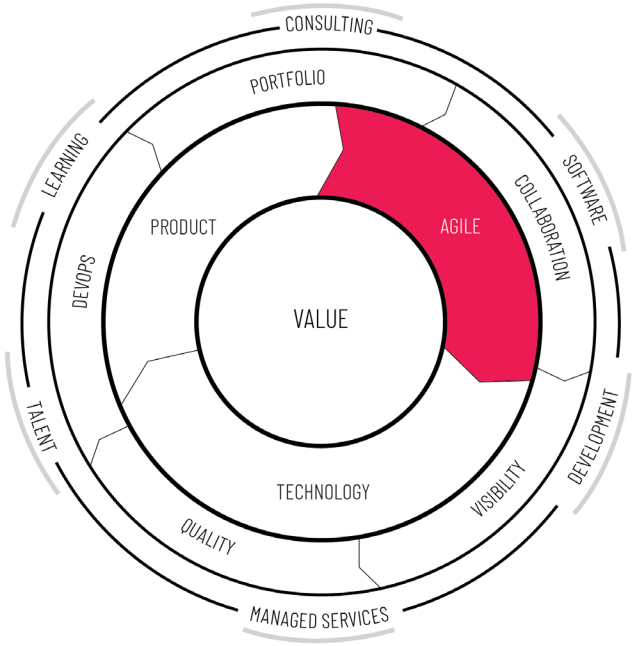


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