

# Reinventing the Wheel

A 'Build – Measure – Learn' cycle is applied widely in circles where adaptive, agile, iterative and incremental approaches are used. It is central to Lean Start-Up and when prototyping around a business model. It is in itself an adaptation of 'Inspect and Adapt'.

However, to start with the word 'build' risks addressing the wrong problem. Before we build we should decide what we want to 'learn', and even before this we must take account of our context and 'measure' the contours and constraints of our environment. In almost all circumstances, I would propose a Measure – Learn – Build cycle.

When installing a new product, preparing for the provision of a service, initiating a transition or transformation, or any other kind of project, we need to know where we are; the as-is situation, the to-be situation, before we can imagine the paths which would lead from start to finish. This is all about the starting situation.

Next step, before selecting which path to move along is for us to learn just a little bit about each path, and only as much as we need. To go too far along the wrong path would be costly and time-consuming; and therefore we can progress only as far as we need to go to orient ourselves and make a decision. It really is about minimum effort for maximum feedback (mini effort, maxi feedback).

It's like scouting; make sure you can find the way back before making a definitive decision, don't give the game away too early and don't get lost in the detail. Ensure also, that you are making plentiful use of user perspectives. One person's promising path is another person's penury or purgatory. Then when you are sure of your way, explore a small part of the road. Be prepared to build each brick, bridge, bump and boundary in order to oust obstacles and bolster the benefits.

I believe that this cycle of measure – learn – build is missing an important step. A more complete cycle would be to measure – learn – plan – build. Now, I can hear replies of "Not more steps". "We already have enough steps" "And now there are three steps before we build". Later on, I can explain more about the number of steps, but first I want to justify the planning step.

This 'plan' step is more than it seems. It would seem as if we are going to plan the actions that will be executed during 'build', which is entirely true; and so what? In fact, the real importance of the 'plan' step and the reason to keep it in the cycle is its vital role in the dynamics of teamwork. If you don't plan together, you won't build much together.

To prepare a plan is to develop and to agree upon a work breakdown structure, to define the responsibility matrix, to work as a team to elaborate a critical path network, and master plan with milestones, and to participate in a planning game.

The planning step includes taking account of the threats and opportunities that may occur during build so that the team is all the more prepared to make the most of them, to persist, to pivot, or to prevent the iteration from going any further.

We all understand that these cycles are iterations built incrementally or to obtain the maximum possible feedback to enable decision making. We could also say that because it's a cycle, it doesn't matter where we start; measure – learn – plan – build, or learn – plan – build – measure. But, plan – build – measure – learn does matter, because it reminds us of the 'quality wheel' from Deming and Shewhart; plan – do – check – act.

Wait a moment; plan – do – check – act is a production cycle; first plan the work, work the plan, check at the end, learn how to do better next time. It is based upon the existing status of the production process, the most recent knowledge acquired day to day, the continuous stream of services.

A problem solving cycle is more like a check – think – plan – do cycle; it is also a more suitable project cycle. In fact, Deming suggested that the word 'check' could be replaced by 'study', which is more or less essential at the beginning of a project. 'Study' going into an iteration, 'check' going out of it, or the converse. Thereby, we avoid the habit of going too far in the first iteration before we know which direction to take. We make sure that we achieve measured learning. Maybe we could get a 20% or a 30% improvement in the second iteration. "If everything could be done twice everything could be done better."

Clearly, there are compelling arguments for starting with the end in mind; a mindset of first 'check' or 'measure', second 'think' and 'learn', third 'plan' or 'clarify' and fourth 'build' or 'do'. It's a project cycle, it corresponds to situations of learning and change, and also it matches the team growth cycle: form – storm – norm – perform.

Let's see how this cycle of team development can work:

Form: The team forms around a sense of purpose and shared priorities. Team members and stakeholders are identified and determine why the project is necessary and for whom.

Storm: The team members storm from different perspectives and explore options that offer solutions to the challenges they identify. The outcome is to define who does what.

Norm: The team participants produce norms that enable them to synchronise and to achieve synergies in a spirit of transparency and transversality (cross-functional thinking).

Perform: When the team moves to the perform stage, the act of collaborating together is a natural process, done naturally. The team can be entrusted to make the right decisions.

Transform: The team is in the transform stage during product deployment, market launch, moving from project phases to operation, and transitioning between iterations.

There is evidently a great deal of change management embedded in this cycle. To pursue a simplified change curve, we can go from denial, through irritation and resistance, planning and explication, acceptance and adhesion, to integration and assimilation.

In the adoption of a new product, through the stages, we may say first of all “Is this real?” Then we may start to say “Is this good for me, and for us?” Then come questions such as “Is this really a priority?” As we come on board we may say “How can I help?” And ultimately we are saying “How can we convince people and get the message across?”

It’s also a learning cycle. As a rule people are keen and enthusiastic to begin, before becoming frustrated, annoyed, even demoralised, then beginning to absorb the skills but still unsure or uneasy, until ultimately the skills become natural and we can even extend the boundaries and begin a new cycle.

Through the stages of team growth, learning and change, different styles of leadership are appropriate; strong guidance in the early stages and empowering management later, while intensifying the degree of support and encouragement in the middle of the cycle.

The basic cycle mirrors the OODA loop, a key reference in critical competitive and combat situations – observe, orient, decide, act – the essence being the ability to go through the steps of the cycle, analysing the situation and selecting amongst optimal options, before deciding and acting in a faster loop, and thus more effectively than the adversary.

By now, many people will be thinking that it all depends, as usual, on what kind of situations you are in; sometimes start with ‘build’, sometimes with ‘learn’, and so on. I am daring to suggest that we should always start with ‘measure’ or ‘check’. But that on occasions this step can be very short, and other times longer, and the same with each of the other steps depending upon the circumstance and the challenge.

In other words, it all depends upon the risks. If there is low technological risk and low commercial risk, the project will feel as if you know what you want and how to proceed. We can call this “incremental innovation”, and it will feel as if we are in a conventional project starting with planning, even when there is a small amount of measuring and learning at the start.

When the risks are essentially commercial, it would be most fitting to interact with users, clients and customers by focusing on building something in order to obtain maximum

feedback, and even as we measure, learn and plan, the building will drive the process. For example, consumer products are subject to changes in fashion and are driven by constant and early feedback via trade shows and prototypes. There may be little technological risk to justify validating scientific and technical assumptions. In situations of “commercial innovation” we usually know how to work together, but not necessarily what is wanted.

On the other hand, where there is technological risk and little commercial risk, we know what we want, but not how to get there. Finding cures for diseases, cleaning the natural environment, achieving ecological sustainability are all can be considered as “systemic innovation” or “systematic innovation” where there is a need for interaction with experts within a context of institutional complexity. We invest in the learning step of the cycle.

The fourth kind of innovation with high commercial risk and technological risk often feels like pure research, or “radical innovation”. We are neither sure what kind of technology we will find, nor what kind of commercial applications will emerge. Neither ‘the how’ nor ‘the what’ is easy to define, but if we don’t have at least some projects of this kind in a large organisation, the risk investment portfolio will be unbalanced and unsustainable in the long run. It requires a great deal of seeking information, measuring data and checking facts.

‘Incremental projects’ have been termed as “painting by numbers”, ‘commercial innovation’ can be likened to “making a movie” (much of a film finishes on the cutting room floor), ‘systemic innovation’ as “the quest” (as in the quest for a compelling goal), and ‘radical innovation’ as “walking in the fog”. (Eddie Obeng)

In the interests of perspective and practical application, we can consider that the ‘measure’ and ‘check’ stage emphasises ‘relational’, ‘community’ and ‘network’ input, the ‘learn’ and ‘think’ stage accentuates ‘ideas’ and ‘thinking’, the plan stage ‘structure’ and ‘process’, and the ‘build’ or ‘do’ phase is quite evidently centred on action. Thus we have an opening that offers a role for psychometric tools, which often revolve around combinations of relations, ideas, structure or action preferences.