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The Real ROI of Waste Reduction: A Different Perspective on Continuous Improvement

By Dawn Armfield & Jimmy Morency

July 2025 For performance improvement leaders, building the case for a continuous improvement initiative often hinges on one thing, ROI. While labor and time-based improvements may clear approvals easily, capital-intensive projects face deeper scrutiny. The challenge is not just quantifying savings, but reframing how we evaluate value. Waste reduction, when viewed through a sales and margin lens, not just cost avoidance, can transform how we make investment decisions.

When the investment only requires time, such as dedicating staff hours to a project, securing buy-in is usually straightforward. But when capital investment is necessary, creating a strong business case becomes critical. And at the heart of every business case is the all-important question: What's the Return on Investment (ROI)?

Why ROI Matters

ROI is the measure of how long it will take to recoup an investment. It's the number that helps determine if a project is worth pursuing. A solid ROI can expedite the approval process, while a weak ROI can stall or kill the idea entirely. Yet, in waste reduction projects, ROI calculations are often overly conservative, omitting hidden inefficiencies, margin impact, and revenue pressure. For improvement leaders, refining the ROI lens is critical.

The Simplified ROI: LED Lights Example

Consider a simple project like replacing traditional lighting with energy-efficient LED lights. The calculation here is fairly straightforward: the cost of the bulbs and installation is clear, and the energy savings can be easily estimated. The business case might suggest that after a set period of time, the energy savings will fully offset the upfront costs. But what happens when the project isn't that simple? These types of improvements are often low-risk and easy to quantify. But as CI teams move deeper into operational improvements with less obvious outputs, they need more nuanced ROI models to tell the full story.

A Lean Waste Removal Example: Seeing Beyond the Numbers

Let's look at a more complex example: a production manager (we'll call him Sam) is proposing new machinery for Cell 1, a production line that struggles with quality issues and an average scrap rate of 20%. Sam believes that implementing new inspection technology could reduce the scrap rate to 10%, and he estimates the new technology will cost the business a 1-time fee of $500,000.

Now, Sam knows that the current scrap cost is running at $40,000 per month. So, if the scrap rate is reduced by half, that would mean $20,000 in savings every month, or $240,000 per year. Simple enough, right? Based on these calculations, the business case suggests that it would take just over 2 years to recoup the $500,000 investment.

While Sam's savings-based ROI appears reasonable, it frames the initiative purely as cost recover. What it misses is the financial burden this waste places on the sales team and the business's ability to achieve its margin targets.

But here's the catch: Is this really the best way to evaluate the project's ROI? While Sam's calculations are sound, they don't tell the entire story, because the real question is: **What does that $240,000 in annual savings really mean for the business?**

Margin-Based Sales Equivalency Model: A Smarter Way to Quantify Waste

In business, one thing remains consistent across industries: **Profitability is everything.** A company's bottom line and its margin are the ultimate indicators of its success and value to investors. With that in mind, we can look at the cost of waste reduction from a completely different perspective.

Instead of focusing on savings alone, consider this alternative formula to

assess the value of eliminating waste:

S = C / M

Where:

- **S** = Sales dollars required to recoup margin
- **C** = Cost of the waste (in this case, scrap waste)
- **M** = Desired margin of the plant or product line

Let's break it down with Sam's example:

- **C**= Annual cost of scrap waste = $20,000 x 12 = $240,000
- **M** = Desired margin of the plant/ product line = 55% (or 0.55)

Now, apply the formula:

S = $240,000 / 0.55
S = $436,363

What does this mean? Essentially, until the scrap issue is solved, the sales team will need to sell an **additional $436,363 worth of product every year** to meet their margin goals. This isn't just a matter of "cutting costs", it's about the impact on the company's ability to generate the necessary sales to stay profitable.

Reframing the ROI: From Savings to Sales

Now, let's come back to the $500,000 capital investment required for the new technology. From this new perspective, the ROI is no longer 2 years. Instead, by eliminating $240,000 of waste each year, the company only needs **one yea**r to recoup the investment, and the savings have a more direct impact on the bottom line.

This simple reframing can make a world of difference when presenting a business case. Instead of focusing solely on cost savings, think about **sales** and **margin**. It's a much more relatable metric, and it communicates the true financial impact of waste reduction in a way that everyone, from leadership to sales, can understand.

Executives understand revenue pressure. Sales leaders feel the weight of hitting aggressive targets. By showing how inefficiencies create margin gaps that require hundreds of thousands in new sales to recover, CI professionals gain faster alignment and stronger buy-in.

Waste elimination is a strategic lever for profit protection and business acceleration. When framed as a way to reduce revenue burden, it becomes clear: eliminating $240,000 in annual waste is just as impactful as adding $436,00 in new sales. That's not just CI, it's business transformation.

Conclusion

Waste reduction is not just a Lean initiative; it is a revenue preservation and margin enhancement strategy. By shifting the conversation from savings to sales equivalency, CI professionals can present business cases that resonate at the executive level. If a problem is costing $240,000, solving it may be worth nearly half a million in recovered revenue capacity. In the language of performance improvement, that is true ROI.

DAWN ARMFIELD IS MANAGING DIRECTOR AND CHIEF OPERATIONS OFFICER AT HILCO PERFORMANCE SOLUTIONS.

Dawn can be reached directly at darmfield@hilcoglobal.com or 708.533.2713.

JIMMY MORENCY IS SENIOR ASSOCIATE AT HILCO PERFORMANCE SOLUTIONS.

Jimmy can be reached directly at jmorency@hilcoglobal.com or 248.765.7932.