

The Practice Areas of Lean Product Development

How Lean Product Development Delivers Results

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Key Takeaways



- **Lean Product Development: Product Developers Systematically Solving Problems Permanently to Maximize (Value - Waste) Across the Entire System.**
- **Seven lean product development practice areas drive better product development results.**
- **Individuals can easily experiment with the first practices to learn about how they work.**

What is Lean Product Development?

Lean product development is:

Product developers systematically solving problems permanently to maximize (value - waste) across the entire system.

Many authors claim that lean is all about waste elimination, but this definition can lead to counterproductive changes. Since product developers make the decisions that drive customer value, product development is especially vulnerable to suboptimal waste elimination projects that degrade overall product development performance. Instead, product development organizations seek to maximize (value - waste). Sometimes, we add a little waste to one part of the system to optimize the whole.

Typical Results from Lean Product Development

Benchmarking studies from MIT and the Aberdeen Research Group show that lean product developers see these benefits:

- Improved schedule predictability and faster time-to-market.
- Increased R & D capacity and resource utilization without overloaded resources.
- Improved customer satisfaction and quality.
- Lower costs throughout the product's life cycle: development, production, support, maintenance and obsolescence.

Conventional wisdom would say that it is impossible to get faster, consume fewer resources and deliver better quality all at once but this is exactly what happens when teams focus on maximizing value and eliminating waste. The wastes of reinvention, late design changes, unproductive meetings, overload and hand-offs slow down product development and introduce defects. Lean product development delivers results by eliminating the common root causes of product development delays and defects.

How the Seven Practice Areas of Lean Product Development Deliver Results

The diagram shows the seven practice areas of lean product development.

- ❑ **LAMDA and Other Rapid Learning Cycles:** Rapid learning cycles accelerate learning, make problems visible much earlier and eliminate defects at the source. Teams develop solutions that don't require rework. LAMDA is a rapid learning cycle that adapts PDCA for lean product development teams.
- ❑ **Visual Knowledge and Knowledge Supermarkets:** Visual management systems make the organization's knowledge more accessible so that knowledge does not get lost, recreated or disregarded when making key decisions. They speed up product development by eliminating rework and improving meeting management.
- ❑ **Management by Proposal and Nemawashi:** These practices help managers and teams use the organization's knowledge to make decisions that are less likely to be revisited or to have unintended side effects that cause problems late in development. They reduce time spent in unproductive meetings and rehashing discussions.
- ❑ **Value Engineering and the Voice of the Customer:** These two practice areas deepen customer knowledge and then convert that knowledge into problems for development teams to solve. They ensure that products maximize customer value, since the most wasteful thing a product development organization can do is to deliver the wrong product to the market.

- ❑ **Convergent Decision-making and SBCE:** This practice area helps teams build knowledge and make better decisions in early product development by exploring multiple alternatives in a convergence process that makes the best use of scarce development resources to make good decisions early so that they don't have to be revisited later when redesign is expensive and causes delay.
- ❑ **Visible Rhythmic Processes:** A lean product development process maximizes (value - waste) by improving the flow of knowledge within the team and across the organization, and by timing new product releases to the market's natural pull. Product development programs get faster by eliminating non-value-added activities and by removing artificial barriers to flow. The process becomes more predictable, with much less late development churn, and many fewer defects make it into production.
- ❑ **The Chief Engineer:** Ideally, the chief engineer is a product development leader who is responsible for integrating the organization's customer, technical and process knowledge into a product design that maximizes customer and business value. Most organizations move closer to this ideal by establishing partnerships between customer, technical and process leads with support from project managers.

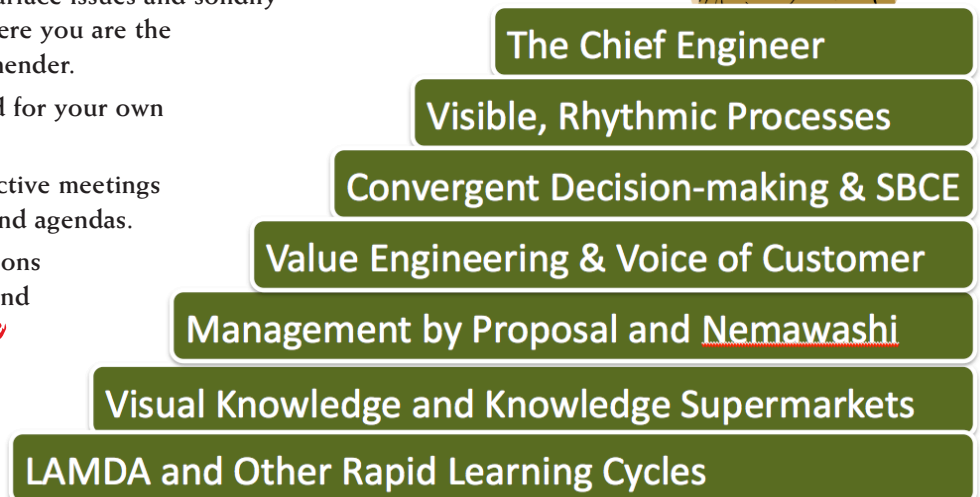
The Practice Areas Staircase

My experience shows that there is a logical sequence to implementing these practices:

- The first three form the foundation of lean product development. They provide immediate results by improving the organization's ability to solve problems and make better decisions while spending less time in unproductive meetings or writing excess documentation. Individuals can experiment with these practices without getting anyone's permission and when they have proven to be effective, they begin to spread across teams.
- The next two steps, Value Engineering and Convergent Decision-making rest upon this foundation. A group needs to have good problem-solving, knowledge capture and decision-making skills before it can make the most of these practice areas.
- Visible Rhythmic Processes may be tackled first if there are severe problems with the product development process. If the main problem is that teams cannot meet their schedules then attention to the foundational skills will help them address the root causes of delays more effectively than a process redesign. The product development process that teams need after they have gained experience with lean product development looks quite a bit different than the process most groups start with, so effort invested here has more value once the team is more mature.
- The Chief Engineer is the most difficult practice for most organizations. It directly challenges the existing power structure and may require a complete redesign of the organization. For that reason, some groups phase this role in over time and other groups get close to the Chief Engineer model with partnerships.

Ways to Experiment with Lean Product Development

- ❑ Use LAMDA to solve a problem within your personal sphere of influence.
- ❑ Write an A3 report as a handout for a presentation, either with or instead of the slide set you would normally prepare.
- ❑ Use nemawashi to help you surface issues and solidify support for a key decision where you are the decision-maker or the recommender.
- ❑ Set up a visual planning board for your own projects and deliverables.
- ❑ Reduce the waste of unproductive meetings with clear desired outcomes and agendas.
- ❑ Capture the answers to questions that people often ask of you and share them with your team. 🍷



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leantechnologydevelopment.com

The Lean Product Development Resource Center has these resources to go more deeply into the seven practice areas of lean product development.

- LAMDA Deep Dive series of Knowledge Briefs
- A3 Report and Visual Planning Wall examples and templates.
- Effective Decision-making
- Go-And-See Customer Visits
- Convergent Decision-making
- Lean Product Development Processes
- The Chief Engineer



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