Identifying waste in a process

In my previous article I said that to provide any product or service, you have to use resources like money, materials, labor, time, and information. The goal is to provide the greatest amount of value to customers while utilizing the least amount of your resources. I also said that each step in a process can be classified into one of three categories:

- Value-added
- Non-value added, but necessary
- Non-value added (waste)

In this post I would like to dive a little deeper into that third bullet and talk about what exactly comprises waste in a process.

Non-value added steps (waste)

A wasteful step is one which is not needed, in which resources are expended, and no value is added to the service or product. They should be completely eliminated from the process.

I previously stated that Lean identifies seven or eight types of waste, depending on whom you talk to; and that I am one of those who identify eight types of waste. These are:

1. Unnecessary processing or steps in a process
2. Delays / waiting
3. Idle inventory / resources
4. Producing more than needed to meet demand
5. Transporting materials or information over long distances
6. Unnecessary or excessive motion / movement of staff
7. Rework / fixing defects
8. Underutilization of staff, their knowledge and / or skills

The underutilization of staff does not appear on every list. I personally think that wasted potential is very valid and directly impacts the quality of the service or product the customer receives.

Unnecessary processing or steps in a process

While we would like to think that every step in a process is there for a good reason, this is not always the case. Processes can get weighed down with activities that do not add value and which are not truly needed. When speaking about services, unnecessary processing can take the form of multiple layers of reviews, unneeded quality checks,
redundant steps, or requiring multiple approvals before actions can be taken for a customer. If these types of tasks do not provide direct value to customers or exist to enable the provision of a service or product, then they are not necessary and are waste.

**Delays / waiting**
The adage that time is money applies here. Anytime a process has to stop and wait for something to happen (e.g., supplies being delivered, the restoration of computer access, waiting for other staff to provide input, etc.), value is not being added and the longer the customer must wait to realize value from the service or product. Delays do not usually mean that work stops completely because people and resources can be diverted to other tasks during the waiting period, but the work on that particular service is at a standstill.

**Idle inventory / resources**
Unlike staff, idle inventory or resources cannot be easily re-tasked. There is also a cost associated with storing, managing and maintaining inventory, and it requires staff, time, funding and physical space that could be put to better use for other value-added activities.

**Producing more than needed to meet demand**
Similar to having inventory sitting idle, producing more of a product than is needed to meet demand is wasteful. It uses resources that you may or may not actually need to expend to create an idle inventory that now needs to be stored, managed and maintained. There may be times when you need to build up a small surplus in order to be able to quickly serve your customers; however, it is best to find ways to do the work and provide the service or product just when the customer needs it.

**Transporting materials or information over long distances**
Moving things around an office takes time and does not add value. The longer the distance that things are moved, the more effort and resources are expended for no additional value. Moving equipment and supplies from one workstation to another in order to provide a service, or carrying hardcopies of paperwork from one person’s desk to another are examples of this type of waste.

With greater and greater reliance on electronic documents, the movement of information is becoming faster, easier and less expensive. However, once it arrives at its destination it needs to be acted on quickly to keep the flow of value-addition happening in the process. If this does not happen it leads to delays.

**Unnecessary or excessive motion / movement of staff**
Just like the movement of materials and information, when people are moving around the office (not actively engaged in a task) they are not adding value. Activities such as moving between workstations or computers, picking up materials from a printer, and
getting supplies from a supply closet are examples of waste. These activities take time and staff resources away from adding value to the work at hand. Please do not misunderstand me. I am not saying that people should never be allowed to leave their desk or that at times these movements are not needed. I am saying that work should be set up so that frequent, unnecessary movement is avoided whenever possible.

I have to admit that a minute of travel does not seem like much, and it isn't; but think of what happens when you multiply that time by a number of people several times a day. For example, let's assume that your office has five employees who are paid $35,000 per year. Now let's assume they each make a one minute trip away from his or her workstation four times per day to pick up printouts for customers. That would cost the office roughly $1,350 a year for the staff to complete a non-value added task. What happens if we add more trips each day, or multiply by all of the people in your entire department? A minute here and there adds up pretty fast. In this case, adding a printer at the front desk would be less expensive in the long term and eliminate the unneeded movement.

**Rework / fixing defects**
Having to do a task again because it was not done right the first time, or having to fix mistakes are very obvious areas of waste. Providing a service or product requires a certain amount of time, money and effort. If it is not done correctly then more time, money and effort have to be expended to give the customer what they wanted in the first place. The resource cost is now higher than it should have been, and the customer is most likely not terribly happy either.

**Producing more than needed to meet demand**
Putting resources into creating something that you do not need at the time is wasteful since it takes effort and resources to do the work and then results in idle inventory. It is best to find ways to do the work and provide the service or product as close as possible to the point in time that the customer needs it.

**Underutilization of staff, their knowledge and / or skills**
This last waste is not one that is found on every list, but it does bear noting. Any time that a person's full potential is not realized, there is waste. Having staff sit idle and / or not using their skills and knowledge to the benefit of the organization is a wasteful practice because they are not actively providing value to the customer or contributing to the betterment of the organization.

A single large service failure can be costly; but it's the waste that happens all the time, and gets overlooked and never fixed that ends up costing more. Becoming aware of the types of operational waste that can be found in a process is the first step in identifying and ultimately eliminating it. You may not be able to get rid of waste completely, but the
more you can eliminate the better. As always, I welcome your questions or comments. You can email me at clayton.taylor@asu.edu.

About the author:

Clayton Taylor, MBA, is the Director, Organizational Performance and a Certified Six Sigma Master Black Belt working in the Office of the Executive Vice President, Treasurer and Chief Financial Officer at Arizona State University. He leads the Organizational Performance Office. He and his team currently consult with diverse Business and Finance and university-wide operational areas to lower costs, improve operational efficiency and provide the highest quality customer experience to internal and external customers. Mr. Taylor can be reached at clayton.taylor@asu.edu