8 Principles to Achieve Operational Excellence

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Operational Excellence is not about eliminating waste. It’s about setting up an operation that will enable perpetual business growth. And by following a step-by-step methodology and implementing a design for business operations, a company can achieve Operational Excellence and thrive in a short amount of time.

The Staircase of Continuous Improvement

Over the past few decades, just about every company has embarked on a journey of continuous improvement. The improvements are done through many techniques, such as value stream mapping, kaizen (rapid improvement) events, and 5s, where team members target an area of the operation in which to make an improvement. They then present the proposed improvement to management, management approves, and the team implements the proposal.

Once the improvement is implemented, it needs to be embedded into the standard work in order to sustain it. Then management monitors and measures the results to ensure that the results do not drift backward. Each day, this process continues: find areas that need improvement, improve them, and then embed the improvements into standard work.

The organization follows a process of improve, sustain, measure, and monitor, then repeats that cycle over and over again to create a culture of continuous improvement. The end result of this process, or the best possible outcome using this process, is a “staircase of continuous improvement.”

Figure 1: Staircase of Continuous Improvement.
The myth of improvement is that it is a continuous journey of finding and eliminating waste, but in reality, it is not. This myth can be debunked by shifting an organization to thinking that improving operations is not about continuous improvement but about designing the performance of the operation and then ensuring that the operation is performing in accordance with the design specifications.

Their first step is to set an exact destination for the operation, then put a design in place to get there.

**A Destination of Operational Excellence**

Where will a lean or continuous improvement journey take an operation? What is the destination? What does it look like? The companies that answer this question correctly shorten their journey significantly because they know where they are going.

![Figure 2: Continuous Improvement Journey.](image-url)
The goal is to have every employee understand exactly where the company is going and how to get there. And that destination is to create Operational Excellence, which is when “Each and every employee can see the flow of value to the customer, and fix that flow before it breaks down.”

With Operational Excellence, the flow will tell each employee what to work on next, where they get their work from, how long it will take for them to do their work, and where and when they will send it. And they will know this without management telling them.

To reach the destination, organizations can create a road map by using guidelines to design autonomous value stream flow throughout all areas of the business.

Figure 3: Operational Excellence Journey.
8 Principles to Achieve Operational Excellence

Principles are used to create a process to achieve Operational Excellence in many areas of the company and throughout entire divisions. There are eight principles, which are:

1. Design lean value streams.
2. Make lean value streams flow.
3. Make flow visual.
4. Create standard work for flow.
5. Make abnormal flow visual.
6. Create standard work for abnormal flow.
7. Have employees in the flow improve the flow.
8. Perform offense activities.

To understand how to apply each of the principles in a practical manner, a discussion of each one follows:

1. **Design lean value streams.**

   The objective of this first principle is to design on paper an end-to-end lean value stream flow, starting from the time an order or request for a service is received from the customer until the time the product or service is delivered.

   The process begins with determining product families, then designing an end-to-end value stream for each family based on eight basic guidelines: takt time, finished goods strategy, continuous flow, FIFO, pull, single point scheduling, interval and pitch.

   The intent of these guidelines is to design a future state that has a connected flow of information from the customer to each process. All processes know what to do next because the information will flow with the product through the connections created from that one point.
Value Stream Design

For application of the process in certain settings, such as the office or complex areas in manufacturing, there are unique guidelines, including:

- 8 Guidelines for Manufacturing Value Streams
- 6 Guidelines for Creating Flow through Shared Resources
- 9 Guidelines for Office Value Streams
- 10 Guidelines for Mixed Model Pacemaker
- 8 Guidelines for the Supply Chain

Figure 4: An example of a future state map showing the areas to apply each unique set of guidelines to create flow.

Once a true lean value stream has been designed, the next step is to take the design from paper to performance. The first step is to provide formal classroom education so that everyone understands the objectives and is very clear about the intended outcome of the design.

Each employee must know exactly where the operation is going with the new design and know that it does have the expected result of having the employees be able to see flow and fix it before it breaks down. After classroom training, the actual application on the shop floor should start, during which time employees use standard lean tools to achieve the designed future state. Once employees are educated on the design objectives, the process of the design and implementation, the value stream flow can begin in the implemented areas.


In order to create Operational Excellence, flow must be made visual so that each employee can see how the processes are connected to one another and to the customer. This means that just about any visual indicator in the operation should have something to do with the flow or the progression of the flow of product to the customer.

In Operational Excellence, there are two categories of visuals for flow: static and dynamic. Visuals that support the static design are indicators of how flow should work normally based on the design from the future state map. Dynamic indicators let employees know the current status of flow as they are observing it, or how they are performing to the design as they observe it happening.


Once good visual lean flow is created that lets employees see how the flow should normally work, the next step is to apply the concept of standard work to that flow. While the typical application is to apply standard work at the processes, this principle calls for establishing standard work between the processes.

Applying standard work both at the processes and between them will stabilize the complete end-to-end flow to reduce variation so that it is repeatable. The result is that every employee will know what to do and when to do it from the standard work for flow, not from management or an expedite list.

In Operational Excellence, the intent is for all employees to see when or before abnormal flow happens so that they can know not only how to correct abnormal flow but prevent it from occurring in the future without management. A good way to reveal abnormal flow is through the flow of material to the customer. Strong visual physical indicators should tell employees whether the amount of material that is present at a process or in a connection is normal or abnormal, for example, through the use of green, yellow and red zones, as well as at what time the material should move from one process to the next. Pulse points throughout an operation should also be set up where anyone can observe what is happening and know whether flow is on time relative to customer demand.


The reality is that flow will eventually break down, but what is important is what an operation does when that occurs. The key in the design is to understand a course of action an operator would take or diagnostic that could be used before calling a supervisor. Also key is having standard work established to get the flow back on track. To accomplish this, the operation should record the types of abnormal flow that have occurred and management’s responses to them to create a “top 10” list of what to do when abnormal flow occurs. These responses should be assigned to the types of abnormal flow that occur, and a visual response should be created. Then all of the responses can be done without asking a supervisor or having a meeting run by management; instead, the people in the flow take these actions automatically.


Once a design has been implemented by which the employees who work in the flow continuously build a product from raw material to the customer, that is not the end of the journey to Operational Excellence. The operation should both maintain and improve its performance to support further growth. That means teaching employees to use proven continuous improvement tools like 5S, setup reduction and kaizen differently to support and improve the design of flow in order to prevent abnormal flow from occurring.

8. Perform Offense Activities.

Operational Excellence is about business growth. By designing a self-healing, autonomous flow that employees can fix on their own, management will be able to step away from running the operation and spend more time growing it by performing offense activities. By changing their role, managers can now be involved in sales, engineering and innovation—up front—to become part of the process that will evolve an organization from being a parts supplier to a solution provider.
A Plan for Growth

Once the destination of Operational Excellence is reached, positive effects will result. If the employees who build the product can also adjust and fix the flow before it breaks down, without management, then managers will be able to grow the business instead of intervening to get an existing order or product to a customer each day.

But Operational Excellence will not just enable managers to work on offense, or activities that grow the business. Each employee at every level will be able to as well. A supervisor can work with engineering on product design changes that the customer requests. Purchasing can spend time sourcing materials for new product development. Administrative assistants can research and provide contacts for salespeople and executives. Even those who work in a support group such as finance and prepare tax statements each month should streamline their activities in order to allow others more time to work on offense.

By following the eight guidelines for Operational Excellence, a company can implement a design for business operations that results in increased market share, competitive advantage, business growth, and shareholder value—the true goal of Operational Excellence.

As the Founder of the Institute for Operational Excellence, the leading educational center on Operational Excellence, and Duggan Associates, an international training and advisory firm, Kevin has assisted many major corporations worldwide, including FMC Technologies, Chromalloy, Aetna, SpaceX, Caterpillar, Pratt & Whitney, Singapore Airlines, Sikorsky, IDEX Corporation and Parker Hannifin. A recognized expert on Operational Excellence, Kevin is a frequent keynote speaker, master of ceremonies, and panelist at international conferences, and has appeared on CNN and the Fox Business Network.