THE BASICS OF *LEAN*

Applying Lean to the Services of Government

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With definitions like this, how is it that *lean* is largely credited with turning a nondescript Japanese manufacturing organization, a division of a textile company, into the world's foremost manufacturing company and largest car maker in the world - The Toyota Motor Corporation? Or how is it that an American, working for a Korean company is the one who actually coined the term – *Lean*? Both of these questions suggest the power and international acceptance of the organizational value of *lean*.

A governmental agency or organization practicing *lean* is able to do more with less while delivering to its customers services of the highest value with the lowest total cost. This trend was first discovered by the western world in 1988, when two researchers examined the international automotive industry. They discovered that Toyota produced better quality cars with less work, less capital, in less time, with less inventory, with fewer employee injuries, fewer suppliers, and did so with fewer automotive defects.

But while *lean* concepts were born out of the manufacturing sector it is now moving into general services, health care, and government sectors of the economy. For example, hospitals and healthcare providers are discovering that applying *lean* principles to emergency departments, operating rooms, and clinics are increasing patient safety, speeding diagnosis, and lowering cost. In the State of Washington, Governor Christine Gregoire has stated: "*Lean is all about eliminating anything that doesn't serve the customer efficiently and effectively, and we are embracing it across state government."*

So what are the basics of *lean* and what happens when an organization embraces *lean*? Essentially, *lean* recognizes three types of activities or processes: 1) those that add value, 2) those that do not add value but are required, and 3) those that are neither required nor add value. Therefore, the *lean* enterprise will seek to eliminate all work that is not required to meet the requirements of the customer or citizen. In addition, it will seek to automate or minimize the work that is required but does not add value.
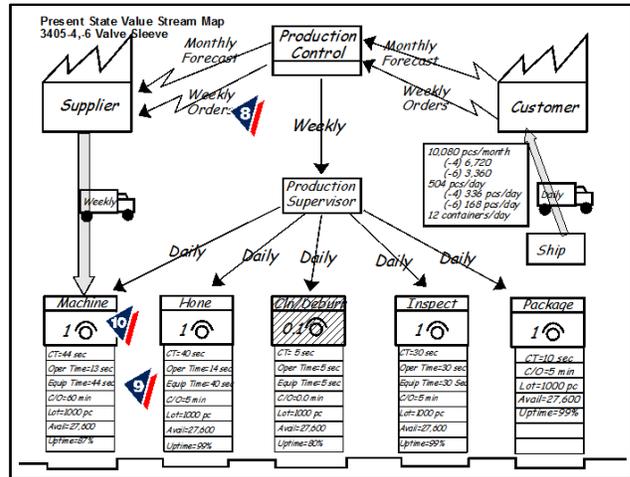
Lean Values

Several core values are imbedded within the principles that drive *lean* thinking. The first value that *lean* recognizes is obviously the customer. Government derives its mission and vision from the perspective of its citizens or customers. Without the customer, there is no reason to be in existence. Therefore, the first value in the *lean* enterprise is the customer. All other values, are subordinated to the value of the customer.

- **The value of people.** One of the distinguishing features of the *lean* enterprise is the value of people. Work gets done through people and it is by trusting people that *lean* is implemented. This extends to the work team as well. The *lean* enterprise often utilizes performance improvement teams to improve the delivery of value to the customer.
- **The value of learning**. The *lean* enterprise values learning. One of the basic tenants of *lean* is to train everyone in the tools and principles of *lean*. But the *lean* enterprise values go beyond traditional class room training and

learning. It aligns the skill sets of the organization with the requirements of the customer to maximize value.

- **The value of innovation and adaptability**. The *lean* enterprise is often seen as highly innovative. This is so because the enterprise is always looking for ways to eliminate work that is not required to meet the requirements of the customer.

- **The value of transparency.** The *lean* enterprise places a high degree of trust in its people as well as the free flow of information between management and staff. This mandates a high degree of transparency within the *lean* enterprise. Information must flow freely within the organization – both vertically as well as horizontally.

Lean Principles

Principle 1: *Lean* is customer centric and focused on delivering maximum value. Value is determined by the customer or citizen. Any activity, event, process, or procedure that does not contribute to the delivery of value to the customer is considered waste. But it is also about learning the customers' requirements and organizing the agency and its suppliers to deliver value.

Principle 2: *Lean* understands how the Value Stream creates value for the customer. *Lean* recognizes that value is not delivered by a sole government agency social service organization acting in isolation. *Lean* acknowledges the reality that there is an entire system of suppliers, contractors, subcontractors, staff, managers, supervisors, and stakeholders that are part of a larger value stream. A hospital cannot deliver emergency medical services in the most efficient way unless its contracted doctors, pharmaceutical venders, and even the aid car delivering

patients are considered partners in the value stream. Similarly, a government agency delivering social services is just one part of a value stream that is made up IT suppliers, contractors, venders.

Present State Value Stream Map
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Principle 3: *Lean* focuses on flow. Most of our experience with service providers is stop and go. The actual time we spend with service providers is relatively small compared to the total time in the experience. For example, we make an appointment to see a doctor (and wait), we check in at the clinic and wait 10 minutes, we are escorted into the exam room and wait another 10 minutes, our doctor then sees us for 10 minutes, and then we wait another 10 minutes to see the nurse who will take our blood which takes all of 3 minutes. Total experience = 43 minutes. Total value added time = 13 minutes. Or the total time where a medical service was being provided was only 13 out of 43 minutes.

Working in an office environment, much of the work happens in a traditional batch and queue. We wait until there are a stack of invoices to pay and then process them as a batch. We wait until there is a stack of orders to enter and then process them as a batch. The idea of flow is that the entire organization is set up to work at a constant speed so that services are delivered

at a constant speed which matches the requirements of the customer. This is the opposite of batch and queue.

Principle 4: *Lean* delivers services so that they are pulled through the system rather than pushed through the system. Imagine a company manufacturing mouse traps. Wood is delivered and cut into blocks; metal is delivered and cut into the springs and levers that will dispatch the mouse. But if wood is pushed into the production system faster than the saw can cut it into blocks and those blocks are delivered to the assembler faster than the assembler can affix the parts to the blocks, work is going to pile up. It will pile up in front of the saw and it will pile up in front of the assembler. Similarly, if contractsgrants, and orders are pushed through the system then they will either pile up in front of the slower work station while other work stations will be left with nothing to do, (so work is created to make everyone look busy).

Principle 5: *Lean* aims for perfection. Work processes, just like people, will never attain perfection. But it is everyone's task to aim for it. This means that occasionally there will be the great leap forward that simplifies and improves the work place. Technology has generated significant leaps in office productivity. However, most work place improvements are incremental. It's realizing that standard contracts will work for 90% of what is provided so stop asking the attorney to write a new one for each customer. Its understanding that organizing the office so that staff working on similar processes can

easily interact with each other rather than walking down the hall to discover that the person we need to see is out for coffee. Aiming for perfection means that small incremental steps in improvement are just as valid as the big splashy innovative changes. As children we laughed at the fable of the tortoise and the hare. What the tortoise teaches us is that small incremental improvements often result in greater impact in the work place than the large investments of capital that promise to revolutionize the work place, but so often just causes havoc.

"Muda" – the Killer of Value

"Muda" is the Japanese term that means – waste. From the landmark book: *Lean* Thinking, muda is described as: *any human activity which absorbs resources but creates no value…* The principles of lean therefore, are designed to eliminate work from the system that does not add value to the customer.

The Toyota Motor Corporation and the architects of the Toyota Production System, from which *Lean* originates, identified seven sources of muda. These sources of muda can also be understood to be any excess activity or inactivity that fails to add value to the customer.

Transport – any movement of a product or service that fails to add value to the customer.

Waiting – anytime the product or service waits as it moves through the value stream is a detraction of value from the customer.

Overproduction – producing more than the customer asks for. The effects of this are easy to see in the manufacturing floor – overproduction is stored in a warehouse. However, it is just as prevalent in services and government. Capacity is often set for the maximum utilization requirements that may happen infrequently. One county community

development department thought it needed to hire additional staff to handle the growing
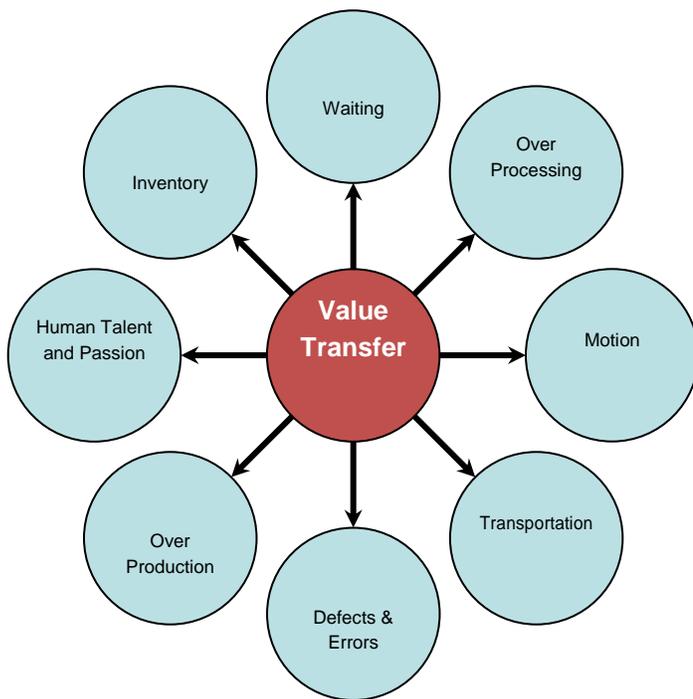
Waste consumes value that could be transferred to the customer

requests for development related permits. However, when it was studied closely the county discovered there was less than one hour a day when lines at the counter were excessive. Instead of hiring new staff it installed a web cam so customers could monitor via the internet the wait times at the permit center. The result was a more consistent work load that eliminated the need for additional staff.

Defect – a defective part for a manufacturer is a waste. In the same way, rework, errors, and incomplete documentation create just as much waste in the office environment.

Inventory – like overproduction, inventory is easy to see on the shop floor. But inventory piles up in services just as well. A good example are projects for customers that are left

dangling for months and years and never quite get to the completion stage. Documentation that is incomplete and inaccurate has a ripple effect throughout the value chain that can destroy efficiency.

Motion – any movement that does not add value is considered waste. Consider the way offices are laid out. Most offices are laid out in neat rows for individual cubicles and workstations. However they are seldom organized in a way that reflects the flow of work. The result is consistent motion that seldom adds value to the customer.

Extra processing or over processing – any activity that requires more work than is absolutely necessary is over processing. This can be requiring three signatures on an invoice when two is just as effective. Another example is the endless reports that are so often part of the office landscape.

One additional waste – *human intelligence*. In recent years one additional type of waste has been making its way into the consciousness of *lean* thinkers. Many are realizing that this form of waste might be the worst and most costly in the workplace. It is the underutilization of human intelligence, experience, and passion. Results are showing that *lean* thinking is empowering to front line staff. So often, front line staff are discouraged for suggesting improvements in operations because senior leadership feel they are the only ones who can make improvements in operations. *Lean* counters this thinking by placing front line staff at the fore front of value creation for customers.

Embarking on a *Lean* Journey

Organizations embarking on a *lean* journey are taking an extraordinary step towards substantial transformation. *Lean* is the place where terms like "*a learning organization*", "*employee empowerment*", and "*engagement*" becomes

real. Within a *lean* organization these terms are more than abstract theories, they become the focus of daily work. One of the most important results of a *lean* journey is an engaged workforce. Work becomes a rewarding experience for everyone.

A lean journey is going to start with four broad initiatives:

Define and measure the current state. This involves gathering documentation on current performance and creating a visual diagram of the current value stream or the linear activities, processes, and information that control the flow of services through the system to the final customer.

Define and measure the future state. This is the visioning process that defines the way the organization could or should function in delivering value to its customers. It is also documenting the gap between the current and future state so there is a clear roadmap for the future.

Define and identify improvement projects. Projects are the life blood of action planning. Setting up a detailed work plan that puts into motion the changes required to remove waste that will increase value to customers is where change occurs. It is putting action to plans that are established in step two above.

Make management visual. *Lean* initiatives often result in all staff taking ownership for quality. In a traditional office quality often comes down to the last person in the value stream identifying mistakes or rushing to get a job out the door at the last minute. One of the basic tenants of *lean* is finding measures of performance that can be monitored in real or near real time. These measures are then posted in the work place so the entire team can see, and respond to, performance. These simple visual tools reinforce what customers have already established as what creates the most value for them.

Applying the principles of *lean* into an office environment within government, healthcare, or service industries is an exciting and rewarding undertaking. The tools within a *Lean* tool box have proven over time to create value for customers while increasing the sense of reward for staff. All too often, the introduction of a new management system or initiative to lower cost is code for "let's figure out how to eliminate jobs". One of the most basic tenants of *Lean* is the assurance that savings will not be used to eliminate workers. When done correctly, the workforce is actually freed from low value and often meaningless work, to work that aligns directly with the mission of the organization. This benefits everyone, and creates a happier workplace along the way.

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