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Watch Out for Phantom Gains

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In my early days with Conway Management, I traveled with Bill to visit a company in Saginaw, Michigan to provide feedback and guidance about their improvement process. Bill explained to me that when he visits a company, he tries to answer two questions: (1) are they working on the right things? and (2) are they going about it the right way?

The second question was the easier of the two. Were they … involving the right people, gathering all the facts and data about the current situation, looking deep for root causes, and thinking broadly about possible solutions, etc.? We would be providing feedback about where the improvement projects were weak and what they could do differently to get further faster. Organizations that invest in training and practice inevitably become steadily more effective in the way they work on improvements.

But were they working on the right thing? That was the tougher yet even more important question.

Sure, they were going after the waste, but waste is everywhere. Opportunities for improving the work are endless, but the time to spend on improvement is not. No organization can fix everything at once. Someone from IT once said to me, "This year we've got to be focused on the million dollar opportunities; maybe, next year we can tackle the $10,000 opportunities." Making the best decisions demands that you really understand how an improvement is going to hit the bottom line. Will it grow revenue? Reduce material costs? Reduce people costs? Reduce the amount of capital tied up in running the business? If we can't explain how it is going to do one or more of those four things, it's probably not the right thing. If we can explain it, we should be able to quantify the impact in terms of annual dollars.

Quantifying the waste does three things for you. First, it helps you distinguish between the big-hitters and the nice-to-have improvements so you focus on the most important opportunities first. Second, it makes the organization aware of the cost of a delay in tackling a 'big-hitter'. If a problem is wasting $5 million a year, every week of delay is wasting nearly $100,000, so the organization wants to make sure nothing slows this improvement effort. And third, quantifying the waste enables you to have more meaningful discussions with other parts of the organization whose support you need to change the processes that cause the waste.

Click here for a variety of examples illustrating how the waste associated with problems can be quantified

But even quantifying the waste won't get you to the right things, if you do not watch out for the hazards that can overstate the value of small improvements or understate the really big opportunities: going after phantom gains, mistaking the value of time, measuring just the tip of the iceberg, or the biggest problem of all — missing the forest for the trees.

Phantom Gains from Shape—Shifting Waste

Some problems, if eliminated, simply shift the waste to a different form. For example:

- An improvement that reduces the waste of people's time without replacing it with value adding work can produce phantom gains. The time is simply redirected to a different form of waste, such as waiting, over-processing, or additional inspection. Improvements that shave 5–10 minutes a day for a lot of people may add up to a big number of days in aggregate, but may have little real impact on

the business. Target time saving improvements where the freed up time is needed right now to create more revenue or to reduce expenditures.

- If we make a work flow lean, we almost always reduce the inventory and space required while also improving quality and productivity. But if the freed up space is not productively redeployed, that portion of the gain is phantom — it does not really reduce capital investment.

- If we improve inventory turns by accelerating the disposal of excess inventory, we may reduce storage costs, but we have not really freed up capital — merely shifted it to a write-off.

All three of these are examples of increasing capacity — in time, space, or inventory — where the capacity has no immediate use. Whenever we do this, the waste simply changes shape.

Sure, 'Time is Money' — but how much money?

When people think about improving the efficiency of a process to save people's time, they often expect some cost savings. But while cost savings may be the primary goal in reducing waste of people's time, often they never materialize — and it is not the fault of the people themselves! The hard dollar impact of productivity improvements depends not on the people doing the work or even on the amount of time actually saved, but on more strategic considerations:

- Which operations management targets for productivity improvement efforts, and

- How well management plans for and utilizes the extra capacity generated.

To quantify the value of wasted time, many organizations just pick a number based on average salary plus benefits, no matter where or how the time is wasted. This method can lead to working on the wrong things if freeing up the time neither reduces real spending nor increases real revenue. Other organizations disregard any time-saving improvements that do not reduce headcount, but they miss out on ways to free up time to increase sales and revenue or reduce overtime.

To correctly quantify the waste of people's time, you must consider the *value of the alternative use* of the people's time: Will they be laid off? Be reassigned? Work less overtime? Process more orders? Or simply spend more time waiting, over-processing, or reworking? Each scenario has a different value associated with the waste of time.

If the improvement enables the organization to:	***Then the value of that productivity improvement is:***
Reduce overtime …	Hourly pay *times* the overtime premium.
Reduce contract worker costs …	Hourly cost of the contract worker.
Avoid hiring additional employees …	The value of the salary and benefits *plus* costs of hiring, training, and equipping an employee that are avoided.
Make additional sales ….	The gross margin on the additional sales.

Perform other tasks …	The value of the work that would get done. Often this is very significant, certainly higher than wages and benefits; other times, these are phantom gains. Choose the process to be improved to target the skills you need to free up the most.
Layoff an employee …	Hourly wages *plus* benefit costs *minus* the costs of "transition." Also *minus* the hard-to-measure lost opportunities due to linking process improvements to job insecurity.

Click here for an illustration of how the *same* productivity improvement for the *same* number of people earning the *same* salary can produce very *different* bottom line impacts—ranging from approximately $0–$12 million annually.

Measuring the Tip of the Iceberg

Sometimes a problem has consequences throughout the system that can dwarf the initial visible piece of waste. If you understate the impact of such a problem, you may end up working on the wrong things. For example, a producer of cardboard packaging had about $14,000 scrap in the Cut&Fold operation, which ranged from about 1% to over 10%. The dollar value of the scrap at the Cut&Fold operation was the tip of the iceberg. If they did not have enough boxes to fulfill the order, they would need to setup and run another batch of sheets, even if it were just for a few pieces. So they routinely printed an additional 10% just in case the scrap at Cut&Fold was high. The waste associated with the risk of damage in the Cut&Fold operation was not just the total material scrapped at that point, but rather the total cost of the paper, time, and printer capacity required to routinely print an extra 10%, just in case. The damage problem in Cut&Fold was not costing just the $14,000 in actually material scrapped, but rather five times that.

To understand the full extent of a problem, involve people who understand the entire process that the problem is a part of.

Missing the Forest for the Trees

Perhaps the biggest reason organizations miss the right things to work on is not that they quantified the waste incorrectly, but because they have overlooked the biggest opportunities. Blinded by familiarity with the way things have always been done, we can easily fail to see the biggest opportunities in front of us. It is easier to see the small areas of waste that irritate us every day, than it is to spot the game-changing improvements.

Here is an illustration of how different people could look at the same process and see four very different opportunities for improvement: four companies have a Data Entry department that enters data from handwritten, mailed-in applications. The data entry is error prone but must be done accurately, so each application goes from Data Entry to QA for inspection. QA looks up the transaction in the system and inspects it to make sure it is correct. Then the paperwork is filed. Where is the waste?

- The QA person at one company points out that looking up the transaction could be eliminated if the transactions appeared on the screen in the same sequence as the paperwork that arrived on the desk. They also suggest they could work more quickly if the screen layout matched the paper form

layout. These improvements would save nearly a minute out of the inspection step and increase QA throughput by 14%. Is this the right thing to work on?

- The company down the street looks at the same situation and concludes that all the QA work is waste masking the underlying problem of data entry errors. They focus on improvements that eliminate the major opportunities for errors in order to eliminate the need for inspection and rework. The QA process only captures three of every four mistakes, so if they reduce the number of errors by 75%, they could eliminate the whole QA process without any impact on quality. By redeploying the QA personnel, they increase their capacity for processing transactions by 60%. Is this the right thing?

- A third organization, searching for waste, sees the data entry itself as rework. After all, the data had already been recorded once by the customer. This enterprise decides to work on deploying machine readable forms to eliminate all the data entry they now see as 'rework.' The only work remaining would be manually keying the machine-illegible forms and contacting the customers about forms that were incomplete, incorrect, or illegible. The people they have could handle more than five times the current volume, if they only handled exceptions. They might also collect data on common errors and redesign the forms to make it much easier for customers to complete correctly and reducing the volume of exceptions.

- And finally (or is it?) a fourth company says that not only is re-keying rework, but letting the customer send in an application that is incomplete or incorrect causes waste. This organization works on making it easy for the customer to enter an application directly into a self-validating electronic form.

Each of these organizations has identified and quantified legitimate waste, but are they all working on the right thing? The difficulty of seeing beyond the current work process often prevents us from identifying the biggest areas of waste. We miss the forest for the trees.

So going about improvements the right way — methodically, data-driven, with the right people, etc. — is important to your success. But far more important — and often more difficult — is identifying the right things to work on. Quantifying the waste is an essential tool for separating the vital few from the trivial many opportunities. But make sure you use it correctly. Ask yourself these questions:

- Am I creating real gains or merely shifting the shape of the waste?

- Am I missing the rest of the iceberg? Where does the problem fit into the overall process?

- Am I correctly valuing the cost of lost time?

- Am I so focused on the snags in the day to day work that I miss the game-changing opportunities in front of me?

If you have any comments, questions, or suggestions or to inquire about our Waste Calculator, please email us at mj.king@conwaymgmt.com. We are always glad to hear from you.