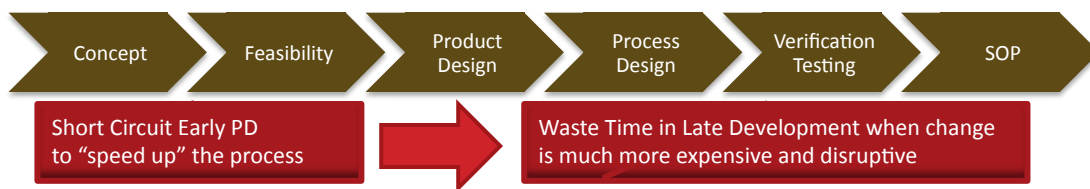


How Lean Product Development Gets Ideas to Market Faster

By Katherine Radeka



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Key Takeaways



- Lean product development speeds time to market by eliminating the root causes of time-consuming and expensive late design changes.
- Most lean product development practices operate within early product development.
- By the time products reach late development, the quality of the design is largely determined and the opportunities for improvement are fewer and less impactful.

The Root Causes of Lengthy Product Development Cycle Times

Many product developers are interested in lean product development because they want to get their ideas to market faster. They may say, "I want faster time-to-market" or "I want shorter development cycle time." Sometimes, it's as simple as "We need to beat the competition." Lean product development teams commonly report that lean practices cut time-to-market by as much as 50%.

How is this possible?

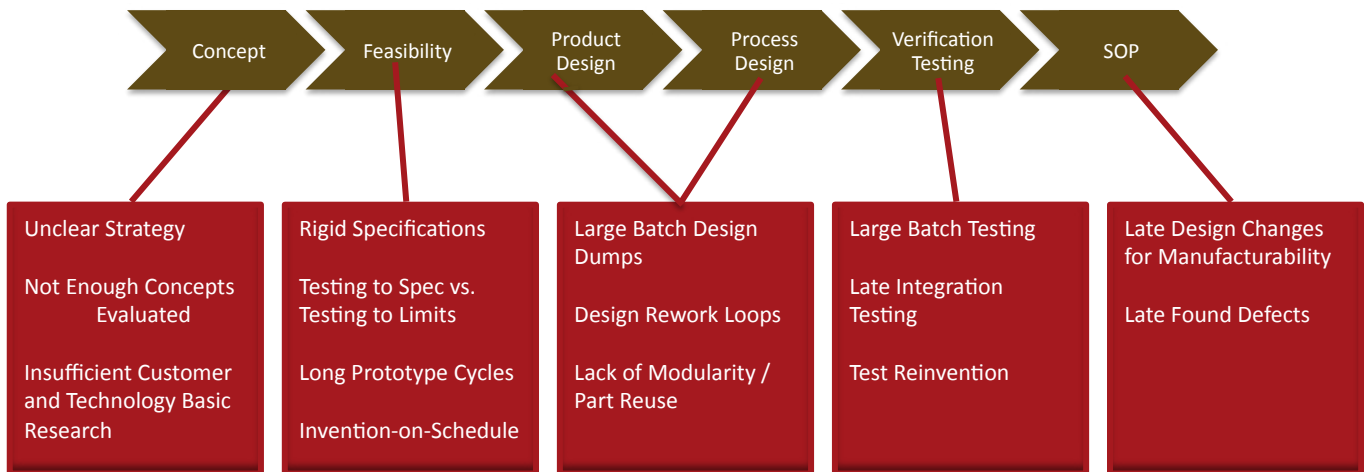
When products do not launch on time, or they take longer to develop than the business believes that they should, the temptation is to simply shorten the development schedule, and make the timelines more aggressive. The thinking is that if the engineers have less time, they will have to work harder and faster. It might even drive them to develop creative methods to go faster.

Many companies' experiences show that this strategy fails to work - in fact, such aggressive timelines can actually slow down product development. Each product development team will have its own valid reasons for failing to launch on time, but the pattern becomes clear after a few teams' experiences: not only are products not getting out faster, they are later than ever!

Why do products take so long to develop?

Product development programs usually make their early deadlines. It's the later ones where things begin to slip. Most product development programs first see problems when product designs leave the lab for the first time: the first customer use, the first supplier engagement for a nonstandard part, or the first attempt to build a product in a production environment. The problems themselves, however, became part of the product design much earlier in the process. The traditional product development process has lots of places where errors can slip into the product, or hide until they are expensive to fix.

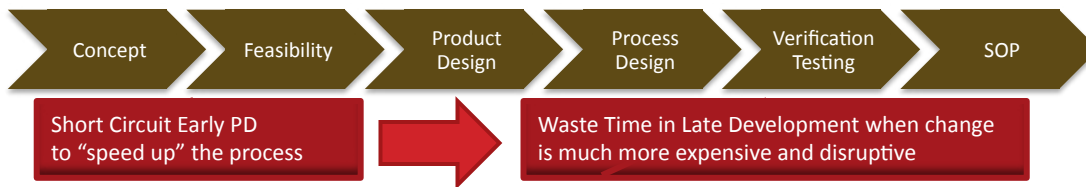
Here are some examples of things that make problems hard to find and fix until late in development:



Process Wide:

- Overload from too many projects and unclear priorities
- Knowledge Loss at every stage in the process
- Improper balance of technical and market risk

The Problem in a Nutshell:



When we try to force a traditional product development process to go faster, it is natural to short-circuit the learning process that occurs in early development. A lot of the stuff that goes on in early development is fuzzy and doesn't generate much visible progress. When we are under pressure, we want to believe that everything will work out. If teams are allowed to rush through early development without making as many problems visible as possible when they are easy to fix, there is little they can do once all the unresolved problems begin to surface in late development.

Counterintuitive Countermeasures

Lean product development speeds up the development process primarily by addressing the root causes of late design changes - finding problems faster.

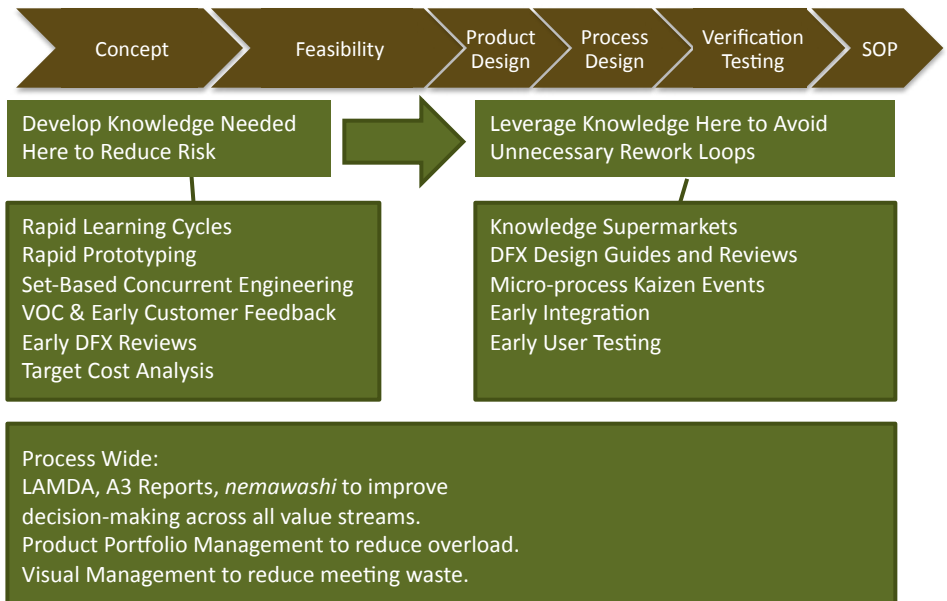
This does not mean that lean eliminates late changes entirely - it means that the amount of rework is significantly reduced, and the rework that is still required has much less impact.

The need to eliminate the root causes of late design changes leads to practices that seem counterintuitive to most seasoned product development managers:

- Allocate more of the product development schedule to the activities of early development.
- Delay decisions about detailed design elements like specifications, performance goals, tolerances, and the user experience until after the learning process of early development is finished. This gives the team the ability to optimize customer value around what they know they can deliver rather than work to meet an arbitrary standard that was established with too little information.
- Let teams plan their own work using visual management tools that pull work through the system and focus team meetings on problem-solving rather than status reporting.
- Allocate time for developers to deepen their customer knowledge as well as their technical knowledge to give them the experiences they need to build products that maximize customer value.
- Pursue multiple alternatives in a set-based design process that converges upon a single answer over time.
- Reduce team overload to eliminate all the time spent managing overloads, and reapply that effort towards getting a smaller number of products done faster. Chances are that the performance gains from less rework will lead to increases in capacity, but those gains are hard to realize if teams are still overloaded. To get there, we need to remove the overloads and then we carefully add back projects as our organization's true capacity becomes better understood.
- Refuse to accept partial answers and incomplete information when making decisions. "What do we need to know now?" and "How do we know that will work?" should be the guiding questions of early development.

Once a project moves towards late development, the options become fewer: make reusable knowledge about things like manufacturing capabilities accessible to the team via design guides and knowledge supermarkets, optimize micro-processes such as test procedures and procurement processes, and find problems as fast as possible with early integration testing and user feedback.

Lean product development teams report reduced time-to-market of 50% or more when they put these methods in place.



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