

Enabling Enterprise Kanban Transformation through Lean Startup Techniques

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ABSTRACT

This paper presents a case study on how a team of Kanban change agents leveraged the Lean Startup approach to enable validated learning on a large scale organizational transformation.

The paper will provide an overview of how a Kanban change management team validated the assumptions behind our transformation through the successful rollout of Minimum Viable Changes (MVCs). The paper will discuss how we cycled through the build, measure, and learn lean startup feedback loop. Finally, the paper will walk through some of our pivot/pursue decisions, and describe how the lean startup approach provided us with the feedback required to make several significant changes in direction during the course of the transformation.

The reality of running an organizational transformation - Riding on the edge of chaos

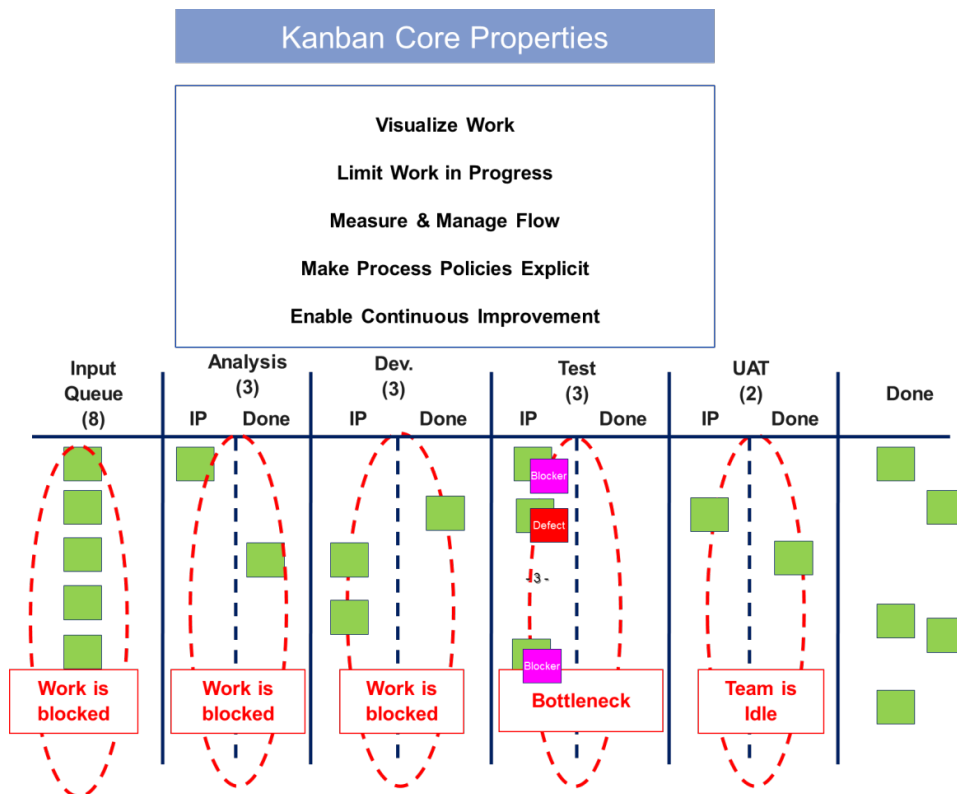
If there is one certainty about large-scale organizational transformation it is to expect uncertainty. When dealing with organizational change the primary components of concern are people. People are notoriously unpredictable. We can guess about their motivations, how they will react to suggestions to change, and how they will behave during the course of a transformation. But these are really all guesses. The majority of vision statements, strategies, plans, and tactics used to guide any significant organizational transformation are really just a laundry list of unverified assumptions.

Many change consultants have been very successful in completing roadmaps for organizational change that were highly complex, large-scale, and followed a perfectly sound strategy. My experience to date is that many of these change initiatives were also based on a set of assumptions that proved to ultimately be false. Many change management consultants have at one point or another fallen into the trap of being very good at successfully executing

on the wrong plan. As a result organizational performance remains unchanged, or actually gets worse.

Kanban provides a compass to steer big bang change management initiatives

Kanban provides change agents with a different change management approach. The Kanban change approach, as described in David J. Anderson's bookⁱ, emphasizes a gentler, slower approach to organizational change, one guided by feedback and empiricism. Our experience supports the notion that Kanban provides the navigational intelligence necessary to steer the course of transforming an organization that employs knowledge workers, helping to correct erroneous assumptions.



A case study of how Kanban supports a pivot/pursue mindset

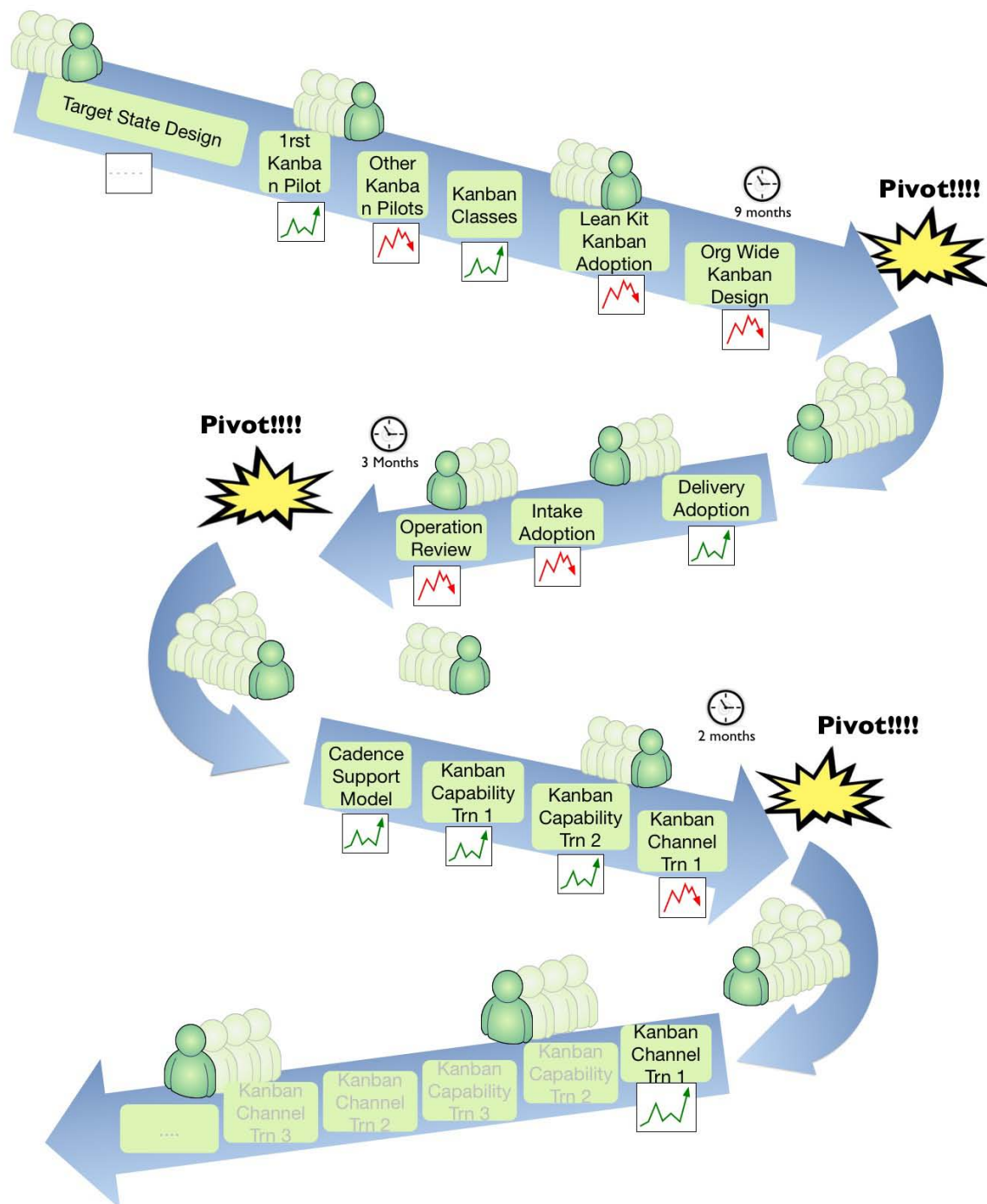
The diagram below illustrates the path we took in assisting one of our clients in optimizing their system of work. Our goal was to assist an IT organization to transform its processes, organization, and work culture. The organization consisted of approximately 200 full-time employees (FTEs). As is typical of many large-scale transformations, a significant amount of

time was spent upfront going through a planning and design process, blue-printing a potential solution based on a number of unvalidated assumptions.

Once we were able to convince our clients to use Kanban, we started gaining the capability to evaluate our progress. Our measures of success roughly fell into two categories.

1. *Growth* - how well were organizational components being adopted, and positively affecting thinking and behavior?
2. *Value* - what performance improvements did the various components of the transformation give to those that successfully adopted?

Kanban made it possible to look at this transformation from these two perspectives, giving us the information we needed to make several large "pivots", changing our approach to the transformation.



- *Adoption approach* - we started out on-boarding folks onto various Kanban systems based on a project piloting approach. The approach was both slow, and largely ineffective. Projects took forever to start. Staff members are also multitasking on too many projects

at a time to make any specific pilot useful. We then followed an "onboard all current work" approach, which suffered from a lack of coaching necessary to get people to actually benefit from Kanban. Finally we evolved to a successful "capability line" approach where we on-boarded workers based on organizational units that offered discrete services to the business.

- *Specialists vs. generalists* - while always a point of contention between our team and the client, the theory proved to be an irrelevant argument. Constraints around ability to hire new people in a unionized environment made it very challenging to support a highly specialized environment. At least some generalization became a requirement for the organization, and we modified our tactics as a result.
- *Centralized vs local decision making* - again a point of contention that was rendered moot by the practicalities of the organization. A great deal of effort was spent creating a centralized prioritization and intake funnel that centralized management were unable to leverage or manage, even though they had asked for it. Demand and the knowledge and capability to service that demand were localized, it was not clear how that could be changed in the short term. Again, we changed the process design to support localized capability.

However, pivoting felt ad hoc, unpredictable, and reactive

While Kanban provided us with insight on how to change directions many times during our transformation, in general it took a longer than desired amount of time for us to recognize that a change in direction was required. We were not operating under a framework that explicitly called for the timely evaluation of our assumptions.

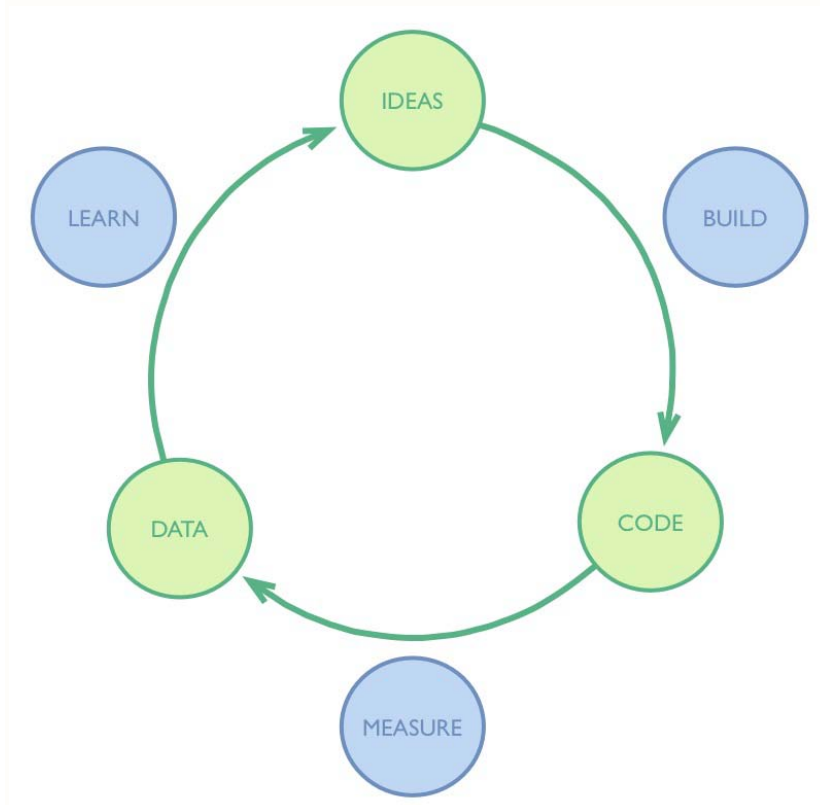
More importantly our clients were not able to effectively change perspective in direction as quickly as we were. The client was largely in a "fixed plan" mindset, and it proved very difficult to get the client to change or abandon components of the plan that were not under our direct control. When changes in direction happened they tended to be isolated to the portions of the change that we were managing, and often the overall change effort would fall out of lockstep.

The solution is to manage organizational change initiatives as a Lean Startup

Eric Ries (of Lean Startup fame) defines a startup as "a human institution designed to deliver a new product or service under conditions of extreme uncertainty"ⁱⁱ. By this

definition, an enterprise change initiative could be deemed a startup, one that could take advantage of Lean Startup techniques.

Inspired by reading the Lean Startup book, our team elected to adapt the Lean Startup framework to support our next large-scale Kanban based enterprise transformation.



Again we were tasked to assist a client transform its IT capability across the enterprise. The IT department had approximately 250+ FTEs, and was part of a larger organization that was undergoing a significant transformation.

This time around, our change team elected to examine the Lean Startup method with an eye on how to supplement the adaptive nature of the Kanban change management approach. We felt that the Lean Startup method provided a means for change agents to clearly describe an organizational change plan as a set of assumptions. The Lean Startup method also provided change agents with the process to quickly validate or invalidate those assumptions, providing insight on when to change direction.

Minimum Viable Changes - maximizing learning throughout the transformation

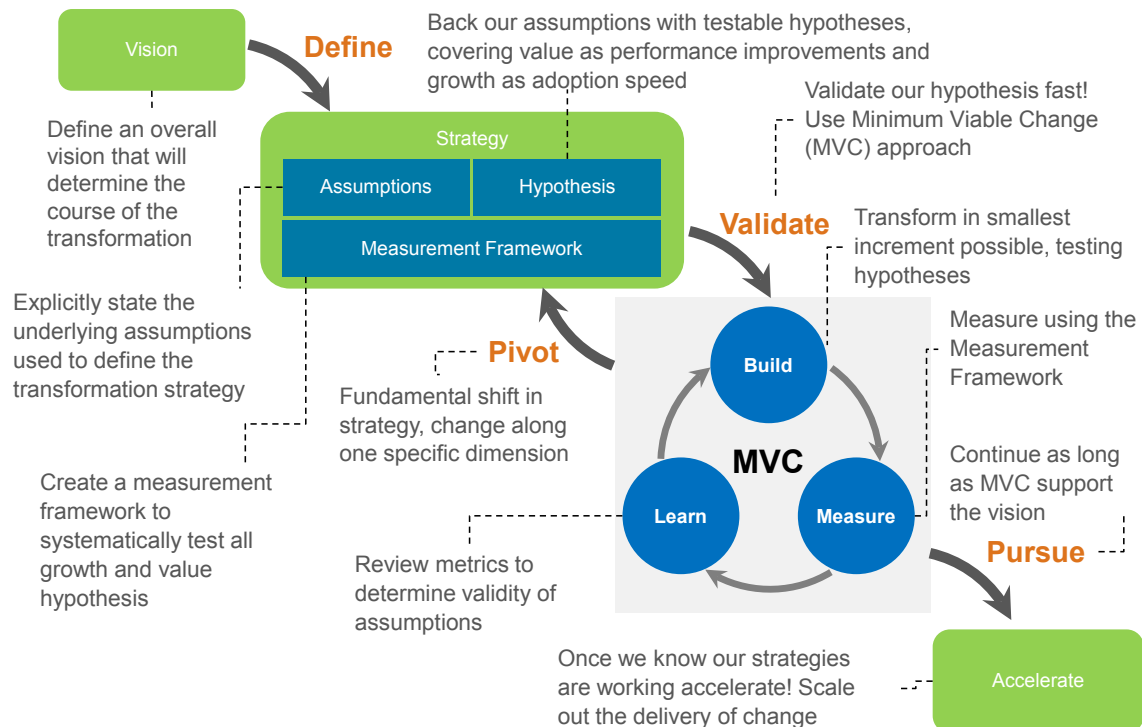
The Lean Startup approach recommends breaking product delivery into a set of *Minimum Viable Products* (MVPs). Each MVP is built for the purpose of supporting learning. The really interesting part of the MVP approach is that you often don't have to build anything to learn something about the viability of your product.

Because we were not building a product but running a change initiative, we elected to use the term *Minimum Viable Change* (MVC). Despite this change in name the many aspects of the Lean Startup method remain.

Similar to change initiatives using traditional approaches, we articulated an overall vision for the transformation. We then outlined a set of overarching strategies that we hoped would support the vision. We explicitly called out all of the assumptions inherent in each strategy. Assumptions tended to fall into the following two categories:

1. **growth assumptions:** whether a particular tactic would actually support adoption at the appropriate pace
2. **value assumption:** whether particular strategy or aspect of a strategy would actually improve organizational maturity and performance.

The piloting, adoption, training, and roll out specific components of the transformation were executed as a consecutive set of MVCs. MVCs were designed to be small, and provide learning for one or more assumptions contained within a particular strategy. Each MVC went through the typical Lean Startup *build, measure, and learn* feedback loop.



As successive MVCs were completed, the team would review feedback generated with the purpose of making a *pivot* or *pursue* decision. The decision to *pivot* was made if successive MVCs provided evidence that one or more of our assumptions were incorrect. Conversely, the decision to *pursue* was made if our MVCs pointed to the fact that our assumptions were leading us down the right path.

As more and more pursue decisions were made, our team would be able to transition the transformation from *learning* mode and move into *acceleration* mode, spreading the adoption of a certain component using a more structured/big batch approach.

Our first pivot came early on, our use of the Lean Startup framework was not meeting our needs

It would be nice to say that this framework worked well for us right from the start. Being painfully transparent, it felt like we were servants to it. However, we quickly recognized the issue and conducted a "meta-pivot". This pivot consisted of addressing the following issues with our change oriented lean startup approach.

- *Measuring the wrong thing:* We were trying to be clever, and come up with experiments that would validate the performance benefits of Agile and Kanban practices. This exercise

realistically would take many months, if not years, to complete. Our team did not have the benefit to dedicate that much time. We needed to focus our measurements in terms of behavioral change and capability of the organization to adopt different methods not measure the methods themselves, at least not in the short term

- *Shrinking our MVCs*: Our MVCs were much too large and took much too long to complete in order to give us timely feedback that we needed to enhance learning. Our learning was far outpacing what our MVCs were telling us.

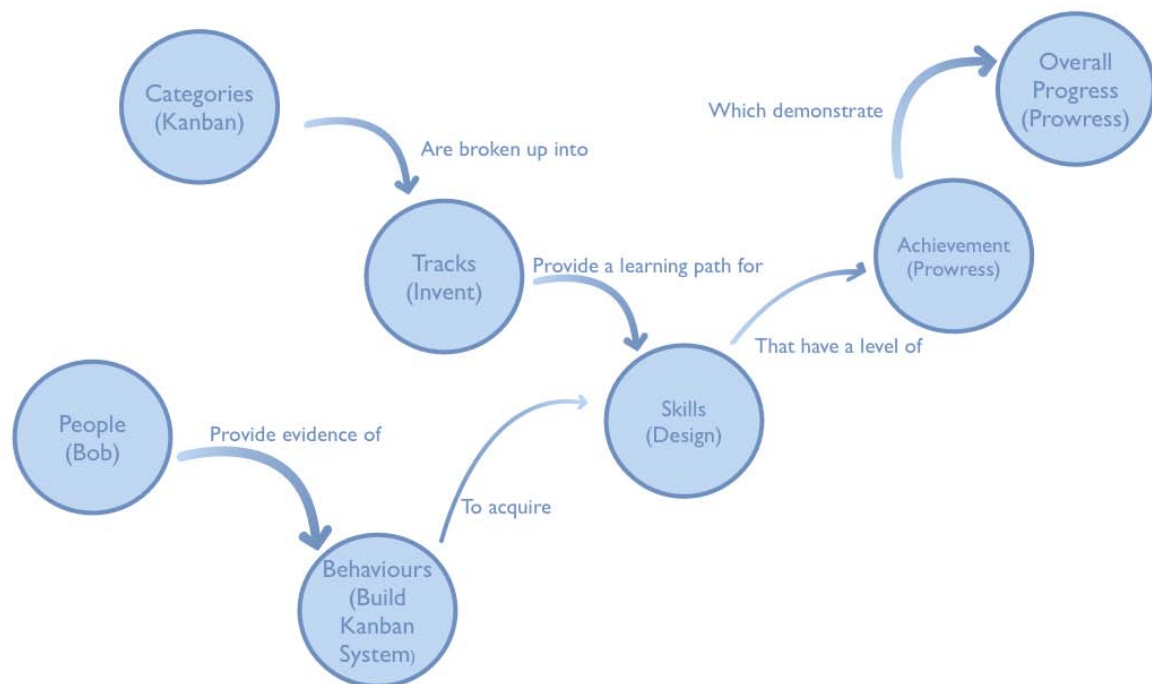
This will probably seem obvious to many. Perhaps because we were close to the details, it was a lesson that we had to learn. But we learned it quickly.

Measuring the things that matter - the Transformation Participation Engine

Any validated learning effort should focus on assessing the areas of highest risk first. In our case we needed to be able to effectively change the working habits and thinking culture of our clients before our involvement in the change effort came to an end. Our job was to make sure that our clients were positioned for success once we left.

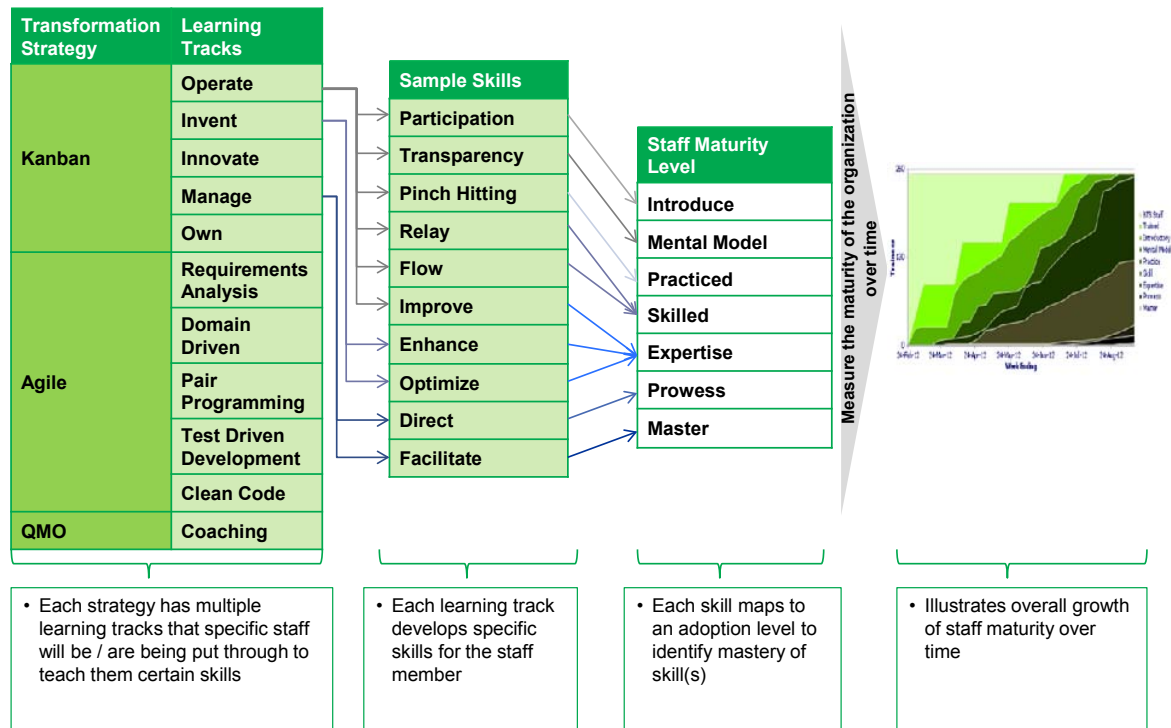
With this in mind we created a "Transformation Participation Engine" framework. The objective was to track and visualize the progress of adoption for individual staff on the journey towards lean thinking.

We defined such a system by deconstructing the objectives of our change initiative into a set of fine-grained target *behaviors*. We then grouped those behaviors into specific *skills*, grouped those skills into *tracks*, and finally grouped those skills into *strategies*. Below is a simple diagram showing the components of the Transformation Participation Engine, along with a sample of each component in brackets.



Once we had a robust repository of behavior and skills, we associated each skill with an *achievement* rating. The Achievement ratings for skills were then used to calculate an individual's *overall progress* in terms of participation in the transformation. In our first iteration of the transformation participation framework we followed a very simple calculation algorithm.

Achieving a rating from a single skill would be enough to promote an individual's overall progress to that rating. We anticipate using a more complex algorithm as we continue to use this framework.



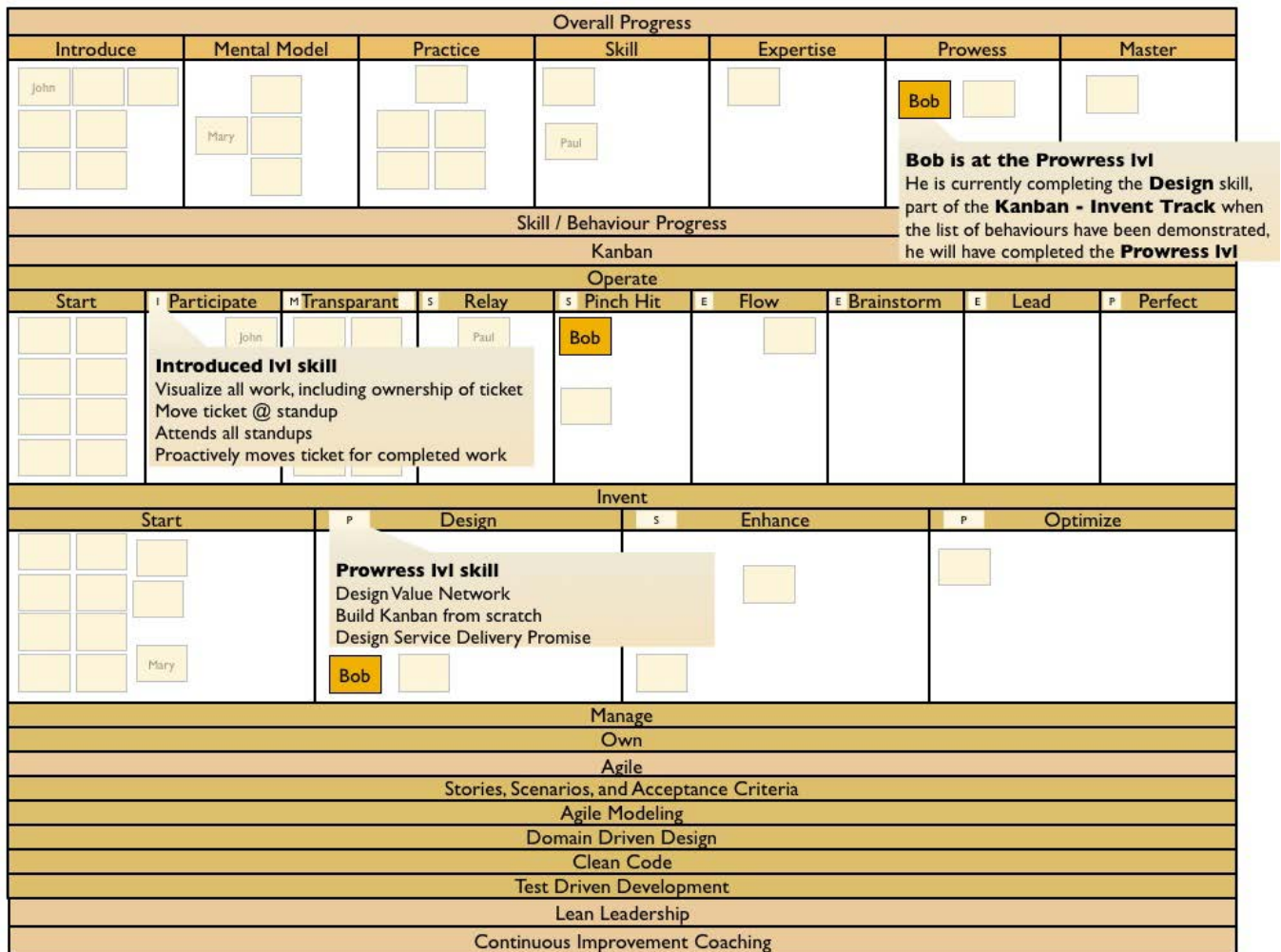
Example: the Kanban category is divided into various tracks including Operate, Invent, Manage and Own. The Invent track contains a number of skills, including the Design skill. In order for someone to successfully achieve this skill, he or she would need to demonstrate evidence of a specific set of behaviors, one of which is building a Kanban system from scratch.

Bob completes the Design skill, which has an achievement level of Prowess, his overall progress is therefore Prowess.

Using Kanban to visualize transformation participation

We defined a Kanban system to visualize and measure the learning/participation progress of individual staff, managers and executives using this framework. Each individual was represented as a set of work tickets within a Transformation Participation Kanban system.

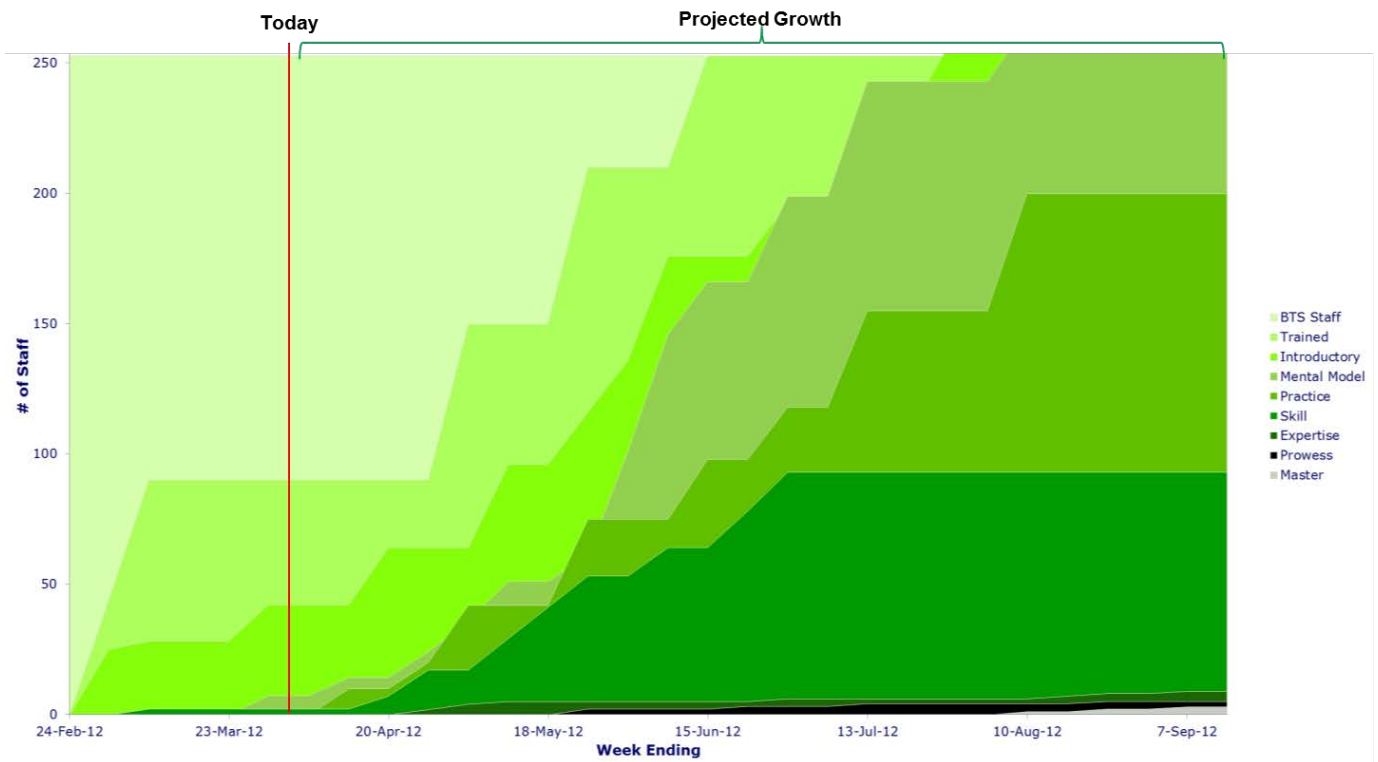
A separate swim lane was used to track each FTEs overall progress. Each employee with the organization would have exactly one ticket on the “overall progress” swim lane.



A separate area of the Kanban system was used to visualize an individual's progress in various skills. An employee ticket was cloned for each skill that he/she was trying to complete. These "skill" tickets would progress through the skills track according to skills completed. As skills were completed, they would provide the employee with an "achievement rating".

The employee work ticket within the "overall progress" swim lane would move to the appropriate state according to the achievement rating received by completing particular skills.

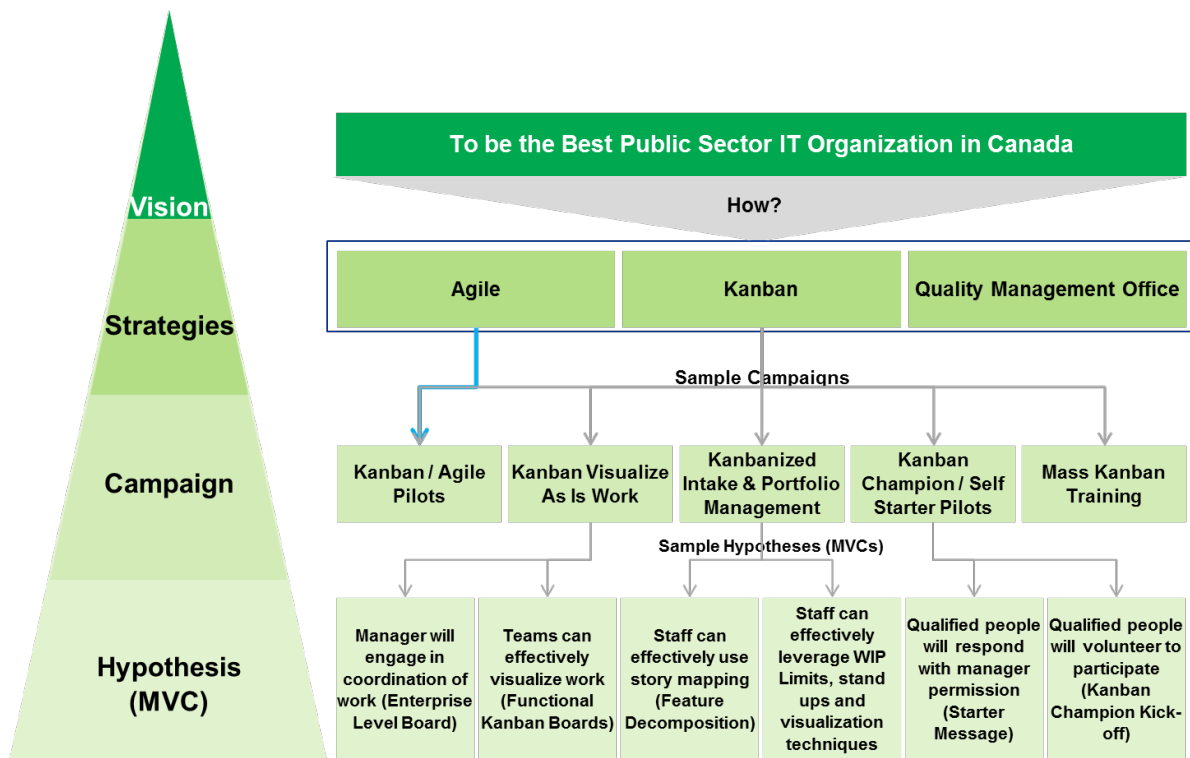
With this system in place we were able to both track and project the rate that the organization would be able to adopt new methods. This became our primary method of communicating status throughout the transformation.



Once we had this measurement system in place, our work turned towards determining as quickly as possible whether any of our transformation methods would support the projected velocity of change. We then needed to design MVCs to specifically evaluate these assumptions. In essence, we elected to focus exclusively on "growth assumptions" for the immediate time being.

Laying the groundwork for successful validated learning; Vision >Strategies >Campaigns >MVCs

In order for our approach to provide learning at the pace we required we needed to be able to define Minimum Viable Changes that we could complete in a matter of weeks or days. We did this by breaking up our strategies into one or more transformation adoption "campaigns". Each campaign was differentiated in terms of underlying adoption approach used, a strategy it supported, or any the content being adopted.



MVCs were then designed to validate assumptions contained within a particular campaign. We needed to quickly validate if the approach behind a particular campaign could change people's behavior, and help them acquire new and useful skills at the rate required for success.

Each MVC was labeled according to a descriptive name along with one specific assumption that it was designed to validate. Each MVC contained an explicit hypothesis, along with details on how to measure the accuracy of that hypothesis.

- Describes the hypothesis (i.e. how can we increase adoption)
- Identifies the # of implementations for teams that will be introduced to the MVC and timeframe of implementation

Functional Kanban Board - MVC

Hypothesis: Functional teams can effectively visualize work by building a functional kanban board and onboarding the work as-is today

Implementations Planned: 3

Timebox: 2 Weeks per Implementation

Illustrative

Targeted Tracks	Targeted Skills	Current	Projected	Actual
Operate	Participation	10	+60	70
	Transparency	5	+45	25
	Flow	5	+15	20
	Relay	0	+15	15
	Pinch Hitting	0	+15	10
	Improve	0	+10	5
Manage	Direct	5	+3	5
Unexpected Tracks	Unexpected Skills			
Innovate	Optimize	0	N/A	10
	Enhance	0	N/A	5
Manage	Facilitate	0	N/A	1

- Identifies targeted skills that will be developed based on the MVC being implemented
- Identifies projected growth (prepare phase of MVC) and actual growth (post implementation of the MVC)
- Describes unexpected skills that were developed during post implementation analysis of the MVC

- Outcome of the MVC including whether a pivot is required based on the results

Outcome: Functional teams visualizing their work. Development & Test functional teams are collaborating between their boards and attending each others stand-ups. Improvements session within Requirement & Development team have taken place resulting in board evolution. Test team is running their own stand ups

Every MVC followed a similar measurement approach. Each MVC targeted a specific set of skills taken from the Transformation Participation Engine mentioned in the previous section. The value of each MVC was determined in terms of increased number of individuals acquiring new skills. Assumptions could then be validated by measuring actual changes in behavior, and determining if the adoption approach underlying the campaign with sound.

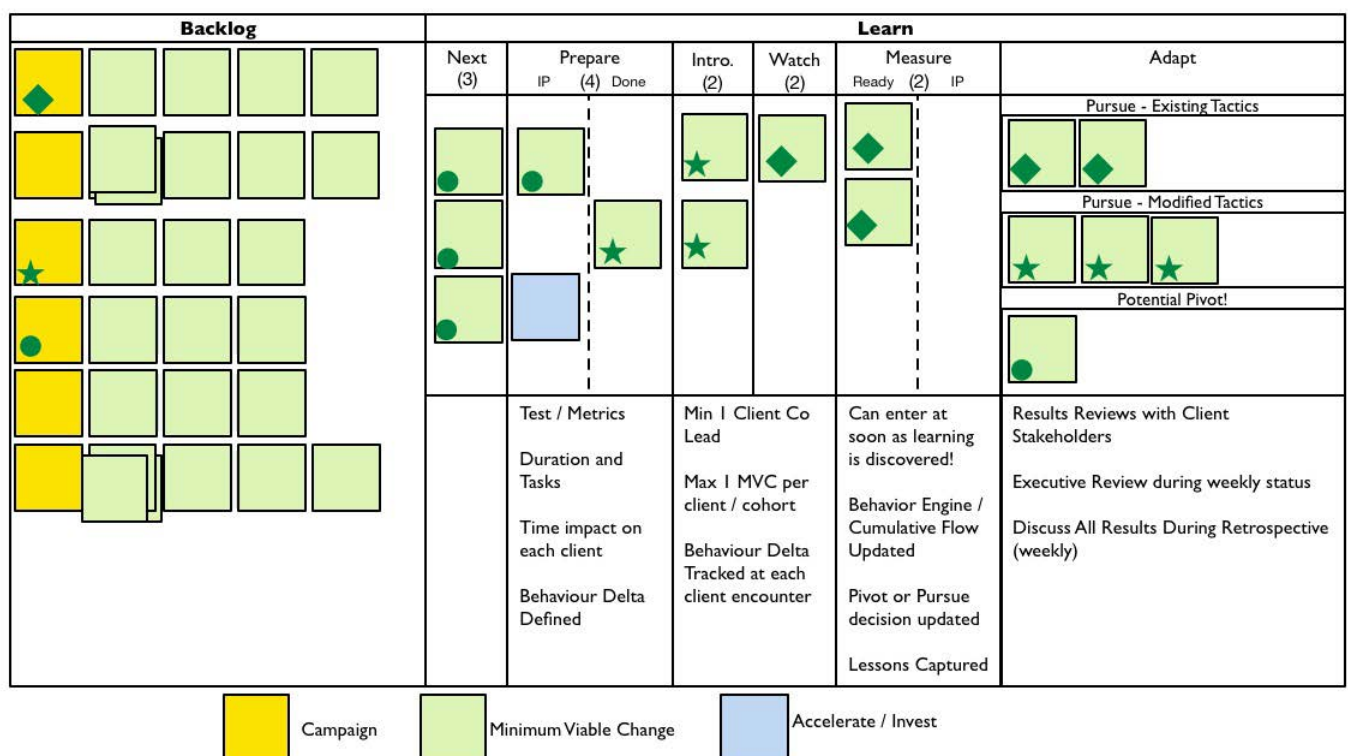
An example of this approach is the *Kanban* strategy, which was categorized into a number of campaigns. The *Visualize As Is Work* campaign was dedicated to visualizing current state processes, and gradually implementing WIP limits, policies and other components. There was no inclusion of other agile practices. An example of a MVC implemented for the *Visualize As Is Work* campaign was the setup of *Functional Department Kanban Boards*.

On the other hand, the *Kanban/Agile Pilots* campaign used a much more aggressive approach, mixing Kanban and Agile practices, such as story based development, cross functional teams, planning poker, etc. An example of the MVC implemented for this campaign was dedicated coaching and training of story mapping.

Other campaigns included a Kanban self-starter program allowing everyday staff to run their own Kanban initiatives, a hiring campaign to recruit dedicated Lean/Agile coaches, and a gamification framework that would render individuals progress in skills and behavior in a role-playing game style character sheet and leaderboard.

Using Kanban to track validated learning, while supporting a Kanban transformation

Of course to track the progress of our organizational transformation the change team used a Kanban system. During the first three months of this engagement our Lean Startup Kanban system changed five times. Our end product was much simpler than previous incarnations, and has provided us excellent support for a validated learning change approach.



The backlog consisted of numerous campaigns, each campaign being associated with a set of MVCs that could validate the assumptions contained within each campaign. The priority of a particular MVC was represented by placing these MVCs from left to right on the backlog.

MVCs were sized so that lead time would be between one and three weeks. During the preparation phase, metrics used to measure a specific hypothesis was defined, and the exact impact/commitment from the targeted set of clients was also specified and communicated. MVCs were then introduced to a subset of the organization known as a cohort. The introduction state involved initial coaching and training, hands-on workshop facilitation and other activities. Once the client was deemed to be somewhat independently operating with the new skills introduced, we moved the MVC to the watch state.

Watching consisted of observing the behavior of our customers, and measuring specific behavior according to the Transformation Participation Engine. Once our customers had been observed for a suitable amount of time, we then measured the MVC, and determined if our outcomes matched our hypothesis.

At first it was difficult to determine when to move a MVC from watch to measure. We soon came up with a simple rule. A MVC could be moved as soon as someone from our team felt that a campaign required a change in tactics. This called for immediate action to measure the MVC that was currently in-flight, and introduce a new MVC to validate the modified approach. Often these observations preceded our measurements; we were measuring people's behavior, behavior that we had to manually observe. As a result our observation and measurement operated in tandem with each other.

Once a week we held team retrospectives, at that point we reviewed all measured MVCs, discussed the outcomes and moved the MVC to the appropriate pivot or pursue lane depending on the results of the discussion. The decision to pivot or pursue was also typically made at these retrospectives, once we had an opportunity to review a batch of MVCs.

The case for using lean startup methods in large-scale change initiatives

Using a modified version of the lean startup framework has provided numerous benefits. This is the first time that we had been able to effectively use a transformation "Kanban" to actually manage our Kanban efforts. MVCs provided us a framework to visualize the flow of value by our change team.

Integrating the metrics driven hypotheses concept with our own customized transformation participation engine has provided us with a mechanism to assess progress of a highly unpredictable change initiative, without resorting to hardcoded, unrealistic plans. Perhaps one of the biggest benefits of the lean startup approach is that it has helped promote our team to critically look at everything we do. We are continually looking at ways to engage in validated learning, and are not relying on the framework to provide our learning for us.

Below is a summary of some of our learnings guided by this framework. Some of our key learnings have been:

- evolving from an Agile/Kanban piloting approach to a multipronged strategy involving Kanban for siloed functional departments, and a client run Kanban self-starter program
- increasing pressure to change within agile/Kanban pilots through co-location into cross functional delivery work cells
- significantly changing the hiring campaign to deemphasize quality management capability and emphasize Kanban and agile skills
- providing a concierge style support service for the Executives and Managers Kanban, in effect creating a low touch, extremely convenient management system that they eventually cannot live without

As of the time of writing this paper, our initiative is still underway. Our learning continues to accelerate, and we are quickly experimenting with different approaches that will allow our clients to maximize adoption of new thinking over time. While this is a story that is still in progress, we are seeing early signs of demonstratable evidence that the Lean Startup method can supplement Kanban to support large-scale change initiatives.

ⁱ Anderson, David J. *Kanban: Successful Evolutionary Change for Your Technology Business*. Sequim, Washington: Blue Hole Press, 2010.

ⁱⁱ Ries, Eric. *The Lean Startup*. New York: Crown Publishing Group, 2011.