

A blurred background image of a modern office interior. Several people are seated around a table, engaged in a meeting. In the background, a large calendar is visible on the wall, showing the days of the week (M, t, W, t, F, S, s) and dates. The scene is lit with warm, ambient lighting from pendant lamps.

# New Product Development Process [Definitive Guide]

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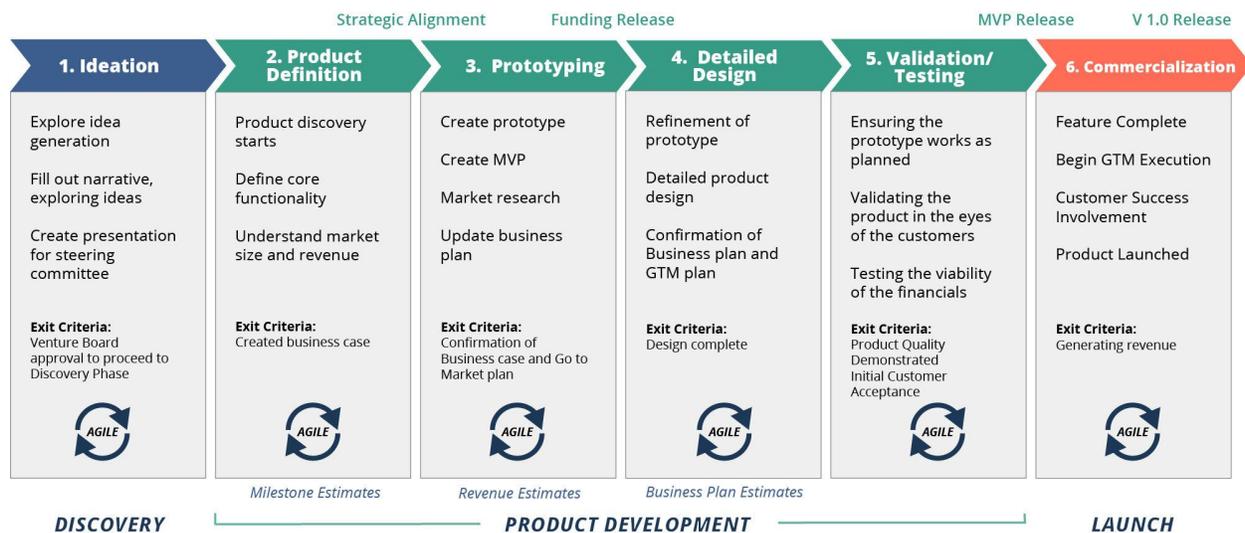
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# Summary

New Product development usually follows a process divided into stages, phases or steps, by which a company conceives a new product idea and then researches, plans, designs, prototypes, and tests it, before launching it into the market.

## **Product Development Process In 6 Steps**



## Step 1: Ideation

This first step or stage of the New Product Development process (NPD), often called "Ideation," is where new product concepts originate.

## Step 2: Product Definition (Discovery)

Sometimes called "scoping," or concept development, this step involves refining the definition of the product concept. In a startup this step is often called Discovery.

### **Step 3: Prototyping**

This step in the NPD justifies the company's investment in the development of a product by requiring the team to create a detailed business plan.

### **Step 4: Detailed Design**

In this phase, the focus is on product design but also refinement of the prototype of the product (and in this case it is largely full featured and working as a real product would).

### **Step 5: Validation/Testing**

Validation and testing means ensuring the prototype works as planned. It also means validating the product in the eyes of the customers and markets, while testing the viability of the financial model for the product.

### **Step 6: Commercialization**

During this step of the product development process (including the manufacturing process), the team realizes everything required to bring the final product to market, including marketing and sales plans (or sales training if necessary).

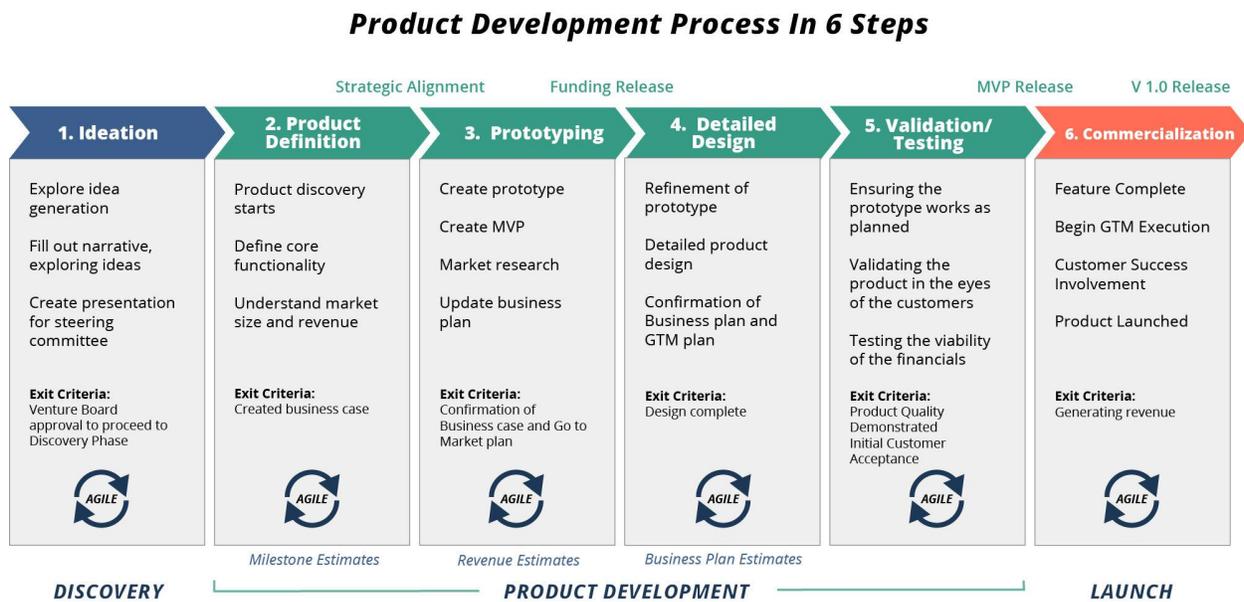
## **Definitive Guide: What is the New Product Development Process?**

A Product Development Process refers to the entire range of activities where a company conceptualizes and realizes a new offering. A product concept might originate in the marketplace, or in a lab or workspace in the so called fuzzy front end. New Product development usually follows a

process divided into stages, phases or steps, by which a company conceives a new product idea and then researches, plans, designs, prototypes, and tests it, before launching it into the market.

With an agile approach you can reduce the number of steps and get the best of both methods of product development (waterfall and agile).

## What is The Product Development Process in 6 Steps?



The product development process is the specific series of 6 steps or stages a company uses to achieve its realization of new offerings to satisfy a market need. In the best companies, a **product development strategy** links corporate strategy with product development. While nearly every company develops new products or services, product development processes differ substantially from one company to another depending on

the industry, the product type, whether the products are an incremental improvement or a breakthrough innovation, and the degree to which you focus on **product portfolio management**. This is probably the most impactful form of process management that a company can undertake.

Although cross functional processes differ depending on these factors, an accepted approach for more than three (or more!) decades puts a new product idea through a series of steps. The 6 steps each culminates in an up-or-down decision made by the Senior Management team in a formal review (often called a “gate”) at the end of each phase.

## **What are the 6 Steps in the New Product Development Process [NPD]?**

A typical product development process of this kind has six steps with five gates.

**Step 1: Ideation**

**Step 2: Product Definition**

**Step 3: Prototyping**

**Step 4: Detailed Design**

**Step 5: Validation/Testing**

**Step 6: Commercialization**

### **Step 1: Ideation**

This first step or stage of the New Product Development process (NPD), often called “Ideation,” is where new product concepts originate. Often,

businesses forms a small team to explore the idea generation and initial definition of the product concept, business analysis, perform market research, and to explore its **technical and market risk**. The idea stage is often the most important step for brainstorming new products because it is where most product ideas come from - and this casts the die for the development.

Getting the product concept wrong at this early stage wastes time and increases opportunity cost. Note not all new product ideas come from the inside - The Corporate Development organization and executives should be constantly scanning for new product ideas. Marketing efforts should also including active competitive analysis and market scanning. Engineering should be brainstorming, too. Note, that the Ideation step is often the most challenging and a product development checklist can be used to pinpoint risks in this stage and throughout the rest of development.

## **Step 2: Product Definition (Discovery)**

Sometimes called “scoping,” or concept development, this step involves refining the definition of the product concept. In a startup this step is often called Discovery. The team creates the first detailed assessment of the technical, market and business aspects of the new product concept and determines core functionality.

Developers and managers explore and define the key points of **differentiation for the new product**. This second step in the new product development process, if done improperly, can increase **time to market** or cause the product to misunderstand the needs of the market. Because this step is often before really ramping up the team, the initial

marketing strategy is defined. Although it is early, often metrics such as ARR (Annual Recurring Revenue) or Acquisition Costs are estimated.

### **Step 3: Prototyping**

This step in the NPD justifies the company's investment in the development of a product by requiring the team to create a detailed business plan. This plan usually involves intensive market research. The team thoroughly explores the competitive landscape for the new product and where the proposed product fits within it, while also creating a financial model for the new offering that makes assumptions about market share. Pricing is determined in this step.

For tangible new products, such as hardware or mixed systems, the team also considers the manufacturability of the proposed new product. By the end of this phase, Senior Management should have a clear idea of what they're investing in and how it will perform in the marketplace. This third step in the product development process is critical because it reduces the market risk for the new product in all businesses.

### **Step 4: Detailed Design**

In this phase, the focus is on product design but also refinement of the prototype of the product (and in this case it is largely full featured and working as a real product would. In most cases they alpha-test the prototype, working with customers in an iterative fashion: getting their feedback and incorporating it into the prototype. In parallel, marketing, sales and manufacturing begin to create the launch and manufacturing platforms to support the emerging product. This fourth step in the new product development process is sometimes called Development, and

sometimes incorporates the next step, “Validation/Testing.” This is often led by program management and includes prototyping, too.

### **Step 5: Validation/Testing**

Validation and testing means ensuring the prototype works as planned. It also means validating the product in the eyes of the customers and markets, while testing the viability of the financial model for the product.

Everything in the business case, and everything learned from customers during the Development phase comes under scrutiny and is tested in “real world” conditions as much as possible. The marketing strategy is also confirmed at this point. If anything in the business case or prototype needs revising, this is the team’s last chance to do so. This is the last step before the final product is ready for the market.

### **Step 6: Commercialization**

During this step of the product development process (including the manufacturing process), the team realizes everything required to bring the final product to market, including marketing and sales plans (or sales training if necessary). The team begins to operationalize the manufacture and customer support for the product. That is why this step is called Commercialization.

### **Gate Reviews**

Each of these six phases ends in a gate review where the team presents to management specific, pre-defined deliverables, and demonstrates the outcomes required to move on to the next phase of the product development process. Each of these reviews ends in a go/no-go decision.

In other words, Management has five opportunities to kill the project before committing to its launch.

However, the world is moving away from this waterfall product development approach. It is too process heavy and encourages unnecessary meddling from Senior Management. Compare your gate reviews and other aspects of the process with our [product development checklist](#).

## Minimum Viable Process: A Modern Approach

The traditional six-step process described above is the established new product development process you've read about in the textbooks and seen in the training videos. Some of these processes might have five steps, or even seven or eight steps, but the basic idea is the same. This is state-of-the-art product development -- for 1985. But today's fast-moving markets, rapidly changing technology, and agile teams need a lean approach. We recommend drawing elements from both waterfall and agile to create a modern development product process - that way you get the best advantages of both systems. We also recommend that you have a rapid and simple [escalation process](#).

This new approach is to have a *Minimum Viable Process*: enough process but never too much. It begins with a simple realization that any product development process boils down to two needs. A Minimum Viable Process must avoid lengthy, onerous reviews, where the team must justify its continued existence every few weeks or months, creates too much bureaucracy and leaves the team with too little flexibility. It makes Senior

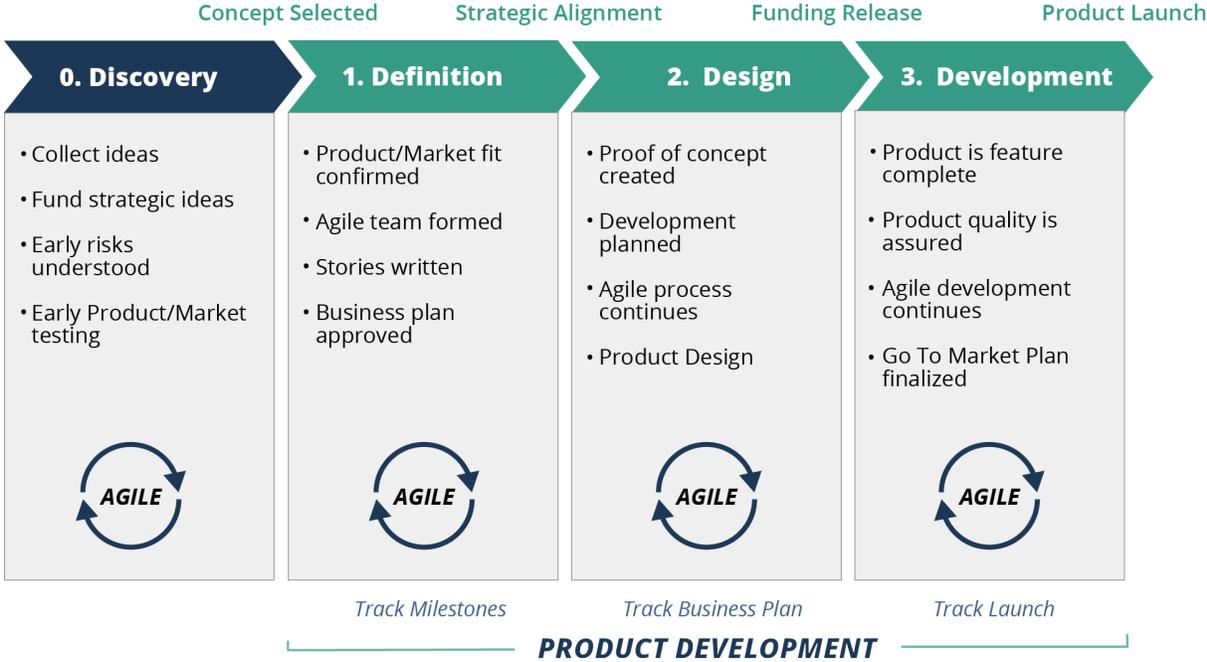
Management the customer throughout the process. Further, while adherents of the traditional phases and gates approach acknowledge that product development is an iterative activity, they continue to try to make it fit into a sequential, linear scheme.

***“Enable executive oversight at the inflection points where they need to make investment decisions and guide the team toward risk reduction”***

The Minimum Viable Process approach involves a subtle but important change in thinking. While the phases and gates approach contains a series of sequential steps, the Minimum Viable Process recognizes that each portion of the process has many activities done concurrently and iteratively. Rather than fulfilling a rigid set of deliverables, the team engages with Senior Management in three check-ins that show that the concept is sound, that there is a fit between the market and the product, and that everything is prepared for the product launch. These check-ins demonstrate that continued investment is warranted.

# From Six Steps to Three

## New Product Development Process



A Minimum Viable Process has a maximum of three major steps, with three check-ins after each step.

- Step 1: Concept Fit**
- Step 2: Product/Market Fit**
- Step 3: Development**

Think of each of these phases as having a set of activities associated with it and **exit criteria** that the team must fulfill to enter the following stage. Here are the typical activities and criteria for each of these three phases:

### Step 1: Concept Fit

Activities for the Concept Fit stage ensure that product ideas are the best product ideas...

- Product ideas are **congruent with the vision**
- The team is free to innovate and iterate
- The technology is tested
- Projects are **staffed properly** with the right resources
- Projects are free from anything that impedes fast and iterative development
- There is a meaningful commercial potential

By the end of this phase, the team should have a clear leader with entrepreneurial capability. The team should demonstrate to management that the time-to-revenue is foreseeable, the potential market share large, and that the revenue potential is large enough to make a difference to the company. The proposed business model should be adjacent to the company's overall model. That means that the business model for the project should resemble how the company, in general, does business.

There are also brand and customer issues to consider in this phase. This phase should include market research and clarify how the proposed product will leverage the company's brand, and the team should be able to describe the product's unique value proposition. The team should also consider the proposed product's fit with the current distribution channels and its projected customer base.

At the end of this phase, the development team has a brief check-in with management to establish the Boundary Conditions for the project and to ensure that the proposed project meets the company's current strategic priorities.

## Step 2: Product/Market Fit

Activities during this phase of the development process include:

- Vetting the technology
- Defining use cases
- Estimating the cost of development
- Confirming and quantifying the commercial potential

By the end of this phase, the team should have tested prototypes with users to confirm fit with the intended market. They should have not only identified use cases but also pegged where the solution *best fits* its market. The team should also have considered the technical and market risks associated with the project. In the case of truly new products, extra emphasis should be on idea generation - but also being very careful in selection of the best from the set of potential new products.

To exit this phase, the team also needs to demonstrate that it has a detailed budget, has calculated accurately the costs associated with developing the product, and has defined its profit potential.

During a check-in at the end of this phase, the team defines the product in greater detail, and demonstrates its technical feasibility. The team roughs out the timing and budget for the project, and perfects the business model.

## Step 3: Development

Activities in this phase of the development process include:

- Developing the Minimum Viable Product (MVP)
- Confirming the business plan

- Drilling into the research to learn more about who customers are and how to reach them
- Developing any supporting infrastructure that the customer needs to use the product
- Training the salesforce (if required)

The Market Launch phase is where the product is prepared to meet real customers. During this phase, the team creates a series of iterations of its product prototype in close communication and collaboration with customers.

This is also the point-of-no-return where a company assesses the products's launch readiness. Areas of focus include product quality, product performance, getting the optimal feature set, and demonstrating customer support capability.

To *exit* this phase is to *enter* the selling phase. Management must approve the team's marketing spend and go-to-market plan. The team may also plan for the future by identifying the features that they will realize in future generations of the product. The team must demonstrate that the MVP works as planned and that the market and sales plan is ready to go.

## A Series of Releases

Think of the final result of each of these phases or steps as a product release. In this three-stage scheme, each step is an element in a larger release plan.

- **The Concept Fit phase ends with a release to a funded team**
- **The Product/Market Fit phase ends in a release to the organization**

- **The Development phase releases the product to the world**

With this mindset, Agile methods dovetail with this three-step Minimum Viable Process to create a hybrid approach that combines the best elements of old-fashioned milestones-based, phases and gates processes, and more nimble, lean methods. For instance, for each project, the development team and Senior Management should craft a set of exit criteria for the three phases, the “must haves” that the team needs to continue to the next phase, in keeping with the boundary conditions they have established.

### **Example of Minimum Viable Process**

To tie the Minimum Viable Process to the Agile approach, the development team could tie each exit criteria to a specific sprint. For example, to exit the Product/Market Fit stage, the management and development team may decide that they need to map the dependencies the development team has on other teams. It might tie the creation of this map to a sprint, planning that it will have the dependency map on hand by the end of Sprint 1; a detailed budget at the end of Sprint 2; and a clear statement of profit potential by the end of Sprint 3.

## **A Modern, Lean Product Development Process**

Old-fashioned, sequential phases and gates processes tend to take a one-size-fits-all approach to new product development. They put projects through a set of rigid milestones, whether or not these milestones apply to the project at hand. In a Minimum Viable Process, the project has only the milestones it needs.

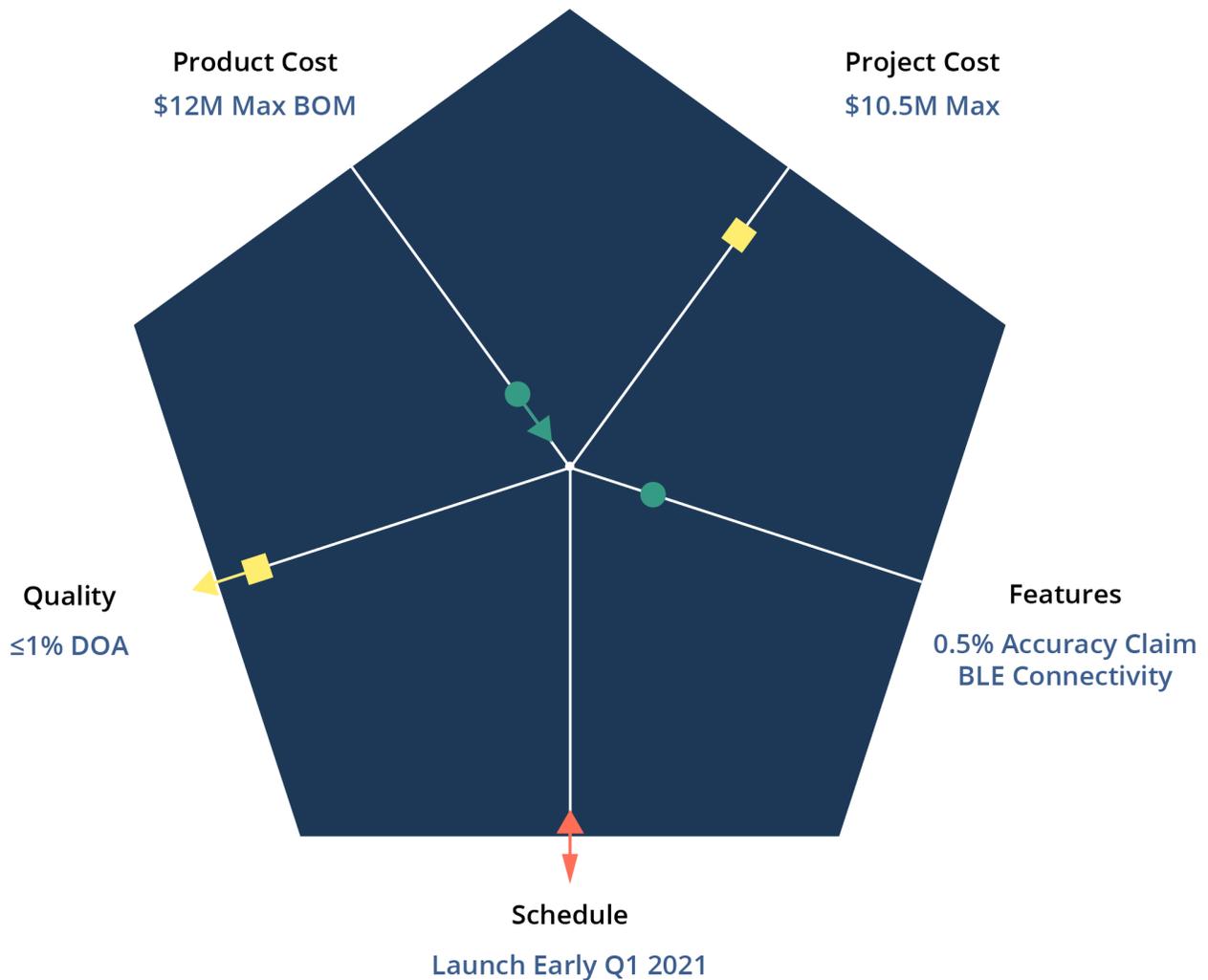
### **Example of Incremental Products**

For example, if you are developing an incremental improvement on an existing app, there may be no need to demonstrate the Concept Fit. If your existing product is successful, then you've already proved the concept as well as the Product/Market Fit. Such a project might need only one check-in between the team and management.

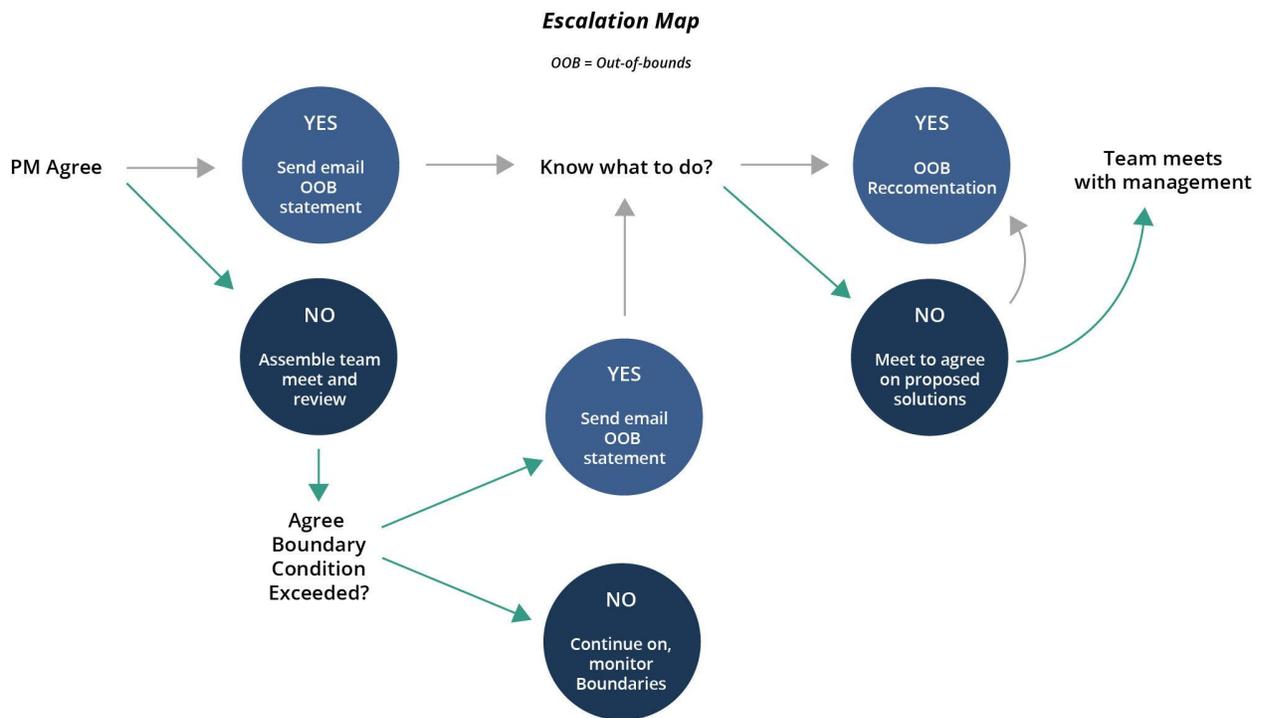
There's no need to have three check-ins where they don't add value – and if there's no reason to have three, there's certainly no reason to have five! In fact, having three check-ins might subtract value by adding waste and bureaucracy. Have only the milestones that make sense for your project.

Define the exit criteria for each check-in in terms of the set of overall *boundary conditions* that the development team and Senior Management have defined for the project. This approach, combined with a Minimum Viable Process with only three check-ins, enables Management by exception. This means that Management intervenes only when it looks as though the team is going to violate one or more boundary conditions.

### *Boundary Conditions Diagram*



This management-by-exception approach is the lean way to develop new products. Combined with the three-step, Minimum Viable Process described above, it ensures that companies have the predictability and process quality that management needs to make good investment decisions, while also ensuring that teams spend most of their time reducing risk and adding value to products in ways that customers actually care about.



And this is what the Minimum Viable Process is all about. Call it the *Goldilocks Approach*: getting the process *just right*. Not so *little process* that chaos ensues, but not so *much process* that the team is distracted from its most important priority: creating products that delight customers and meet business objectives.