The Surprises in the Waste Barrel

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Abstract. Customers everywhere demand better products or services quicker with improved cost control and responsiveness. Concurrently, they demand continuity of supply and more involvement with suppliers and others to provide unexpected results. The key concept making this all possible is to significantly reduce waste and its costs. This presentation shows how managing the seven types of waste holds great potential to improve supply chain operations, reduce cycle time, control costs and enhance quality and process productivity. We will identify seven types of waste and establish ways to quickly eliminate or significantly reduce waste and costs. We will look at several processes that can quickly help an organization control or eliminate waste and its subsequent costs. These synergistic processes must involve our suppliers and their support for the program. We will learn to evaluate existing procedures, extend the range of knowledge concerning lean operations along with supplier relations and cost control and to consider new ideas concerning change. Eliminating waste and cost is the goal and we get there by being lean.

Objectives. Participants in this workshop will understand these concepts.

That their operations include and hide waste everywhere.

That lean operations reduce the forms of waste from any operation.

That eliminating waste maximizes value for our customers, our workforce and our owners.

Types of Waste. There are many lists of waste, but I like and use this list developed by Professor Rajan Suri. It is a terrible thing to say or think, but much of what we do is just waste. Over the years we have become inculcated by organizational culture to accept waste as a matter of process. Indeed, some of us work overtime to create it. Why? Why do we accept that?

Types Of Waste
Waste Of More Than Is Needed
Waste Of Things In Inventory
Waste Of Waiting For Things
Waste Of Non-Value Adding Motion
Waste Of Transportation Of All Kinds
Waste Of Making Defects Anywhere
Waste Of Non-Value Processing

Traditionally, when we think of waste our minds go to scrap, obsolete or excess inventory, quality problems and trouble with processes. But I challenge you to think wider. Look outside the traditional box and consider managerial processes, policy and procedures, meetings, information flow, communication, and movement in terms of time and distance. Dr. Deming used to say, “Managers were 85 percent of the problem.” I think that he was correct. Even the names for the types of waste suggest that nearly all waste is derived from organizational decisions, policy or procedures. We have the tools to correct or improve these processes.

Waste of More Than Is Needed. This insidious form of waste is excess and it means that we have consciously made or acquired more of a resource than was needed. Now we have dollars tied up in the excess that will most likely make its way into the inventory accounts where it will generate additional costs.

Waste of Things in Inventory. All inventories represent value waiting to be used or turned into revenues. Since it has value and is at risk waiting, it represents huge risk for the organization. Basically all inventories are held as a buffer between organizational elements to balance operations. The managerial question is what is the value of trade-offs at each of these buffer points. Just-In-Time (JIT) and lean thinking processes have demonstrated that better processes could eliminate huge amounts of inventory. One successful smaller company that I know moved a very large supplier to a consignment contract that eliminated that inventory from its books while ensuring the level of service and significantly reducing the sales-ordering process between the two firms. It was a simple process change with big savings.

Waste of Waiting for Things. At its epitome waiting for things means shutting down a machine, a line or a facility because continuity of supply has failed. Emergency and expensive procedures are often required to get the process back on line. But waiting for things has an equally insidious impact when people have to wait for information, action, output, etc. Trust goes down as anger goes up and cooperation suffers. The results of waiting for things may have far reaching effects. Some time ago, a plant on the East Coast had to shut down a line due to a delay in ground shipment from the West Coast. They airlifted in the materials needed to get the plant running. Much later they discovered that they were still airlifting those shipments even though there was a two-week supply on the shelf. The emergency 'fix' had become a very expensive permanent solution.

Waste of Non-Value Adding Motion. Non-value adding motion means that things, ideas, communication etc. are being moved but no value is created. The worst example of this is in operational layouts where an item or things are moved about often for no practical purpose and even worse the movement often goes back and forth over the same space. Worksite layout and organization should eliminate most of this type movement. Organizational processes may have been great in the past, but time makes many changes. Organizational processes need to be studied, mapped and changed to eliminate non-value adding motion. Many organizations have used procurement cards, long-term contracts and e-processes to reduce the non-value motion of antiquated expensive transactions processes or procedures. Conversely, many organizations have refused to use in-house supplier activities due to exaggerated fear of security, etc and still have inventories etc. creating non-value adding activities. A purchasing manager for a large service organization that I know has moved nearly all the suppliers to long-term contracts and automatic payment of invoices to eliminate nearly all processing costs.

Researchers in learning management systems and knowledge management have discovered that information/technology workers using the web and information search processes waste huge amounts of expensive time due to poor data bases, insufficient reference systems and search techniques or support systems. Time multiplied by the failure rate times the cost per hour provides the estimated cost per employee. Follow up on your people to determine what lost information searches cost your firm.

For years I have watched business people become busier and seemingly work much harder. Our calendars are so packed with meetings that literally there is no time for productive work. How many meetings have you attended recently? Were they good meetings? Was there an agenda? Did we come away with an action plan and responsibility for actions? Did you really need to be there? Or was all that time and interaction just non-value adding motion? Dr. Deming cautioned us to "Work smarter, not harder."

Waste of Transportation of All Kinds. Transportation for many products or services is a major cost throughout the supply chain. Even so, much of it is relatively unplanned and not mapped. Cooperation and responsibility are not assigned and often times the decision as to type and timing of the transportation method is made by the supplier. Transportation, internally and externally should be studied and have a process map that carefully outlines every step and action. Transportation costs should be managed and certainly should be part of the negotiation process.

Waste of Making Defects Anywhere. If we make a defect, we have wasted the materials as well as processing time or effort to create the product or service. Now it must be fixed by rework or junked. Either process just adds to total cost. I believe that most defects are the result of materials, processing problems or problems caused by the people involved. Because the materials used as well as processing time or effort to create the product or service are all the results of human effort and interaction, the training and professional development programs for the people involved hold significant importance when we talk of zero defects. Many companies have successfully used total quality management processes to include six-sigma in an effort to bring defects to zero. Some product lines actually achieve that goal. Ongoing training and development is key to eliminating waste caused by defects.

Waste of Non-Value Processing. Non-value processing is the result if doing something before it is needed. Often times this occurs when processing is completed out of schedule or because managers want to keep people and facilities busy. Customer research, standardization, efforts to reduce complexity and common sense are managerial weapons that reduce the cost of non-value adding processing.

Impact of Waste. Waste is all needless cost that can be converted to usable cash resources**,** if we find the way. Poor quality is a form of waste that causes huge costs in terms of rework, delays or customer dissatisfaction. Obsolescence and loss are forms of waste stemming from inventories. A quick look at the aged inventory values of your firm can tell you how much is at risk to waste from inventories. Similarly, a quick study of Just In Time (JIT) theories will give you ideas for converting that risk of waste to value adding cost reductions. Long lead times and response times in processes are forms of expensive waste. Converting our processes or systems to lean operations will reduce all forms of waste. The value of market response to waste is the most difficult form of waste to calculate and correct. What the customer will do depends to a great extent on the current situation and events. Even so, we should do our best to estimate customer response to waste. We usually think of waste in terms of cost, but I like to think of it in terms of time as a metric. Time is a metric for people, operations and facilities. It can quickly be converted to cost to support cost management processes.

Benefits of Controlling Waste. This section examines the selected tools and benefits of reducing waste. The figure compares the types of waste with tools and portrays the benefits.

Types of Waste Compared to Corrective Actions and Surprising Benefits		
TYPE OF WASTE	**TOOLS AND CORRECTIVE PROCESSES**	**SURPRISES AND BENEFITS**
Waste Of More Than Is Needed	Better Planning, Review of Production And Inventory Policies, JIT, Better Buying Processes, Better Delivery Schedules and Processes, Better Inventory Analysis And Cost Control, Lean Operations	Free Up Valuable Space Better Materials Handling Processes Better Relations With Suppliers Significant Cost Reductions
Waste Of Things In Inventory	Just-In-Time (JIT), Better Planning and Control Of Buying Process, Better Delivery Control, Supplier Managed Inventories, Consignment, In-House Suppliers, Value Analysis And Value Engineering (VA & VE), Consortiums, Lean Operations	Free Up Valuable Space Better Utilization Of Suppliers Significant Reduction Of Inventory Carrying Costs Are Reduced Huge Dollar Savings
Waste Of Waiting For Things	On Time Delivery and Quality Techniques, Early Supplier Involvement, Supplier Development, Review Of Policy and Procedures Programs, Better Supplier Relations And Supply Management, Problem Solving, (VA & VE), Lean Operations	Improved Operations Efficiencies Better Utilization Of Resources Increased Trust And Respect Closer Ties With Suppliers Cost Reductions
Waste Of Non-Value Adding Motion	Better Operations Planning, Standardization, Reduction Of Complexity, Review Of Policy and Procedures Programs, Mapping Of Systems and Operations, (VA & VE), Lean Operations	Time Available For Men And Machines More Time For Strategic Behavior Suppliers Provide More Help Large Dollar Cost Reductions
Waste Of Transportation Of All Kinds	Tighter Management and Control of Logistical Processes, Better Commodity Planning, Close Involvement With Suppliers, Better Buying Processes For Logistics Processes, Lean Operations	Closer Supplier Relations Reduced Inventories Reduced Costs For Transportation
Waste Of Making Defects Anywhere	Training And Professional Development, Delegation of Responsibility, Tighter Objectives and Control, Better Supply Management, (VA & VE), Detailed Cost Management, Lean Operations	Increased Customer Satisfaction Better Supply Chain Operations Significant Cost Reductions
Waste Of Non-Value Processing	Better Planning And Control, Training And Professional Development, Problem Solving, Cost Analysis And Control, Standardization And Reduction Of Complexity, Delegation And Team Operations, (VA & VE), Lean Operations	Increased Time For All Processes People Have Time For Real Work Suppliers Appreciate Simplicity Significant Cost Reductions

Clearly from the chart we can see important benefits from actions taken to control and reduce waste. For example, significant dollar cost reductions appear on every line. Time is moved from waste to create opportunities for strategic managerial work or other important activities. Operations up and down the supply chain are improved and closer relationships with important suppliers are possible. Customers are better satisfied. Now we have the key question; what are the obstacles to installing major waste removal operations? The answer is—we the people. Pogo was right when he said, "We have met the enemy and he is us."

Obstacles to Waste Reduction or Prevention. Even a quick look at the tools and methods column in the figure above show that the corrective actions and processes to eliminate waste of any type depends upon managerial action to create and lead change in several ways. This section highlights the issues that constrain, slow down or stop organizational change.

Barriers To Change

- You & Your People
- Levels Of Training
- Traditional Roles
- Established Relationships
- Organizational Culture
- Flow Of Communication
- Time Constraints
- Dedication To Change
- Level Of Technology Used
- Organizational Structure

An organization's ability to change is a reflection of its people and the dedication of its leadership to create and bring about change. The level of training along with roles, established relationships, organizational culture, and communication flow and processes hinder and restrict our ability and willingness to accept change. Resistance to change can be reduced by enhanced training and information concerning the needed changes. Similarly replacing traditional roles with expanded roles including cross-functional commodity or process team operations, closer supplier involvement, delegation of decision responsibility and new or improved information flows enhances acceptance of change. Time is always the penultimate obstacle. People have to understand how the change makes more time and frees them to achieve the new roles. Similarly the level of technology used and needed restrict our abilities to accept and accomplish change. Investment policies and procedures can also restrict investments and make it very difficult to introduce the technology needed to support change. Similarly, the existing organizational structure tends to makes change more difficult.

Leadership's willingness to lead the change and provide the needed support, influence and follow-up determine the ultimate level of success. Major change in organizations needs a senior manager champion dedicated to being out front and seeing the change through to a successful completion. The reduction and elimination of waste needs a corporate champion. The champion sponsors openness, communication, involvement, participation, delegation, research, investment, teams, understanding, and education, training or development as needed to support the new organization or processes to reduce or eliminate waste.

Surprises in The Waste Barrel. Your work to reduce or eliminate waste of all kinds will lead to many surprises in the waste barrel. From the figure above I want to highlight ten (10) surprises and urge you to capture and expand the benefits of each surprise over the long term.

*__Time__ is a strategic element and it can be recovered from all the waste. Your people, suppliers and customers will appreciate the increased value adding activities.

*__People__ will respond positively to the increased trust and respect as well as the training and development. Most people will appreciate and take advantage of this increased time for strategic work.

*__Inventories__ will be significantly reduced to generate positive cash flow and for some companies the freeing up of very important strategic space.

*__Operations__ will be improved by the analytical techniques to save space, enhance operations, generate efficiencies and reduce costs. Quality and productivity will be up.

*__Cos__t reductions will be huge and can be generated by every facet of the business, administrative, operations and the supply chain. These cost reductions must be captured and turned into positive cash flow that ultimately hits the bottom line and ROI.

*__Suppliers__ will perform better and contribute more to the operation because they appreciate the involvement and opportunity to increase business by contributing to yours.

*__Customers__ will respond positively to better performance, increased quality and cost control. Customers in general appreciate and reward improved operations.

*__Owners/Stakeholders__ always appreciate improved operations and increasing ROI.

*__Culture__ will change from laid back and lethargic to up front and attacking waste to generate increased efficiencies and effectiveness. People love a winning team.

*__Recognition__ will come from your industry and the world of business, as you get better. Look at Toyota, Honda, GE and others to see the impact of world-class recognition.

Conclusions. These three conclusions are applicable more or less to everyone, everywhere.

1. Waste is everywhere waiting for us to create ways to eliminate it and reap the benefits. You will be surprised where you find waste and how much waste is there.
2. We have the tools and processes to include lean thinking and operations to eliminate most of the waste. These tools apply to everyone. You can use them all, everywhere.
3. Eliminating waste welds our operations into tight knit and more cohesive, competitive, and cost effective supply chains to maximize value for our customers, our workforce and our stakeholders. Eliminating waste should be a long-term project for all of us.

References

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