



## The Right Tool (and Approach) for the Job

**Dear Drew,**

During conversations over the past few months, several individuals expressed some concerned confusion over the different improvement methodologies. How do you know which one to use and when? Given the variety of approaches, it isn't any wonder that confusion exists. Further, misusing a methodology can 'spoil the water' as it leaves people with a negative experience, and results in an unwillingness to continue practicing. Therefore, the concern is warranted. I have certainly seen this in my travels. A3s required for every problem. Kaizen events conducted for the sake of kaizen events, as if this is the only approach to process improvement. Value Stream Mapping on processes that never leave a single department. Six Sigma projects versus kaizen events. And now there is Kata! This newsletter will attempt to clarify the 'alphabet soup' of improvement methodologies. While the specific approaches vary, they all originate from the scientific method, and a state model for change. In other words, they are variations of the same approach that we will succinctly describe as Plan-Do-Check-Act (PDCA). And the reader will see it is not an issue of choosing one over another, but rather seeing them as complementary, all helping to develop a culture of continuous improvement - the true objective of lean.

First, let's start with the commonly practiced approach of multi-day rapid improvement or kaizen events. A team of people is selected to achieve a specific objective on a specific process in a set duration of time (typically 2 to 5 days), often applying one of several lean 'tools' (e.g. 5S, SMED, Cellular/Flow, Standardized Work). The team will analyze the current situation in detail and then decide how to improve it. Such events are effective in the early part of the lean journey. People can see that

some change can happen quickly, and need not drag out over long periods of time. This can help to 'jump start' the change in cultural characteristic of every lean transformation. The key to this approach is the 'bias towards action'. Actual process changes are made during these events and the results assessed whenever possible. The scale of change can vary from incremental to substantial but typically encompasses a single process. In other words, the participants go through one complete or near complete Plan-Do-Check-Act (PDCA) cycle in a few days. Such events must be closely facilitated, can be disruptive to the ongoing operation, and must be planned well in advanced, with clear objectives defined. So most organizations will be reluctant to conduct many of these (many being a relative term) in a given period of time. An event represents one cycle of learning, and most people would be fortunate to participate in 1-4 events in a single year in their organizations. This is insufficient practice for those involved individuals to develop the requisite skills and attitudes for process improvement and problem solving. The skills developed during an event will 'fade' over time if the next opportunity to practice is several weeks or months away. Nevertheless this event based approach serves the purposes aforementioned.

Value Stream Mapping is an assessment and planning tool. It is used to analyze and re-design end-to-end processes that involve multiple departments or functions. The goal for value stream re-design is radical change. Where rapid improvement events focus on process improvement, value stream mapping focuses on entire systems. Developing 'system thinking' is an important ability in an effective problem solver and process improver. A cross-functional team maps the current state and then works together on designing a future state - a shared vision of how the value stream should be. This occurs over several days, typically 2 to 4, though the days do not have to be consecutive. There is a strong social aspect to value stream mapping. It is very effective to begin to knock down the functional silos that exist in most organizations. This occurs as the cross-functional team works together on a shared objective often for the very first time. If collaboration between departments is a 'gap' in an organization, value stream mapping is a proven approach to address it. Further, since the goal is radical change, time is required to adequately share the maps and the vision with others in the organization. Therefore, the bias is towards socialization rather than action, at least in the beginning until members of the organization have had time to review the maps and provide input. The 6-8 major changes envisioned in the future state typically require 3 to 12 months to implement, assess and adjust as necessary. This provides several opportunities for a complete PDCA cycle as each major change represents such. Some of the changes envisioned in the future state can be implemented during rapid improvement events.

However, most people would be fortunate to be involved in 1-2 value stream re-designs in a given year and several complete PDCA cycles through the future state implementation, again insufficient opportunity to fully develop the necessary process improvement skills. Nevertheless, people will see that significant change on even complex systems is indeed possible, development of system thinking within the participants can begin, and the aforementioned cross-functional team building is invaluable.

A3 is an improvement methodology that has gained much enthusiastic attention in recent years. While A3 refers to the size of the paper (11"x17"), storyboards, which A3s represent, can be made more visible as part of a visual management system. Though there is no standard format (the nature of the story will slightly alter the format), all A3s follow PDCA as a methodology starting with an understanding of current conditions (sound familiar?). A3s provide a 'peek' inside to the thinking of another person. A person acting as 'coach' for the problem solver can quickly determine if an effective approach is being practiced. For this reason A3s are best practiced with two people, a coach and a learner, though it can be expanded to include others who can help bring the 'story' to a successful conclusion. Generally speaking it is best to keep it a very small group. A3s are probably not best applied on 'just do it' type of problems. They are very effective at garnering support of others which is typically needed on more complex problems solved over time that affect multiple people, departments, or functions. Value Stream Maps can be part of an A3. The storyboard provides a context for the value stream re-design effort by providing background information, a compelling reason for change, goals and objectives, and other important information. The one-on-one or near one-on-one coaching approach that takes place with the A3 process is very effective in developing the problem solving skills of the practitioners. However, it may take several weeks or months to complete a full PDCA cycle using A3s. Therefore, practitioners of A3s must complete several (3-4) to begin to develop the necessary skills. Nonetheless, the section headings of an A3 organized to pattern the PDCA process is a powerful learning tool for anyone.

And what about Six Sigma and its (usual) emphasis on 'projects'? The Define-Measure-Analyze-Improve-Control (DMAIC) methodology is closely aligned with PDCA. 'Define', 'Measure', and 'Analyze' all help the problem solver to gain a solid understanding of the current situation (the 'Plan' of PDCA). 'Improve' is equivalent to 'Do' as 'Control' is to 'Act' (to make standard). 'Check' is implied in 'Improve'. In fact, if an organization already has successful experience with DMAIC, I encourage them to stick with it rather than introduce another approach and terminology such as PDCA. A3 storyboard templates can easily be adapted to pattern DMAIC. I do suggest that organizations practicing Six Sigma reconsider what

constitutes a 'project' and focus on teaching the methodology. Too often I have heard the comment, "if it doesn't take a few months then it isn't a Six Sigma project", or something similar. It isn't about the duration. If people can complete a DMAIC cycle in a few days then great! Why not use DMAIC as a methodology for teams to follow during a rapid improvement event? In this way, more learning cycles can be completed in a shorter period of time than if every project takes 4+ months to finish.

Most recently the subject of Kata has drawn much interest as organizations have learned that event or project based approaches do not provide adequate opportunity to practice problem solving and process improvement in order to develop the necessary skills and mindsets. There are two kata or routines; the Improvement Kata (IK) based on PDCA, and the Coaching Kata (CK). IK encourages completion of rapid PDCA cycles of one or several days. IK will fill the 'void' between applications of the other methodologies. These rapid improvement cycles led by direct supervisors or managers working with their natural work teams help to develop the required skills and attitudes in shorter timeframes. Once the current conditions are understood (a recurring theme), IK achieves incremental change via a series of simple experiments (i.e. PDCA cycles), which in time can result in meeting substantial targets and challenges. The Coaching Kata is a routine for leaders (typically) to help others learn to become effective problem solvers and process improvers. Based on the Socratic method, the one-on-one coaching that takes place as part of the CK is very effective in this regard. Further the practice of kata by supervisors and managers with their natural work teams can develop a strong foundation of trust, and a bond between them. This is important as an organization works to improve associate engagement, a characteristic of every true lean enterprise.

All of the described methodologies share common characteristics such as first understanding the current situation, as well as establishing a direction and target (or targets) before getting too far along in the approach. Targets for event or project based approaches, such as value stream mapping and rapid improvement events, are established prior to the event or at the initiation of the project. Effective problem solvers and process improvers must know where they need to go before they figure out how to get there. Also all of the methodologies make use of the basic quality management tools. All associates should become capable in their use over time. These include graphical tools (e.g. flow charts, run charts, cause and effect diagrams), basic statistical techniques (e.g. frequency, percentages, averages), and others. With some initial coaching, associates will learn to recognize opportunities to apply them and become more comfortable using them.

In order to select the appropriate approach when an opportunity

arises, first ask yourself what 'gap' you are trying to close. Is it a specific process performance issue? Is it a problem that affects a broader system? Is it something simple that can be addressed quickly, or is it more complex and will require much more time? Who will be involved, a single person, just a few people, or a larger group? Beyond the problem or process at hand, what organizational capability gap or gaps exist that might be addressed during the ensuing improvement effort? Is there an additional opportunity to improve collaboration between departments? Is there a need to address existing beliefs about an organization's ability to change quickly or at all? Is there an opportunity to practice rapid PDCA cycles, thereby developing the skills of the participants in a shorter period of time? Perhaps the opportunity lends itself to development of a single person or a very small group of people. Answers to these questions will help to determine the appropriate approach. Much to think about for sure, but if one keeps in mind the true objective of lean - to create a culture of continuous improvement - one can see beyond the immediate problem or performance gap at hand, and recognize the organizational development opportunities that abound in the natural course of conducting business. Then the 'right tool (and approach) for the job' will be apparent.

Best Regards

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