

The Obeya Management System

Proactive Problem-Solving for Successful
Product Development and Beyond

Obeya Management: 10 Practical Tips to Create a Command Center for Success

Like complex system designs, most development programs struggle at the interfaces. That is, managing dependencies between various required disciplines like design, software, engineering, manufacturing, and others is the greatest challenge in development. This is especially true when companies attempt to work concurrently without understanding these dependencies. In my experience, this may be the single greatest source of rework, churn, delays, cost overruns, and quality spills. Which often leads to a divisive, combative, and frustrating working environment for everyone involved.

Lean Product and Process Development (LPPD) is a set of principles, practices, and tools designed to enable people from diverse disciplines to work together to create successful new value streams. One of those tools is the obeya management system. Obeya, as pretty much everyone knows, is a Japanese word for “big room.” But as my friend Andy Houk, vice president and general manager at Schilling Robotics, says, [it's so much more](#). It is where the program comes together on cadence to improve collaboration, communication, and coordination through the transparent, proactive management of those interfaces. When done correctly, it is a powerful management system that helps people work together more effectively, not just a place to hang stuff on the walls.

There is currently some (unimportant) debate about the genesis of obeya, but my first experience of it as a management system was in 2003 when [my coauthor Jeff Liker and I](#) had several meetings with Takeshi Uchiyamada, the chief engineer who led the development of the original Toyota Prius. This breakthrough product demanded rigorous and effective management of the many interdependencies across the multiple disciplines required to integrate the technologies required to create this industry-disrupting product. Obeya provided exactly what the Prius team needed to enable their success.

10 practical lessons from experience

Since then, I have participated in, helped create, or observed hundreds of obeyas in automotive, aerospace, health care, electronics, energy technology, appliances, and many more industries. I would like to share a few thoughts on what I have learned about successful obeyas.

1. **Obeya is not senior management entertainment.** It is a tool for the development team to manage their project and should be designed accordingly. A fixed and flexible approach to obeya design is usually best. Provide guidelines and best practices to teams, perhaps even some minimum requirements, but leave the team plenty of room to customize the space to meet their specific needs.
2. **It's okay to be “red”. It's not okay to stay red.** Things go wrong in development — lots of things. Obeya requires transparency. People will not be forthcoming if they get wire-brushed whenever they bring up an issue. Consequently, it must be safe (normal) to bring up a problem. However, it can't end there. Obeya is not a place to just dump your problems. If you are reporting a red project status, you should also be able to answer the following: What is your plan to get to green? What is the date to green? What help is required? What are the implications for the rest of the program?

3. **Make the plan and the objective obvious — including all critical glide paths.** Who is the customer? What are we trying to do? How do we propose to do that? What are the critical attributes of this product or service? What's our plan to deliver? Who owns what part of the plan? Remember, obeya is more than a schedule.
4. **Focus on leading, not lagging indicators.** Allow the team time to react and fix issues. It doesn't help to know something will be five weeks late, the day it is due. Not much you can do then. Work back from the critical event — what step is most likely to determine the outcome of that deliverable?
5. **Use effective integration points defined by the quality of event criteria, not just activity.** Too many programs define integration points or milestones solely by an activity. For example, take the first virtual build. In that system, you accomplish the activity — so milestone met. That can be incredibly misleading. How many designs were at the appropriate level of maturity? How many open issues did you have? What was the level of supplier or manufacturing readiness? (i.e., can we even deliver those designs?). Set minimum quality thresholds.
6. **Transparency + Cadence = Accountability – Drama.** In my early days, I was in more than my share of table-pounding, threatening, and even chair-throwing program meetings. It was drama that said much more about the leader than it did the program team. And it created an environment where your goal in reporting status was to get off stage and not be the slowest gazelle.

Compare that to Alan Mulally's "That's okay, we'll be back next week, and I know you will have a better plan" in his famous Business Plan Reviews. That is the power of transparency and cadence. No yelling, no threats, but also no place to hide because we will keep coming together.

Just a quick note about obeya cadence and location. Both can vary depending on the needs of the project/program. Early in the program, the team may only need to come together every two weeks. But during times of intense testing, build, or launch, the team may need to meet every day. Similarly, the obeya may be located in design at the beginning of the program, the prototype shop in the middle, and the manufacturing plant during launch.

7. **Participation is not optional.** Everyone is included. Everyone understands the plan and their responsibilities. Everyone participates. This includes key suppliers or supply chain leaders as required.
8. **Individual workstream leaders talk to their workstream members.** They know best and are the people responsible.
9. **Establish/utilize an effective help chain.** Occasionally, problems will require help beyond the capability of an individual team. There must be a predefined, effective method for raising issues and helping the team in a timely manner. Hint: It's not adding more senior management report-outs.
10. **Review the program at the right level.** Don't waste everyone's time down in the weeds solving an individual problem. Do that afterward. Your focus should be on managing the interfaces. But at the same time, you want to resist "traveling hopefully" with large undefined blocks of time. Like many things, it's a balance that must be maintained by skilled leadership.

Leveraging speed and precision

Multiple disciplines working together concurrently is the key to increasing your speed to market. It does not have to lead to enormous amounts of rework and waste. The key to success is understanding the actual work to be done and the cross-workstream dependencies. Designing your development process to leverage these dependencies is the first step to doing this well.

But your development process can't possibly anticipate every potential failure mode and design in countermeasures. Nor should it. This would create a bureaucratic process that would, at best, take even longer than a serial process and, at worst, be completely impossible to execute. Obeya enables you to manage your dependencies in real-time. You'll see a potential conflict on the horizon and have a ready-made forum to react, course correct, and keep everyone on the same page.

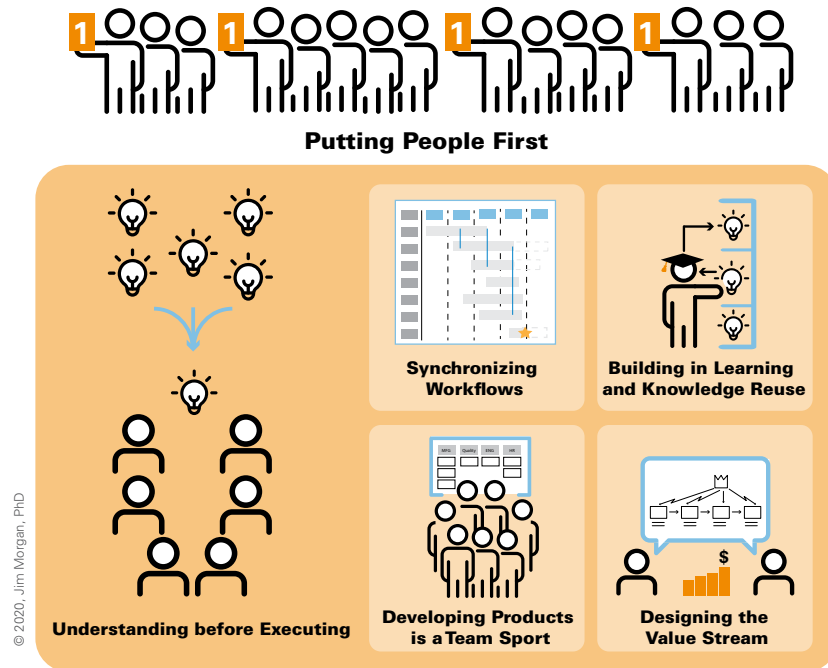
When taken together, effective development process design and the obeya management system will help your development teams execute with a level of speed and precision that will serve as a competitive advantage.

Your challenge this month is straight forward. Utilize the experiences shared by John Drogosz, Steve Shoemaker, and the amazing team at TFMC to improve the way your development teams communicate, collaborate, and coordinate. Good luck.

Regards,



Jim Morgan
Senior Advisor
Lean Enterprise Institute



Lean Product and Process Development (LPPD) Guiding Principles

1. **Putting People First:** Organizing your development system and using lean practices to support people to reach their full potential and perform their best sets up your organization to develop great products and services your customers will love.
2. **Understanding before Executing:** Taking the time to understand your customers and their context while exploring and experimenting to develop knowledge helps you discover better solutions that meet your customers' needs.
3. **Developing Products Is a Team Sport:** Leveraging a deliberate process and supporting practices to engage team members across the enterprise from initial ideas to delivery ensures that you maximize value creation.
4. **Synchronizing Workflows:** Organizing and managing the work concurrently to maximize the utility of incomplete yet stable data enables you to achieve flow across the enterprise and reduce time to market.
5. **Building in Learning and Knowledge reuse:** Creating a development system that encourages rapid learning, reuses existing knowledge, and captures new knowledge to make it easier to use in the future helps you build a long-term competitive advantage.
6. **Designing the Value Stream:** Making trade-offs and decisions throughout the development cycle through a lens of what best supports the success of the future delivery value stream will improve its operational performance.

The LPPD Guiding Principles provide a holistic framework for effective and efficient product and service development, enabling you to achieve your development goals.



Improve Design Team Collaboration: A Beginner's Guide to Setting Up an Obeya Room

By John Drogosz, PhD

Most organizations on their Lean Product and Process (LPPD) journey gravitate early on to applying the practice of obeya. When we see an obeya that is well established, we can see the appeal. The team is engaged, the project activities and status are clear, and people are working together in real time on the issues that matter most to the customer and the organization. However, most teams will say it took them some time to hit their stride with this way of working.

If you and your team are getting started with obeya, the first piece of advice is to not overthink it. Just get your space up and running and be ready to make adjustments over time. That being said, below are a few tips to help you up the learning curve.

1. **Use a space that is available and accessible to most of the team.** Ideally, a dedicated room where the team is co-located works best. However, many organizations have had to adapt to physical constraints in their environment (and distributed teams – more on this in the other *Design Brief* article).
2. **Keep it simple.** Less is more when it comes to visual management. Most teams struggle at first with what to display and tend to cover the space with everything

they are doing and frequently get lost in the details. The visuals should be the ones that help the team achieve its goals. Each team member should ask themselves: “What do I need to know from others? What do they need to know from me?”

3. **It is a team sport.** Everyone needs a space; everyone shows up and everyone speaks to their activities and issues.
4. **Cadence is key.** Obeya rituals should be designed around the specific needs of the team. Some examples include:
 - Daily standups to surface key issues and provide team members with help;
 - Weekly obeya gallery walks for the team to see the big picture;
 - Weekly focused topics -- cost tracking, key decisions, design reviews;
 - Monthly – Pulsing with key stakeholders on project goals and trajectory.
5. **Remove other meetings and status reports once you are in the obeya.**

Build obeya; build the team

If you are pioneering obeya at your organization, then hopefully the above tips will help you. The best way to learn obeya is to “go and see” others. One multinational company I worked with strongly encouraged each new obeya team to first go and see a team experienced in obeya. Visiting was not just looking at the walls to copy the displays but actually attending some meetings to get context and see the team dynamics of how obeya is different from traditional team collaboration.

As you build your obeya, you are also building up your team. As with any sport, a team improves with time and thoughtful practice. Most teams take six to eight weeks before the obeya becomes the new norm, and the team starts feeling the benefits for themselves.

One team I coached had a bumpy start as it struggled to see how obeya was helping it. The members had worked together for years and had some well-established rituals yet their performance from project to project was mixed. In the early obeya stages, they went through the motions and some people said, “Why put this stuff up on the wall, we have it in the system for anyone to see?”

That perspective changed about a month into the project when their customer came to visit them, and they held their meeting in the obeya. During that session, they walked the walls with the customer lead, and he stopped when he reached the full-scale mockup of the product. He quickly saw that the clearance for the third-row seat was going to be restrictive. Several of the team members already knew this, and I saw them roll their eyes. It had been on the issues list for over two weeks, and nothing had been done about it!

Problem-solving: from two weeks to two days using obeya

The customer lead asked if they were sure about the dimensions and the team confirmed the physical model was precisely what was in the current CAD model. The lead went “Hmm” and they continued walking the walls. The skeptics in the team took this as a sign that the obeya had failed, and they would be rid of putting up visuals and go back to their usual project management work. However, a

couple days later, the team received a call from the customer telling them that they had moved the fixed points for the third-row seat to give them more clearance. Two weeks on an issues list, two days in obeya! That was the inflection point for this team, seeing how obeya could concretely help it be successful in their work!

Another sign that your team is growing into obeya is when it moves from using it simply for reactive problem-solving to proactive risk mitigation. All obeyas have some kind of visual schedule. In the early stages, I see teams focused on what got done, what they are working on now, and what issues they have today. This daily/weekly blocking and tackling has its benefits. Teams that have matured into their obeya spend less time in the moment and are using it to look forward to anticipate risks and issues and mitigating them before they become real problems.

A telltale sign that obeya is seeping into the team culture is the level of activity happening in the space outside of the formal rituals. Obeya is meant to be a collaborative space for the team to informally meet to work together on the issues and challenges surfaced during the other meetings. This is valuable real estate, so make sure teams are taking full advantage of it.

Quick help at leader’s obeya “office hours”

One project leader was frustrated that the obeya seemed empty most of the time. She installed a touch screen to facilitate design reviews and video capabilities to collaborate with off-site personnel and suppliers. This helped increase traffic in the space, but it still was not natural for people to gravitate there.

Eventually, she moved into the obeya herself and set up daily “office hours” where she and the technical lead made themselves available for team members to drop by with anything they wanted to discuss. Team members reacted well to this as they knew they could get quick guidance. Eventually, this led to sub-teams coming in to work as they knew the leader would be there if they needed help. The utilization of the space went from approximately 15 percent to 80 percent in four weeks!

It has frequently been said that obeya is an andon system for a project team. Within the team, issues are surfaced

and should be addressed there whenever possible. Organizations that have adopted obeya over time have effectively integrated it into their operating system. Essentially providing a help chain to teams when issues get surfaced that are beyond the team's ability to deal with them so that they have a clear line to get the help they need. In fact, some leaders have created their own senior leader obeya once they have seen its value.

As you progress through your journey with obeya, it will need to evolve based on the project's needs and the individual needs of the team members. Take some periodic pauses to reflect on the obeya (process and visuals). Obeya is a dynamic environment. If something is not working, it is your room, so change it!

Obeya is a proven way to help teams improve collaboration, meet their goals, and accelerate time to market. ■



Lean Product and Process Development at Scale: Implementing Obeya Across Global Teams

By Steve Shoemaker

“**M**ake it visible” are the words I most remember from any discussions I’ve had with Jim Morgan, PhD, a globally recognized expert in product development and coauthor of *Designing the Future* and *The Toyota Product Development System*. “It” is the work. Seeing “it,” the work, in a factory is relatively straightforward. Seeing “it” in the world of product development is hard at best and grows increasingly difficult with project complexity, including locations involved in the project.

Our division jumped into Lean Product and Process Development (LPPD) in the summer of 2018, taking advantage of attending the first “Designing the Future” conference in Traverse City, MI. I had elected to send engineers from the US and French campuses, a total of five locations and 17 engineers. This exposed all product lines equally to this new development approach. In addition to these five primary locations, there were teams in Italy, Brazil, India, Thailand, and China that were intertwined.

When I say jumped, I mean exactly that. The conventional approach to introducing lean is to develop a single experiment that demonstrates success so that it can then be replicated across the organization. In the case of Caterpillar’s Earthmoving division, I did not have the confidence that

this approach would work given our circumstance. We were under tremendous cost pressure, both variable and period costs. Management was impatient for change and so action on all fronts was vital.

The division had a common banner to drive a feeling of unity. However, each location operated under its own manager and set of financials. This independence was a source of pride and a barrier to ideas from elsewhere. Not invented here reigned supreme. Consequently, seeds had to be planted in each location to bloom in the light of local teams. Finding common ground for sharing best practices would come in time.

Make it visible

The obeya is a common starting place for most LPPD journeys. It builds off the value-stream map and quickly helps the team see the flow of work for better value creation. It also helps team members see who their customers are from a value-creation perspective. It is easy to think only of the end user as the customer in the development cycle. To be sure, this is the person exchanging currency for your product. However, from a development cycle, there are many customers throughout the process. In the case of an engineer, he or she could be designing a part that will be

manufactured by an external supplier and then shipped into a factory for final assembly into a machine or automobile. In this case, the engineer would need to collaborate closely with the supplier to create a successful design.

The obeya serves as a coordination center to ensure the value stream flows smoothly. It allows the team to see development in real-time and respond to problems as mole hills before they become mountains.

Different strokes for different folks

My first obeya visit was at the Solar Turbine facility in San Diego, CA. At the time, I was based in North Carolina in our small-machine division and was eager to build on the momentum from another part of the company. I was intrigued by the process and the metrics used to run the obeya. As I snapped pictures so we could replicate it back home, Howard Kinkade, the leader responsible for the obeya, commented, “Take all the photos you’d like, but I don’t think they will help you much.” I was dumbfounded. “It works here. Why shouldn’t we just take what you’ve got and run with it?” I retorted. “The team needs to own the obeya and part of owning the obeya is deciding what gets used to run the project,” Kinkade emphasized.

Conventional wisdom suggests that each team and location should have the same look and feel. They should all work to the same metrics. They should all have the same charts. This is an easy trap to fall into. The intent is not bad but can negate creativity. Most teams have their own ideas and part of the creativity and knowledge development aspect of lean is to learn by doing. Creating an obeya purpose fit for a common team or project allows the team to try ideas and to adopt what works and trash what doesn’t.

Seldom is a project run entirely in one location. The obeya must be flexible to accommodate team members from multiple sites, sometimes in different locations in the same facility or city and sometimes in different states or countries.

In our case, it was common to have teams around the world engaged in the same project. For example, team members in China, India, France, and the US would be working on the same bulldozer program. This is where the visibility

enabled by the value stream map in the obeya is crucial. Inputs and outputs (to and from different locations) are made visible and become part of the development process. Technology has simplified this significantly and it remains imperative that someone be part of the obeya process who is accountable for representing workflow (inputs and outputs) even for remote locations. This can be challenging and, at times, will require special effort to accommodate time zones. It is worth the effort to include all locations, even if it is difficult. Inclusion builds team accountability and is vital to a well-run obeya.

Project obeyas are for teams (not for management)

An [important equation](#) introduced in the book *Designing the Future* is:

$$MS = OS \times LB$$

It means that a Management System (MS) is a product of the Operating System (OS) and Leadership Behaviors (LB). When leadership behaviors are good, they have a compounding impact. Bad leadership behaviors have a deteriorating impact and become challenging to overcome.

I suggested earlier that we introduce LPPD at multiple locations concurrently. This allowed multiple teams to experience this new way of development together and yet in their own locations. We had many obeyas running, and naturally, they were not the same. I asked the chief engineers to share what was working and not working at their locations with their peers. This allowed cross-site learning to be pulled rather than pushed (by me) and adoption of what each team considered a best practice. Consequently, it enabled them to solve problems while enhancing organizational learning.

Jim Lancaster shared a similar lesson in his book [The Work of Management](#). He highlighted that in his factory, he did not require common charts that made it easier for him to move from one zone to the next but rather wanted to ensure ownership from the team to continuously improve their work: “We decided on a few standards for presenting information on the board. Improvement activities to raise the level of performance always went on the right side of the

board, while daily issues about maintaining performance went on the left. But mostly, we wanted those boards to be useful to the people on the front line.”¹

I considered myself blessed to experience the innovation that each team demonstrated as they launched their obeyas at sites around the globe. My leadership staff and I could not have prescribed the solution that best served

each team. Naturally, common themes developed around quality, velocity (AKA timeline), resources, and priorities. Over time, much of the content migrated to be similar and often the same. This was by the teams’ choice and not by a management mandate. ■

¹ Jim Lancaster, *The Work of Management: A Daily Path to Sustainable Improvement* (Boston: Lean Enterprise Institute Inc., 2017), 29.

Contributor Highlight

Steve Shoemaker

Steve Shoemaker retired as vice president of engineering in Caterpillar's Earthmoving Division after 33 years. Over his career, he worked as a designer in the company's engine segment before moving into technical leadership in engines and later electronics. He spent the last half of his career developing machines in the Building Construction Products Division, where he led engineering and oversaw the building of the Clayton Machine Development Center.

In 2012, he moved to the Excavation Division in Akashi, Japan, where, as chief engineer, he led the Hydraulic Excavator Design Center. In 2017, Shoemaker assumed his final role as vice president of Engineering. He led the global design organization for the company's core machine portfolio, which included bulldozers, wheel loaders, motor graders, and paving equipment. In this final role, the pursuit of zero-defect quality levels benefited from his 15 years of experience with lean product and process development. Shoemaker now serves as a senior advisor with the Lean Enterprise Institute.

John Drogosz

John has over 25 years of lean manufacturing, product development, and above-shop-floor experience. As a coach, he has led lean transformations in numerous companies and industries, including Northrop Grumman, Johnson Controls, Areva, Peugeot-Citroen, Tenneco, Eaton, Hertz, Schlumberger, Harley-Davidson, Embraer, and Caterpillar.

As LEI's chief engineer, process and product development, John leads the development of learning experiences that enhance design professionals' lean development knowledge and capabilities while advancing the discipline's body of knowledge. He codeveloped and is an instructor of LEI's *Designing the Future Remotely: A Lean Product & Process Development Immersive Learning Experience*.

In addition, John teaches classes in lean product and process development and lean manufacturing for the College of Engineering at the University of Michigan – Ann Arbor. He also contributed to the *Toyota Product Development System* (2006) by Morgan and Liker and Liker's book *The Toyota Way to Continuous Improvement* (2011).

James Morgan, PhD

Jim is a senior advisor at Lean Enterprise Institute and a board member at Adrian Steel. He has a unique blend of industry leadership experience and rigorous scholarship, which he draws upon to improve organizational performance at a select group of companies.

Jim's most recent industry experience was as chief operating officer at Rivian, an electric vehicle manufacturer on a mission to keep the world adventurous.

Before joining Rivian, Jim spent a little over ten years at Ford Motor Company. He began by leading the development of the Global Product Development System. He then served the last nine years as director of Global Body and SBU Engineering and Tooling operations, where he and his team contributed to the company's historic, product-led revitalization under then-CEO Alan Mulally.

Before Ford, Jim served as vice president of operations at Troy Design and Manufacturing (TDM) during a period of dramatic growth. TDM is a tier-one global automotive supplier of engineering services, prototype tools, and low to medium-volume production parts and subassemblies.



About the Lean Enterprise Institute

The Lean Enterprise Institute, Inc., was founded in 1997 by management expert James P. Womack, PhD, as a nonprofit research, education, publishing, and conferencing company. As part of its mission to advance lean thinking around the world, LEI supports the Lean Global Network.

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lean.org

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