

Stage-Gate® Agility Plus 3 Agile Hacks Worth Considering

BY MICHELLE JONES



What good is fast-to-market if no one wants what you're selling? Organizational agility is all about mastering that perfect blend of responsiveness, balance, speed, endurance, strength and coordination to maximize return on innovation investment.

When business leaders express a desire for innovation agility, what they are really after is smart speed. As many executives echo, 'What good is fast to market if no one wants what you are selling?' Business leaders want a repeatable product innovation operation that improves itself with each use and executes with agility – the ideal blend of:

- responsiveness - can we deliver what the market wants today?
- balance - can we juggle current products and future products?
- speed - can we win the dash?
- endurance - can we win the marathon?
- strength - can we do what is necessary with courage?
- coordination - can we do it together, in alignment? all the while improving business results.

If you are updating your process design annually and applying modern-day Stage-Gate® to your portfolio of development efforts, you have all the necessary ingredients to achieve world-class agility. Many qualities of Stage-Gate facilitate advanced agility but these four, in particular, do a lot of the heavy lifting: **Customer Focus, True Cross-functional Teamwork, Gate Business Acumen and Prioritization.**

Still, some wonder if they can achieve even better performance by blending Agile techniques into their Stage-Gate Model. The global community of Stage-Gate users and our own design experts have been experimenting with Stage-Gate and Agile for almost 7 years now. Many of these companies have shared their stories at Stage-Gate Innovation Summits and many have published case studies. This article highlights some of the lessons learned and 3 Agile hacks we feel are worth consideration. Choosing the implementation approach best for you, either a simple insert to your Stage-Gate Model or a careful tailoring of it into a hybrid (with Agile), will depend largely upon your innovation strategy, the diversity of your portfolio, and your current Stage-Gate design.

Ideally, all development projects in your portfolio(s) reflect and advance your company's innovation strategy – the direction you take with the types of products, markets and technologies you believe offer the most attractive growth opportunities and the pace in which you will invest to realize them. Since the primary purpose of a Stage-Gate Model is to de-risk and accelerate the execution of this strategy, its design is typically tailored further to reflect and enable these intentions. For example, many early adopters of a Stage-Gate hybrid (with Agile) were companies in the process of shifting a percentage of their portfolio spend into a new strategic bucket to commercialize opportunities for new, emerging markets described as the Internet of Things (IoT) and later, Digitalization. This allocation resulted in numerous 'smart product' projects requiring both hardware and software components, something new for many manufacturers.

The combination of in-market success and the increasing shift in portfolio spend to these types of projects inspired many of these companies to bring an otherwise outsourced 'software development' capability in-house. Naturally, this new function brought with it its own functional best practices, namely Agile. Conversely, some software companies decided to establish an otherwise outsourced 'manufacturing' capability in-house, along with its set of unique best practices. Unfortunately, during this transition, many companies fell victim to an unhealthy debate over which function's development practices should be the dominant method that all functions should use.

The Hybrid

Stage-Gate is a function-agnostic innovation management model, meaning its design from its inception was never fashioned from just one particular function's perspective. In fact, quite the opposite. Central to the design of Stage-Gate is the benchmarked observation of top performing innovators and their resolve to approach product innovation as a true cross-functional team sport from idea through to post commercial launch. Companies achieve better new product performance results when they respect and encourage each contributing function to be the best in their breed with the practices that enable excellence in their craft. The idea that any one function should compromise its performance in order to conform to another function's development method is misguided.

For example, manufacturing typically embraces Six Sigma to help eliminate production defects and Lean to help remove process and product waste. Many marketers rely on Job Theory and Voice-of-Customer (VOC) practices to acquire deep insights. Product managers rely on Product Lifecycle Management (PLM) practices to analyze product strategies to extend and renew a product's revenue life. Engineers rely on Design Thinking to accelerate creative problem solving and Robust Design to improve systems design. Software developers rely on Agile to write code and optimize its development and professional project managers pull from a variety of techniques in their toolbox to manage different projects and teams, like Prince 2, Waterfall, Scrum and PMBOK®. It is common for functional leaders to be on the continuous lookout for new techniques and practices to improve their unique contribution to their organization, including how they contribute to new product development. Some of these practices are transferrable to other functions. Some are not. And while it may be faster or easier to pick one particular function's method and impose it onto the other functions that contribute to product innovation, this approach will not maximize quality results, nor will it do much to retain good talent.

A Stage-Gate Model changes this conversation by incorporating each function's unique contribution to new products by mapping their high value-adding activities directly into each Stage, deliverables into each Gate and guardrails to guide the functions to collaborate effectively during each stage. If your organization's structure or functions have changed or evolved since you last designed your Stage-Gate process, you are due to modernize its design. If your innovation strategy calls for a new capability, say something like software development, to contribute to product innovation projects, you are best to tailor your Stage-Gate Model into a hybrid that reflects and embraces this function's practices (i.e. Agile).

Stage-Gate® and Agile

The Agile Manifesto was born, in spirit, to guide an individual team to success when executing a software development project for a single paying customer. Whereas the Stage-Gate Model was created, in spirit, to guide an organization to success when investing in a portfolio of product innovation projects aimed at markets (not just single-customer orders). Additionally, the central point of the Agile Manifesto is NOT to follow a prescribed or documented process, rather to leverage the combined experience/expertise of the members of the team to self-manage a project relying on continuous good judgement. Conversely, the whole idea of Stage-Gate® is NOT to start each project from scratch, rather to utilize the collective experiences/expertise/best practices of the numerous teams (internal and external) that have executed similar projects before and to organize this tacit knowledge into a process roadmap to serve as a guide (organizational memory) to benefit future projects. The team must still exercise good judgement and make sound decisions, but they have a starting point and a practical path, enabling speed.

These two points of view do differ and their purpose-built designs (Stage-Gate and Agile) contrast as a result. To me, they epitomize the goals of the organization's two key stakeholder groups contributing to effective product innovation: 1) the business leaders that aim to maximize a profitable return on company assets (money and resources) by making strategic Go/Kill investment decisions and, 2) the cross-functional teams that aim to develop winning products adored by markets and customers.

Unfortunately, many organizations waste time debating which point of view is more important or more correct – the group that is always pushing to make better use of fewer resources in less time or the group that is constantly requesting more resources and time to ensure a superior product? Our point of view is that they are equally necessary. Our early benchmarking studies confirm that top performing businesses embrace this belief – like the yin and yang of product innovation, hence the Stages and Gates in our Model. In fact, many feel this may well be the most important feature of the Stage-Gate Model, in that it empowers each stakeholder group to perform their respective roles autonomously yet it facilitates their interface, promoting and strengthening alignment one Stage and one Gate at a time.

Many companies are combining the best of these two worlds, establishing Stage-Gate as the over-arching governance framework and innovation roadmap to enable business leaders, and Agile (particularly Scrum) for project execution and team leadership. However, if a hybrid model is not right for you or not realistic to achieve at this time, you can still benefit from the few features of Agile that you will not find in modern day Stage-Gate, by adopting our favorite Agile hacks.

3 Agile Hacks

1. Kanban Board

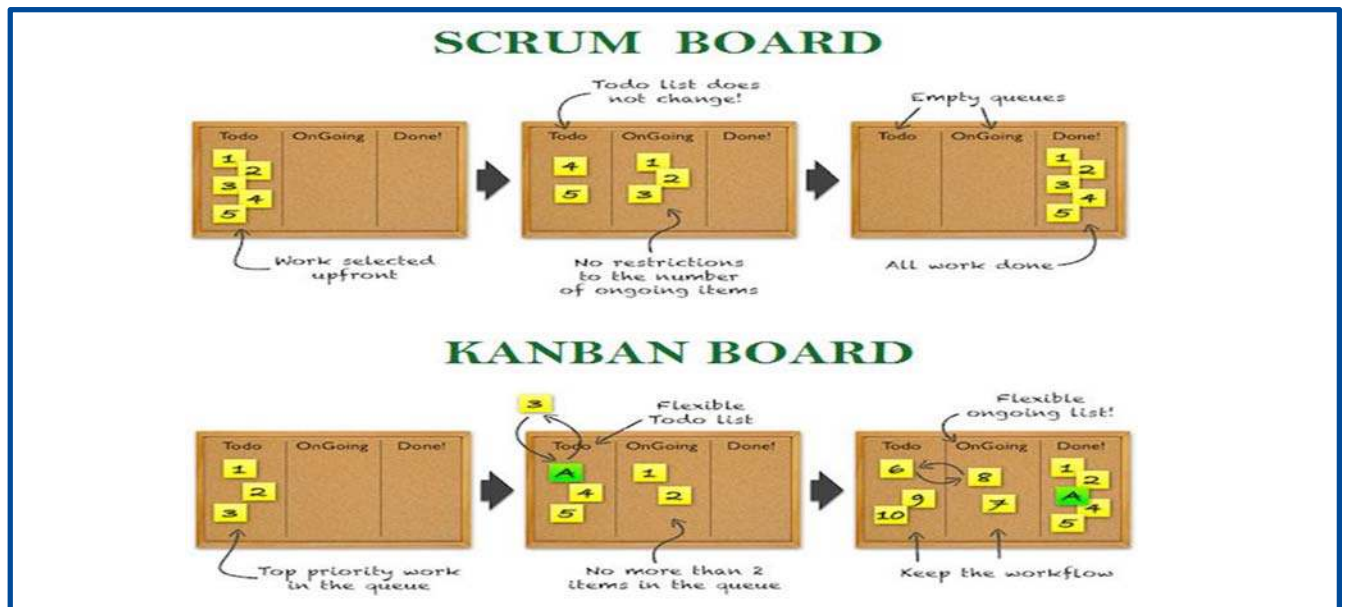
Our favorite hack, Kanban, is a simple yet effective productivity principle introduced in 1940 (long before Agile was born) by Toyota when they reimagined their Lean manufacturing process. The goal is simple – eliminate workload peaks and valleys that destroy positive momentum, result in poor quality (during peaks) and interrupt team efficiency (during valleys). The solution – give visibility to workload but only pull and execute a few priority activities at a time, matching workload to available resources. Sound familiar? It should. Stage-Gate trained innovators will recognize this, as a more advanced version of this concept is applied to the prioritization and GO/KILL/HOLD decision structure built into Stage-Gate at the portfolio level. Stage-Gate aims to create a sustainable, continuous flow of new product launches (aka cadence) by prioritizing and matching the number of active projects in the pipeline to the resources you have available to execute them. All else is on HOLD (i.e. not started) to avoid pipeline gridlock. One of my clients coined a fun phrase that gets his point across, “I’d rather have 2 for 2 out the door, than 10 for 10 stuck in Stage 4”. Continuous, tough GO/KILL/HOLD decisions enable sharper focus and this is critical when you are in the business of solving big customer problems and designing new-to-firm or new-to-world products, services or technologies.

The Kanban Board used by advanced Agile teams applies this principle at the project level to create a continuous flow of project workload by prioritizing and matching the active work to the resources you have available. All else waits on HOLD. Think of it as traffic control or queue management for project work.

The Kanban Board provides the visual reminder to work swiftly, yet to stay focused on only the prioritized task at hand. This is effective because most people cannot multi-task and deliver a high quality outcome. We find this approach is more effective and flexible for teams developing differentiated new products, services or technologies aimed at delighting markets as the one-size-fits-all sprint (e.g. the standard 4-week sprint used in Scrum), inadvertently permits teams to sacrifice quality for speed. In reality, very few companies (even in the software industry) find that they can get away with shipping a minimum viable product to their customers without eventually offending them.

Introduce the Kanban Board into your Stage-Gate Model by adding it to the team kick-off meeting that begins each stage of work. Facilitate the team to prioritize the activities outlined in the high-level plan approved at the previous Gate. Together, decide the realistic number of activities that can occur at any given time for the project resources approved. This establishes guardrails for work in progress (WIP) in the center column. For larger projects, try using horizontal swim lanes for visualizing the workflow of each function or smaller team. For longer projects, try horizontal swim lanes for organizing Stage activities into smaller sprints but be sure to describe the definition of done (e.g. product increment like alpha prototype iteration #3, or the preliminary business case), for each sprint.

While some teams find it therapeutic to use simple, paper-based Kanban Boards (it can be satisfying and even motivating to move an activity card from the left to the right side of the board), some teams using [Stage-Gate® Ready](#) software are making use of digital Kanban Boards.



Source: Savita Pahuja, Scrum Master

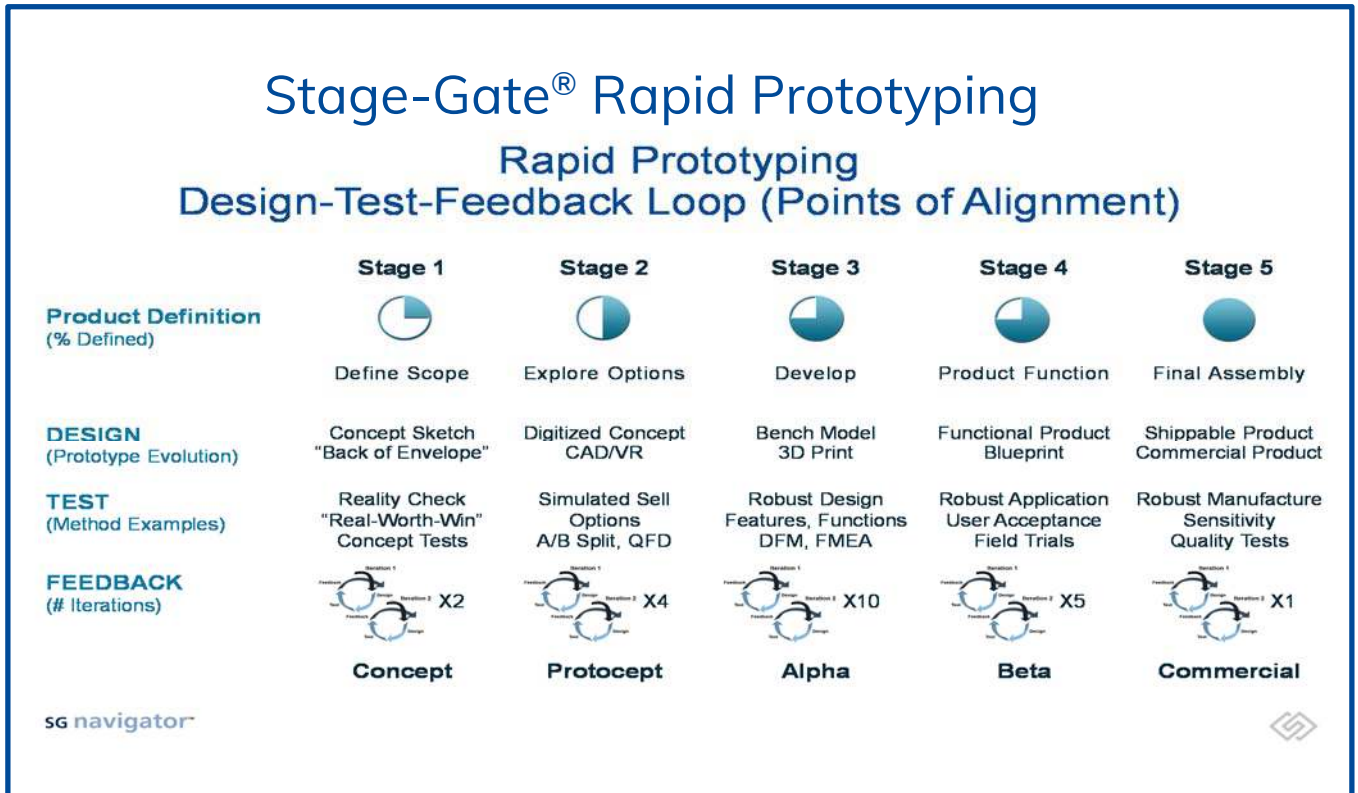
2. Product Increment Definition of Done (DOD)

In Agile, one of the primary goals behind producing 'working software' in every sprint is to ensure the team avoids making too much progress in a direction that is not aligned with the customer's vision. The Stage-Gate Model calls this 'rework' and it uses two similar fail-safes: 1) break the idea-to-launch process into smaller more manageable Stages preceded by checkpoints (Gates) to avoid 'unveilings', and, 2) define product increment goals in each stage to enable high quality contribution by each function. The product increment goals define what the cross-functional team is to aspire to achieve by the end of each stage. For example, evolve the concept into a protocept, or the protocept into an alpha prototype, or the alpha into a beta, and so on. Each Stage's product increment goal describes the degree of clarity and definition desired, the typical number of iterations anticipated, and the format of the increment (e.g. paper sketch versus digital image versus physical model), and the appropriate test methods. This common language within Stage-Gate is essential to enabling the different functions to communicate effectively as they synchronize their unique contributions to the product's evolving and iterative design. Without it, teams are often out of step with one another.

So, if the concept of a product increment is already in Stage-Gate, why do we like this hack? Well, as Agile is a micro-planning process, it requires a level of detail that Stage-Gate typically leaves to the team's judgement, the DOD for each iteration. A DOD is discussed and agreed to by the team before a sprint begins.

Introduce DOD into your Stage-Gate Model by adding it into each Stage's Testing Plan or Activity (e.g. testing the concept, protocept, etc.). When the team estimates the number of design iterations they will need within the Stage, they can determine the DOD for each iteration. The DOD describes how the team will know when their iteration is finished. It can be as simple as a few sentences or as elaborate as numerous acceptance criteria.

Alternatively, some companies have added a second page to their Basic 8 Framework™ to keep track of iterations by Stage, including each iteration DOD. Placing the DOD in the Basic 8 ensures the team is reminded of the more holistic product definition (and it's 8 key descriptions) so as each iteration evolves, so too does the product definition and the business case.



Source: [Stage-Gate Navigator™](https://www.stage-gate.com)

3. User Story

The User Story is an informal, high-level, description of a customer problem or need written in the customer's natural language, confirming their perspective. Documenting a User Story is easy and does not require much time or effort, especially if you have some knowledge and/or experience with customers. Prioritizing User Stories and adding depth to high priority stories takes effort and skill and therefore is usually reserved for the actual project team members. For some of you, this may not sound very different from what you have been doing within Stage-Gate from the Idea Submission through to building voice-of-customer into your 'winning' product solution. Most Stage-Gate trained innovators use the Basic 8 Framework to capture cross-functionally obtained insights and debate them to evolve a holistic product definition from one stage to the next. After all, adding quality, sharp definition as early in the process as possible is one of the strongest drivers of speed to market and to profit.

Leverage the User Story tool and its casual format in any Stage, but especially in the early stages, to cast a wider net of input from people who are not on the project team but whom may have important knowledge and/or experience with a particular set of customers (i.e. customer support staff, sales, executives, etc.).

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About the Author



Michelle Jones is Executive Vice President and Chief Innovation Officer. Her portfolio includes strategic business partnerships, R&D, and professional development. In her role, Michelle oversees value creation for clients and markets through the research, development and commercialization of highly differentiated product and service offerings designed to enable companies to achieve innovation excellence. Stage-Gate International is widely recognized for its thought-leadership, peer-reviewed research, benchmarking databases, ground-breaking methodologies and practical products and services.

Michelle is also a speaker, author, and consultant on the topic of product innovation management. She has over 25 years' experience consulting business leaders and teams in companies across a wide range of industries including Aerospace, Automotive, Chemical, Consumer Packaged Goods, Defense, Electronics, Energy, Food, Financial, Manufacturing, Medical and Pharmaceutical. She helps her clients achieve clarity and command of their innovation management systems while balancing an engaging and empowering culture. Michelle has led a wide range of corporate and industry innovation initiatives to successful completion including consortium benchmarking projects, global product and technology development processes, multi-divisional portfolio management and governance frameworks, new innovation strategies and corporate innovation learning programs.

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