Using a

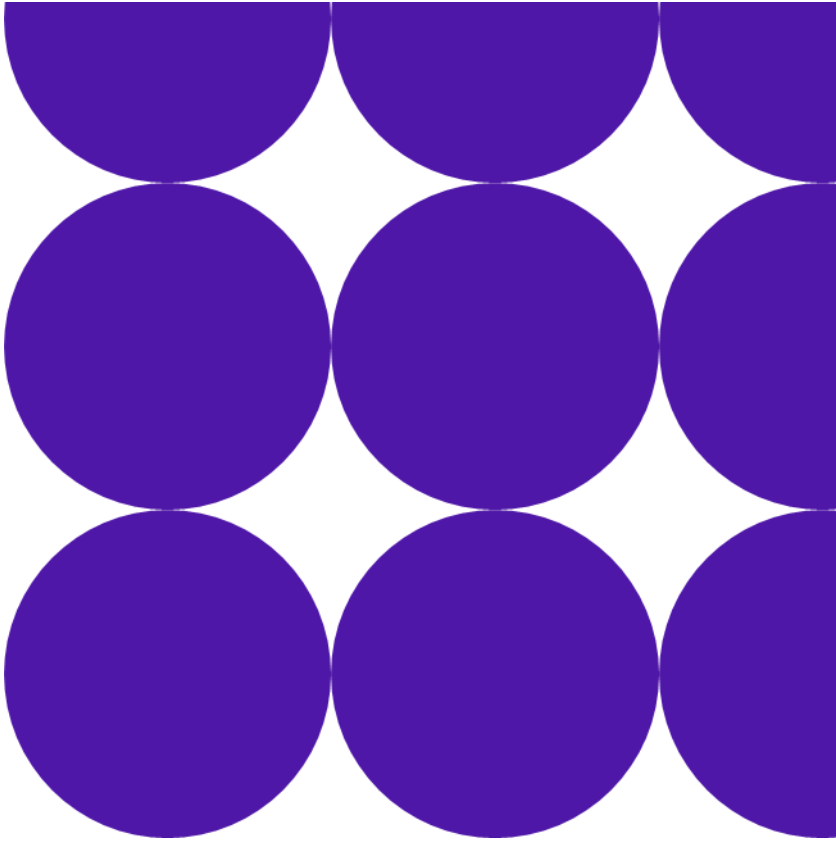
PMI Disciplined Agile®

Approach in Global Manufacturing

A PRACTICE CASE STUDY: PMI DISCIPLINED AGILE IN A GLOBAL MANUFACTURING ORGANIZATION

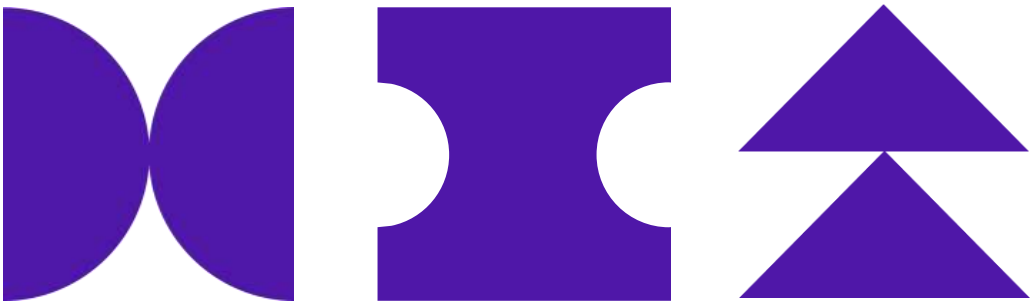
Introduction

Over the past 30 years there have been remarkable advancements in software development driven by adoption of agile innovation methods, bringing significant benefits ranging from improved quality and accelerated speed to market to elevated motivation and productivity within teams. Now these methodologies are spreading across many industries, including manufacturing, that involve different levels of complexity.



In contrast to software development, where projects can be infinitely divided into smaller increments, challenges arise when dealing with manufacturing projects that lack the same level of divisibility. To overcome this challenge, project teams must employ creative strategies - like delivering something that resembles as closely as possible the final user experience. This may include computer-generated graphics, virtual prototypes, rapid prototypes, or early beta versions.

In adopting a Disciplined Agile (DA)™ approach, a hybrid of agile, lean, and traditional strategies, teams are empowered with the flexibility needed to drive project success. At Whirlpool Corp., a global home appliances manufacturer, it took six months and significant monetary investment to imbed these principles into four teams working across the world - and even then, remote coaching as necessary to help define roles and processes. The end result, though, were fast, smarter, more collaborative teams that improved considerably their way or work - while also influencing how future teams at the company will operate.



2021 – The Beginning of the Journey

The established product development process at Whirlpool Corp., a robust idea-to-launch gating system, is based on lean development, and has been performing well in terms of predictability. We began to evaluate various agile approaches that had the potential to enhance the established way of doing things without breaking what isn't broken. Our goals for this initiative was to continue to improve quality, speed to market and engagement.

We quickly got the necessary training for the first group of project leaders as Disciplined Agile® Scrum Master (DASM) and Disciplined Agile Senior Scrum Master (DASSM), and the strategic decision was made to initiate a pilot program of Disciplined Agile in four regional home appliance development projects spanning multiple geographic regions. The results were encouraging, including a 30% improvement in time to market and a 20% improvement in team morale.

Whirlpool's vision
is to be

"the best kitchen and laundry company, in constant pursuit of improving life at home"

and, with this vision, began its agile journey in 2021.

Figure 1: Whirlpool in numbers: 2021 Annual Investors Report.

2022 – The Need to Scale Up

Following the pilot program, the company made the decision to expand this new approach. A comprehensive framework was crafted, the necessary tools were developed, and roles and responsibilities were outlined. Next, the framework was introduced to a select group of 80 project managers, each with a keen interest in adopting agile practices and assuming the role of ambassadors for the program within the company. Before expanding 4,000 personnel across the company's product development organization, a deliberate pause was taken to prioritize the development of capabilities through more training and coaching.

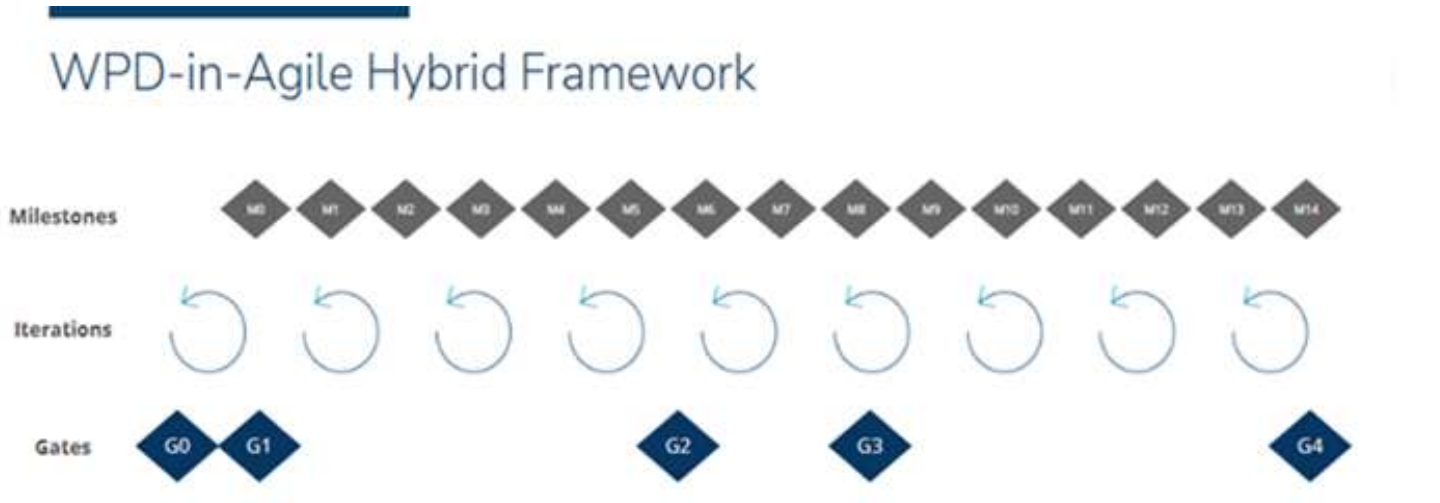


Figure 2: An idea-to-launch gating system that incorporates interactive development to get something in front of customers early and often, through a series of build-test-feedback-revise iterations.

2022 – Building Up Capabilities

Through structured training and certifications, a leadership team and the 80 trained ambassadors worked to build up the broader team's capabilities. The first phase of our training initiative resulted in 40 individuals achieving Disciplined Agile® Scrum Master (DASM) certification. This cohort included professionals ranging from analysts to directors. The training regimen was complemented by comprehensive coaching that helped ensure a well-rounded skill development experience. Another central objective of this training was to establish an innovative Way of Working (WoW) within our project teams who were developing global home appliance projects at scale.

The vision with the program was to promote real within-team collaboration, as the enabler to deliver products faster with improved quality, and by highly motivated people. The endeavor was underscored by the deployment of project teams entrusted with global growth and innovation initiatives, collectively representing tens of millions of dollars in investments. The bedrock of the program was the application of the Guided Continuous Improvement (GCI) framework, ensuring a sustained trajectory of advancement and refinement.

Organizational Structure

Each Whirlpool Corp. project team has a project manager and core team of nine to twelve specialists representing specific functions within the company. An ensemble of extended cross-functional teams form the bedrock of the execution process. Operating within their respective areas of expertise, these extended teams are entrusted with reaching the goals for the project. This arrangement cultivates a synergy where the core team and cross-functional collaborators seamlessly complement each other.

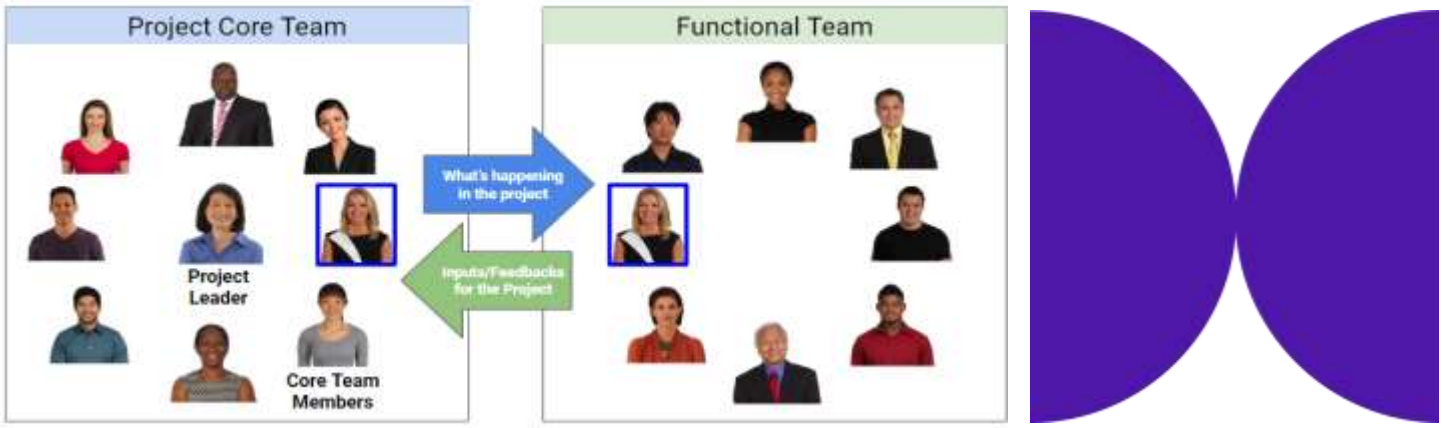


Figure 3: The project leader role is responsible for leading the core team toward the project's goals, while each member of the core team is the liaison between the project and the function.

Challenges and Constraints

While this team structure may appear straightforward, it represents a complex organization of thousands of individuals collaboratively engaged on 100 plus concurrent projects and requires seamless coordination across design, engineering, software development, supply chain, service, marketing and manufacturing.

Given this scope, the challenge of prioritization looms large, and the result can be an intricate web of resource allocation that sometimes may lead to "biting off more than we can chew."

Guided Continuous Improvement (GCI)

We embarked on a series of anonymous interviews with our project managers, making sure their insights remained separate from executive oversight. This approach allowed us to cultivate a foundation of trust with key stakeholders and better understand team dynamics.

These interviews allowed us to successfully identify primary pain points, which included:

- Siloed organization
- Scope creep
- Prioritization of people resources

To address these issues, we worked with the various teams to determine suitable process goals. Empowered by this groundwork, the teams proactively chose specific practices to implement. Both the teams and management recognized the importance of regular feedback loops.

Moving forward, we seamlessly transitioned into preparing for forthcoming iterations, focusing on a recalibrated backlog prioritization process. Over the course of initial iterations, a noticeable evolution occurred as teams acclimated to this methodology, progressively enhancing their Modes of Operation

Benefits and Results: Refrigeration Latin America

In one refrigerator project for the Latin American market, virtual reality was employed for continuous integration of the necessary solution. In the sprint demonstrations, Whirlpool Corp.'s solution was juxtaposed against similar designs from competitors, enabling the project team to glean invaluable insights early in the project's lifecycle.

The tangible outcomes were:

1. Capital optimization: The incorporation of virtual reality within sprint demonstrations provided a dynamic platform for trade-off decisions, fostering more informed and effective choices.

2. Enhanced collaboration: The "team of teams" construct, bringing together diverse expertise and methodologies, yielded improved collaborative synergies. This cross-pollination of perspectives enriched problem-solving and innovation.

3. Accelerated Communication: Centralizing project activities within a singular location streamlined communication channels, ensuring prompt decision-making.

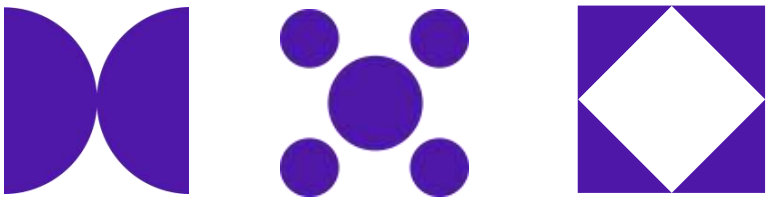
4. Value team implementation: The deployment of a value team structure facilitated a refined alignment of stakeholder interests.

Benefits and Results: Ventilation Asia North

The team entrusted with the development of this ventilation project operates across diverse geographical regions, including China, the USA, and Mexico. Notably, their collaboration is optimized through the allocation of brief time overlaps for coordinated efforts during the course of the day. Employing frequent 15-minute coordination meetings and a Kanban framework, they effectively minimized inefficiencies and waste in their workflow.

The integration of 3D printers and renderings proved pivotal during sprint demonstrations by swiftly conveying concepts and progress and fostering active stakeholder engagement. The team has strategically adopted the MoSCoW - acronym that stands for Must have, Should have, Could have, and Won't have - prioritization technique, which underscores their commitment to prioritizing work items based on both value creation and risk level.

The proficiency demonstrated by this team underscores their adeptness in leveraging methodologies that transcend geographical boundaries. The realization of succinct coordination meetings, Kanban practices, visual rendering demonstrations, and prioritization strategies exemplify their commitment to optimizing collaboration, stakeholder involvement, and work prioritization.



Benefits and Results: Refrigerator North America

In the context of this US based refrigerator development project, the team effectively engaged stakeholders from the project's inception. This proved instrumental in conducting risk assessments with empirical data garnered from experimentation. Additionally, the team made a strategic decision to access seed capital before obtaining complete design validation, thereby expediting the delivery of value.

During the initial six months of the project, there was a period of stagnation marked by frequent alterations in scope. Upon transitioning to an agile approach, significant improvements were observed. By adopting a mindset of pragmatic and minimally elaborate planning before embarking on execution, the team prevented unnecessary overengineering. This approach drastically reduced the time required for project planning, necessitating only one iteration before heading to development. Moreover, after pivoting the project's concept, a single iteration sufficed for the full release of capital.

A Word on **Getting Started** With **DA**

A frequent question made by new adopters is: **"What is the best way to get started with DA?"**

The answer is quite simple. Start with a few of the DA principles:

- Be pragmatic.
- Context counts.
- Choice is good.

DA is about starting where you are and acknowledging the current culture as it is.

It is not something you implement top down, but rather through using a simultaneous top, middle and team approach designed to foster agency and critical thinking.

It is about self-paced change and working to align all stakeholders on a common journey of continuous improvement and evolution.

This concept is very important for the overall understanding of the organization and helps ensure recognition at all levels.

1. Start where you are.
2. Begin with the situation you face.
3. Improve step-by-step to become incrementally better and you will see that both the teams and the organization become more agile.

Based on our experience until here, this is our recommended way of working for the evolution of business agility in your organization.

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