

Get Into Your Process Improvement Groove

Five steps for building a culture of continuous change and realizing sustainable productivity improvements

Employers are facing an ever-growing list of people-related challenges. From training your team members on the dozens of new activities they are responsible for, to grappling with rising wages and increased turnover, your organization is likely looking to do one thing: **do more with the labor you have available today.**

It's not an easy task, but building a culture of continuous process improvement has helped employers increase the productivity of their workforce by **5% or more**.

Axsium's industrial engineers and workforce management experts have spent decades identifying and implementing process improvement opportunities for organizations just like yours. In this white paper, we have translated these insights and experiences into **five straightforward steps** to help your organization do the same:

- **Step 1:** Understand the Leading Methodologies
- **Step 2:** Leverage the Process Improvement Tools
- **Step 3:** Quantify and Prioritize Your Ideas
- **Step 4:** Test Your Improvements in the Field
- **Step 5:** Maximize Adoption and Training

Step 1
Understand the Leading Methodologies

We all know the adage that those who fail to understand history are doomed to repeat it. We'd like to update that saying a little. In the world of industrial engineering, those who fail to understand the history of process improvement are **doomed to repeated wasteful practices**.

Fortunately, there's no shortage of proven systems to draw from when you're introducing or reinvigorating a culture of continuous change in your organization. Two of the most widely used are Kaizen and Total Quality Management (TQM). For many companies, these terms have come to represent a sort of "north star."

Kaizen

You will have likely heard of Kaizen. Thousands of companies across the globe use it. The name is a combination of two Japanese words: Kai meaning change, and Zen meaning good. Good change! According to Kaizen, many when small improvements are gradually introduced and perfected over time, result in **large improvements** when amassed across your chain.

But Kaizen isn't just about large overhauls of a system or a specific method. It's like a way of life, with everyone in the organization buying into the culture of continuous change. Kaizen features five straightforward tenets: **teamwork**, **personal discipline**, **improved morale**, **quality**, and **improvement suggestions**.



The 5 Tenets of Kaizen

- Teamwork
- Personal Discipline
- Improved Morale
- Quality Circles
- Suggestions for Improvement

Total Quality Management

TQM, on the other hand, originates from a concerted effort to establish **quality control** during the production process. Part process improvement philosophy and part management system, TQM brings all employees across the enterprise into the continual improvement process. But where Kaizen is primarily focused on internal processes, TQM is very customer-centric.

TQM involves a highly **fact-based decision-making process**, with its roots grounded in statistics and data science. Like Kaizen, it is a process oriented methodology. The required steps must be extremely well-defined and constantly monitored to detect and correct deviations—in short, to control quality.

The 7 Elements of TQM

- Policy, Planning, and Administration
- Product Design and Change Control
- Control of Purchased Material
- Production Quality Control
- User Contact and Field Performance
- Corrective Action
- Employee Selection, Training, and Motivation

These philosophies were first developed in Japanese manufacturing in the 1990s. In the decades that followed, other manufacturers around the world began to implement elements of Kaizen and TQM. By the later part of the twentieth century, the broader business world began to take notice.

This development was driven by offshoot methodologies called Lean and Six Sigma entered the corporate lexicon. For many companies outside the manufacturing sphere, their first exposure to Kaizen or TQM came from reading about Lean or Six Sigma in popular magazines or Harvard Business School case studies.

Thanks to the Lean and Six Sigma revolution, process improvement philosophies have been applied to nearly every industry and inspired further **evolution and innovation**. This is doubly impressive considering that many of these philosophies have thrived in industries like retail and healthcare despite originating in manufacturing sectors. Let's now turn our attention to these modern-day methodologies, and what else they've spawned.

Lean

Lean evolved from the Toyota Production System, which was designed to improve the efficiency of repetitive and standardized tasks. Lean practitioners focus on **streamlining processes**, **eliminating waste**, and **optimizing flow**. They do this while continuing to deliver value to customers.

Six Sigma

Six Sigma was developed by an engineer working at Motorola. The term Six Sigma comes from the statistics concept of the bell curve. The central idea is that mistakes should occur only outside of the central six standard deviations. In other words, the work should be performed correctly 99.99966% of the time. The Six Sigma methodology focuses on improving output quality by **removing the causes of mistakes** and **minimizing process variability**.

Lean Six Sigma

Today, many practitioners combine Lean and Six Sigma into a single system called, unsurprisingly, **Lean Six Sigma**. Lean acts as an accelerator of the Six Sigma methodology. The overriding goal is to reach operational excellence and to build a problem-solving culture. Companies that employ this practice work to make "finding a better way" a habitual practice.

The Lean Six Sigma "DMAIC" Process



Naturally, these systems can be implemented in your organization "as-is" and each have a sophisticated set of tools and training. But if your company is new to its continuous process improvement journey many on your team will be unfamiliar with the proven methodologies. It can be helpful to introduce them in a **fresh way** that resonates with your company's ethos and strategic goals.

Step 2
Leverage the Process Improvement Tools

Axsium's consultants use a wide range of tools gathered from their education and years of retail and hospitality experience. These tools include some you may have heard of, such as **Standard Operating Procedures** (SOPs), and others you may not have, like **Value Stream Maps** (VSMs).

You'll need to understand when and why to use these tools, so let's jump right in. Process Improvement professionals use them across three phases of process improvement ideation: **Brainstorm**, **Observe**, and **Analyze**.



Three Phases to Identify Operational Improvement

Phase 1: Brainstorming with a Cross Functional Team

Axsium's engineers kick off projects with a healthy amount of brainstorming. We work alongside client subject matter experts (SMEs) from all levels of the organization. Together, we understand and document current processes and identify pain points and potential improvements.

We often find opportunities for process improvement when there are inconsistencies between **Standard Operating Procedures** (SOPs) and on-the-ground operations. While head offices typically develop SOPs, field level SMEs perform these tasks day-in and day-out. This makes those SMEs well-positioned to suggest **alternative approaches**, particularly when it comes to the nuances of ever-evolving retail and hospitality work environments.

Another effective brainstorming tool, **Value Stream Maps** (VSMs) are a form of process map. Our team focuses on each step of the process in question to evaluate the value it provides to the customer. This makes wasteful or unnecessary steps easy to spot.

7 Steps for Crafting Effective SOPs

1) Prioritize routine, labor-intensive tasks
2) Set the context (why and how)
3) Emphasize what should be done vs. avoided
4) Pair subject matter experts with good writers
5) Keep language simple and straightforward
6) Utilize graphics or photos, but not as a crutch
7) Don't publish an SOP without testing first

Case Study

We recently encountered an organization where managers first logged a *written* inventory count, and then manually entered that same information into their back-office computer. The redundancy seems obvious in retrospect, but the client was convinced these steps reduced errors and gave their managers the flexibility to start and stop the process. Using a VSM, we isolated the problem steps and identified tools (e.g., tablets, laptops, or handhelds) to maintain accuracy levels while eliminating the need for double processing.

(Continued on page 7.)

Phase 2: Onsite Observation & Optimization

Axsium's experienced engineers arguably provide the most value to clients by observing work performed onsite. As outsiders, we can identify wasteful or inefficient processes **without bias or preconceptions**. How better to get a 360-degree view of our client's operation and fully contextualize our process improvement ideas?

5S Workplace Organization



Sort
When in doubt, throw or move it out.

Set in Order
Everything in its place.

Shine
Cleanliness is next to masterliness.

Standardize
Make it a healthy habit.

Sustain
Enforce and evolve the playbook.

5S is one of the most common tools our engineers use when onsite. 5S is a Japanese methodology which translates to **Sort**, **Set (In Order)**, **Shine**, **Standardize**, and **Sustain**. The primary goal is to clean and organize a space so items are easier to find.

A 5S exercise is often the main initiative of a Kaizen event. Easily confused with the Kaizen philosophy, a Kaizen event is a multi-day exercise. During a Kaizen event, we **break down a process**, **eliminate unneeded elements**, and **re-implement it more efficiently**.

While a leader facilitates the event, those working in the area every day make up the majority of the team. They have valuable insights into **what is and isn't working**.

Phase 3: Offsite Review and Analysis

Video capture and **activity sampling** techniques allow us to keep analyzing even after we've left your physical locations.

We use video capture to break processes down and understand their overall impact using a **Predetermined Motion-Time System** (PMTS). These contain globally accepted times for a person to perform basic functions.

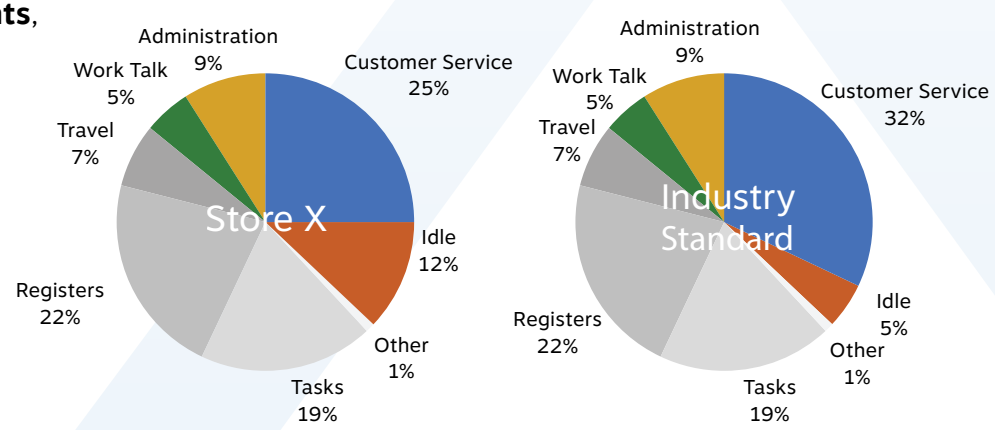
Work measurement solutions like Axsium's **Opus** contain libraries of motion times and built-in reporting to compare the before and after. You can spend more time analyzing improvement opportunities and less on data capture.

Activity Sampling gives us an at-a-glance view of how employees spread their time between different tasks and areas of the operation. We can easily identify waste by benchmarking your current allocations against industry standards or past performance. And where there is waste, there is opportunity to improve.

Mobile tools like Axsium's **Studia** are purpose-built to collect samples across a representative range of locations, days, and times. The less time spent on manual data entry, the more time you can dedicate to analyzing the results and identifying potential improvements.

Activity Sampling

Identify Waste and Reinvest in Value-Added Work



Step 3
Quantify and Prioritize Your Ideas

Once you start using process improvement tools, you won't be able to stop the ideas from coming. Figuring out where to take it from there will be the difficult part. Not all process improvement ideas are created equal, so let's look at five straightforward phases to introduce your **most achievable and value-driving ideas** quickly.

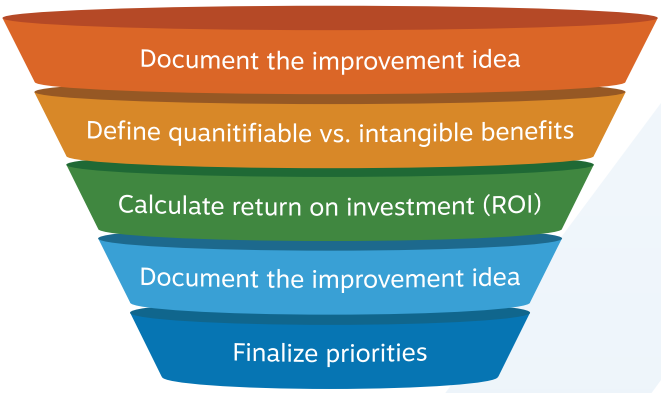
Phase 1: Document Your Process Improvement Ideas

You need to understand the context of each idea. It's likely you won't have come up with all the process improvement ideas yourself. Context will help you understand the **reasoning** behind them and this in turn will help you **sell the ideas** later.

Remember to **document process the change(s)** related to each idea. Every improvement is based on something that already exists. If you're documenting a process for the first time, capture the current state in enough detail that you can compare it with the proposed future state.

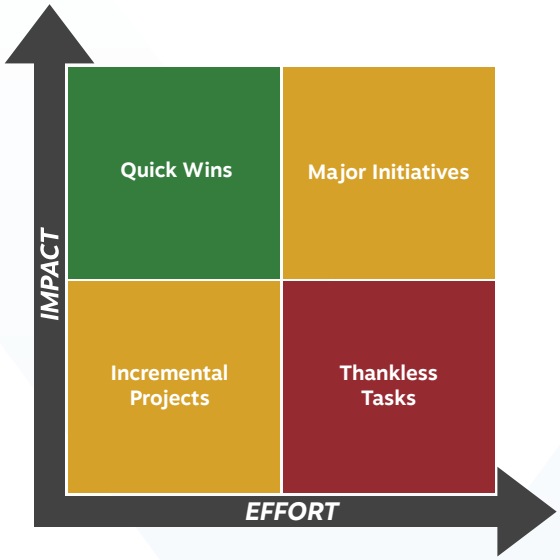
If available and up to date, **Standard Operating Procedures** (SOPs) and **labor standards** are an ideal reference. If the change is approved, you'll need the SOPs for the roll out. And labor standards will be your benchmark for measuring the improvement.

Five Phases to Get Your Improvement Ideas Prioritized



Phase 2: Effort vs. Impact Charts

You've established the context behind your process improvement ideas and documented the current state that you're intending to improve. Now you can prioritize them. One of the best tools for this is an **Effort vs. Impact chart**.



To efficiently set your priorities, estimate the relative impact and effort of each one using categories like High/Medium/Low or a simple 1-5 scale. Doing this up front will help to proactively identify ideas where the juice just isn't worth the squeeze. This will save you **time and effort** further down the line.

More importantly, this process will also help you distinguish the **quick wins** from the **incremental projects**. Even better, you'll be able to start identifying the major initiatives, which may tie many related improvement ideas into one program.

Phase 3: Determine Quantifiable vs. Intangible Benefits

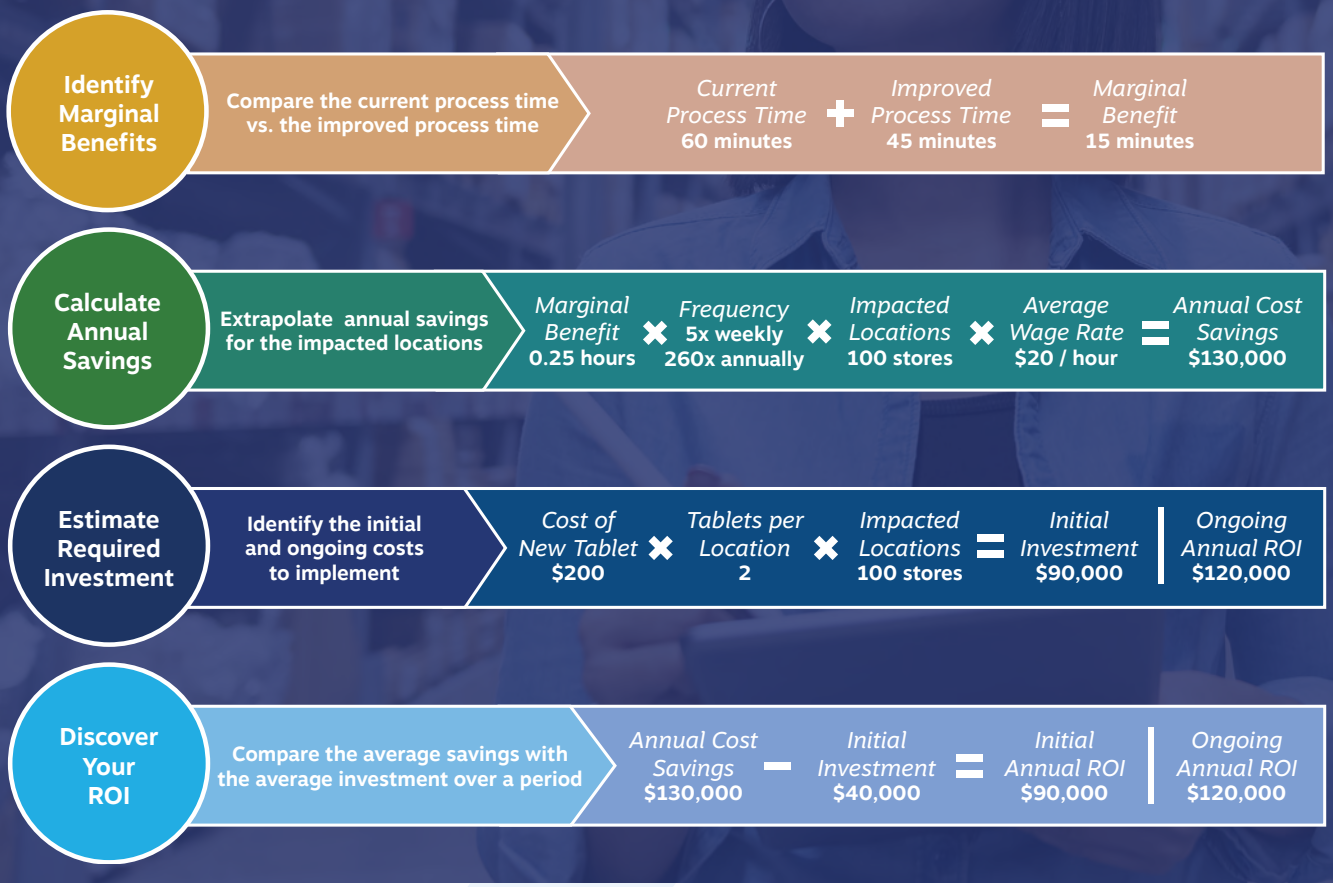
Now that you have your high impact and/or low effort opportunities, your next step is to consider whether each improvement idea can be **measured**. If so, you'll find the benefits will typically fall into two categories: hard or soft cost savings.

You can realize **hard cost savings** right away by reducing or avoiding existing expense. On the other hand, **soft costs savings** represent the potential for savings. This can include repurposing time toward more value-added activities or avoiding future structural costs.

Case Study (continued from page 4)

A retailer's pen-and-paper based inventory process usually took 60 minutes to complete. Axsium tested the process using digital data entry instead of pen and paper and found it took 45 minutes, a saving of 15 minutes. The client took inventory five times a week across 100 stores, saving 6,500 hours. Our client was paying its managers $20 an hour, so we calculated the digital entry would save approximately $130,000 a year.

Next, we reviewed how much it would cost to implement and sustain the change. We suggested the client provide tablets to their two managers at a cost of $200 each. Across the 100 stores, we estimated the cost to implement at $40,000 in the first year and approximately quarter the cost in the following years to fix or replace the tablets. Then we could easily identify our ROI of $90,000 in year one and $120,000 each year after. We started with a pilot roll out in a small group of locations. This let us gauge timing as well as the other factors discussed above before rolling out chainwide.



Will an improvement **reduce the resources required** (e.g. making food preparation more efficient leading to fewer wasted ingredients)? You can classify it as hard savings.

Will an improvement lead to **reallocating resources** (e.g. less work to prepare the food leading to more time for customer service)? It can be classified as soft savings.

You may not be able to easily measure an idea's benefits, but that doesn't lessen its **potential impact**. After all, many improvements add intangible value. That can make them worth prioritizing.

Phase 4: Calculate Return on Investment

Calculating ROI involves making assumptions. You need to instill confidence in your ideas' business value, so gather **supporting data**.

Axsium can provide tremendous value here. You may not know the labor savings a change to your inventory management processes will yield, but we do. We've managed similar process improvements and measured the impact. The same goes for point of sale, omnichannel, or anywhere else in your brick-and-mortar operation.

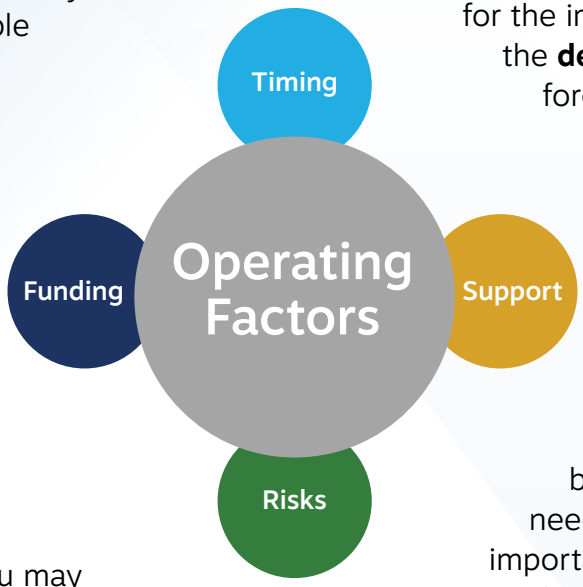
The most important thing is to measure the **incremental change** itself. It doesn't matter if the change is reduced time or material waste, or increased efficiency or output. If there's a potential financial impact, it's worth gathering the requisite data to make an assessment.

Struggling to calculate ROI? Consider things like process frequencies, average wage rates, average number of employees per location, and number of affected locations. **Calculate the change's overall cost** and find your ROI.

Phase 5: Incorporate Operating Factors

Now you've measured your tangible ROI and identified any intangible benefits, there are a few more things to keep in mind. This includes your implementation timeframe, required leadership support, available funding, and any key risks.

When it comes to timing, you don't only want to know how long it will take to roll out the process improvement. You also need to know how long it will take for the improvement to achieve the **desired results**. And don't forget to identify business partners and associated initiatives within your organization to help guide the change.



If your ideas need investment, whether it's through capital funding or the operating budget, you will likely need **formal approval**. It's important that you know who owns the budget, how you get it, and how quickly you can allocate it to your cause.

Finalize Your Process Improvement Priorities

To create your final prioritization list, we recommend revisiting your initial Effort vs. Impact matrix. But this time, try using your **data-driven ROI analysis** and knowledge of the **operating factors** to fine-tune the y-axis (Impact). And your better understanding of the risks involved can help paint a fuller picture of the x-axis (Effort).

The immediate next steps for your newly prioritized improvement ideas depend on what quadrants they fall into. But you aren't at the finish line just yet.

Step 4
Test Your Improvements in the Field

There's a simple pattern to implementing your ideas so you get the best out of them. First, you need to **test alternatives** to prove out the most efficient, cost-effective, and field-approved process. Then—and only then—do you ramp up to the pilot.

But isn't testing the same as piloting? Not exactly. Testing offers an opportunity to iterate and learn about the proposed process change in a real-life setting. Piloting, on the other hand, provides a **static trial** of the final process before going live.

A test aims to work out the kinks and ensure that success can be measured. Meanwhile, a pilot aims to **evaluate the results** and finetune your **change management strategy**. We'll talk more about piloting and implementing your ideas in the next part. In the meantime, let's roll up our sleeves and get busy testing.

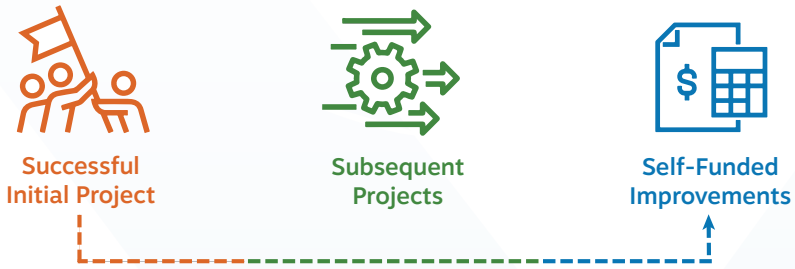
Which Ideas Need to be Tested?

So, do you test all your options at once? Or one at a time? We don't have an easy answer to that question, so let's ask a couple of simpler questions. **What is easiest**? What has the potential for the **biggest return**?

Why choose "what is easiest?" It's simple, really. The easiest idea to test will bring **early success**, which is a great morale boost for your project team. Quick wins sustain and feed momentum which can be critical in helping to sustain your team's continued efforts.

And why choose "what has the potential for the biggest return?" Another simple answer! The idea that leads to the biggest return will, if successful, help the continued effort **pay for itself** and more. It's always a plus to be playing on house money. But unlike gambling, there's little-to-no risk once an improvement is proven out.

Why Prioritize Ideas with the Largest ROI?



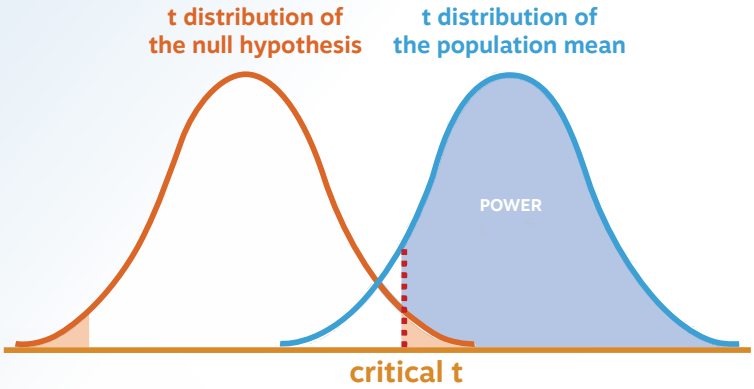
We all know how exhausting it can be to constantly address the question "how is the project progressing?". One way to reduce the need to update upper management is to quickly and effectively **prove out ROI** early in the testing cycle.

Toward that end, process improvement ideas with measurable hard cost savings tend to be the easiest to justify success. Meanwhile, soft cost savings can be more difficult to quantify, but they often have the **greatest impact** on team morale. They can also create a wellspring of positive feedback from managers and team members in the field.

How to Define Process Improvement Success Criteria?

We're about to get into some math. In the Lean Six Sigma world, we measure success by using statistics to prove that an improvement has had an effect. We measure the "before" and "after" states of the process we have changed. The most common approach to evaluating the hypothesis is a **2 Sample t-Test**.

In a 2 Sample t-Test, we compare the average measurements taken before and after making the change. We then take the test statistic (*t* in the graphic, the difference of group averages / standard error of difference). We compare it to the critical



t value, which is based on the significance level and degrees of freedom, derived by the two population groups' sizes. If the test statistic is above the critical *t value*, we can reject the null hypothesis and conclude the change was significant.

Case Study: The Composting Solution

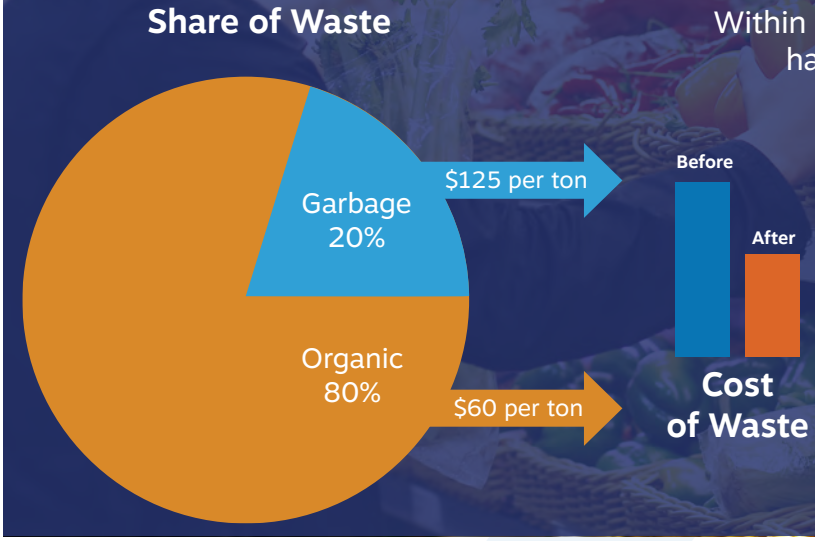
A grocer in the western United States assembled a team to research the cost of their waste. Their garbage was costing them $125 a ton, while their organic waste only cost $60.

The team discovered local composters were looking for food waste in addition to their regular grass trimmings and leaves. This was because food waste increases the porosity of the matter they compost.

The team decided to test the proof of concept (POC) for diverting organic waste from the garbage stream at a single store. Fortunately, a store manager on the team volunteered as the test store.

The grocer made green composting bags available for each department. They also provided training for store associates to identify acceptable composting waste. And the local composting haulage company delivered compost containers to the site.

Within two months, the team identified hard savings from diverting 80% of their waste to organic recycling.



For our 2 Sample t-Test we compared the grocer's garbage hauling rates before and after the change. After two periods of measuring the new composting expenses, we were able to successfully reject the null hypothesis and declare that the change was most likely a win.

Process Improvement and the 'Plan Do Check Act' Cycle

This example shows how you can use the "**Plan Do Check Act**" cycle to make improvements. The team planned out how the organic diversion would be accomplished. They then did the proof of concept. As they changed the process, they checked the progress.

As they checked their progress, they discovered a significant amount of garbage was going into the waste stream. In fact, they discovered 10-gallon plastic buckets from the bakery department made up much of that waste.



The team, now infused with a recycling mentality, looked for a way to divert the buckets from the waste stream. They connected with a plastics recycler which was, as it turned out, very near the grocer's distribution center. They developed a new plan to use the delivery trailers to back haul the buckets to the distribution center. The grocer could then accumulate the buckets and ship them to the plastics recycler.

This change was not as lucrative as the organics diversion, as it needed more labor and coordination. Additionally, the cost savings were not as great as they could only get five cents a pound. And the buckets, although larger, weren't very heavy. On the plus side, the buckets no longer went to the landfill, so the grocer's landfill waste cost went down. It was a win-win-win: the grocer received money for the plastic, their waste cost decreased, and the company became more eco-friendly.

Step 5
Maximize Adoption and Training

On paper, many process improvement ideas seem like no-brainers. But to employees, especially those with a longer tenure in your organization, change can be difficult to swallow. We've all heard the words: "that's how we've always done it". And processing a lot of change at once can sometimes feel **overwhelming**.

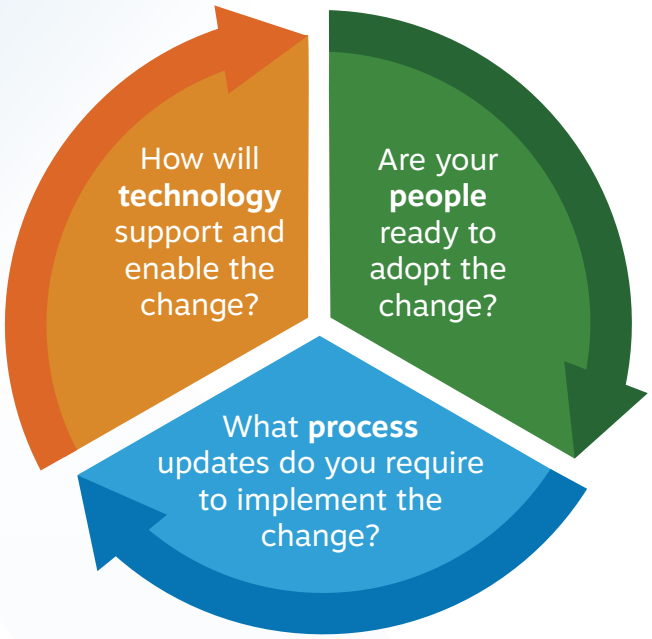
Remember, **your people** will make or break your implementation. The success of your process improvement ideas depends on their ability and willingness to accept and adapt to the change. The road to changing processes also involves a process to manage the change itself.

The practice of **Organizational Change Management** (OCM) focuses on preparing, supporting, and helping individuals through changes. At Axsium, we consider all aspects of the change when developing our OCM strategies: People, Process, and Technology.

People: How Ready is My Organization for Change?

Your people are the first thing you need to consider when preparing your organization to adopt a change. Your process improvement idea isn't going to affect all individuals or groups in the same way, so start by understanding **who is impacted directly** and who will play a supporting role.

At Axsium, we call this the **Stakeholder Analysis**. Through facilitated workshops and direct interviews with subject matter experts, our consultants define the groups or key individuals that will impacted by the change. In our tablet example on pages 4 and 7, this includes store and field leaders as well as technology, finance, and operations teams at corporate.



Once you've defined the key stakeholders, it's important to identify **how the change will impact them**.

Knowing how your stakeholders will likely be affected by the process change will help you focus your energy. You'll need to prioritize **front-line workers** and **employees who may be resistant or facing significant change** in their daily work. This process will also help you prioritize groups that could play an active role in supporting or championing the change. And this, in turn, will encourage the rest of your organization to successfully adopt the change.

Communication is a vital part of change management, and you'll need to carefully craft your communications for each impacted group. Your stakeholders should immediately understand how and when the change will affect them, as well as how support will be handled. It's important to consider your **stakeholders' readiness** and the degree of change they are going to experience when tailoring the message.

Process: What training or tools will help drive adoption?

Most routine in-store tasks follow SOPs. Some SOPs are displayed in the store as diagrams, while employees commit others to memory. It's not enough to update your SOPs when they change—you need to make sure employees are **aware of the change** and **properly trained**.

In addition to end-user training, you also need to train **champions** and **supporters**. This involves including champion/support groups on all your communications and ensuring they can deliver end-user training.

From a workforce management perspective, you will also need to update your labor standards. Break your improvements into micro-steps and eliminate those no longer in use. This will keep your labor forecasts and resulting schedules **up to date**.

Here's the important thing, though—don't update your labor standards right away. **Adoption doesn't happen overnight**, and you'll likely see a short period where end users are still getting used to the change.

In our tablet example, the store teams were concerned that the inventory and counting process could be less accurate. To mitigate this adoption risk we ensured that communications to store managers clearly outlined the training designed to ensure accurate counts. We also emphasized how the time savings from the process change could be reallocated to other value-added activities such as coaching their employees or spending time with customers.



We've put together a high-level example of how you the impact of the tablets were assessed with regard to the store manager group:

Define Current vs. Future State by Role	Assess the Change Impact	Evaluate Readiness, Resistance, & Risks	Assign the Change Role(s)
Currently, managers take inventory manually on paper and then re-enter the information into a back-office computer. In the future, they will be enables with a tablet, eliminating the need for data re-entry.	High / Medium / Low Process: managers will require overall onboarding for the new tablets and specific training on the new process. Financial: the new process will decrease the amount of time needed for inventory.	High / Medium / Low The change will create significant efficiencies, which will be viewed as a net positive. However, some of the longer tenured managers will require additional support to adopt the tablets.	Adopter / Supporter / Champion Most managers will be responsible for adopting the change. It is recommended that a select group of pilot store managers help their peers by championing the change.

Technology: How will the change be enabled and supported technically?

You have one last thing to consider in your process improvement implementation: technology. It is not only an important tool to help expedite the change (such as with mobility-friendly training or communications); it's also often a key component to the change itself.

If you're bringing technology into your day-to-day practices, you'll want to assess the relative functionality and end user experience of your options. You'll have to decide whether to do this through demos or a full-on RFP process. You'll also need to think about how the new technology will integrate with your existing systems and reporting. And finally, make sure you provision, configure, test, and pilot the new technology before introducing it to your organization.

You may also need support tools to manage the change, or steady state for that matter. Unfortunately, technology doesn't always work as designed, so we recommend setting up troubleshooting FAQs and tips for end users as well as more advanced troubleshooting techniques for those that support them.

Large change implementations often need dedicated support teams, while other implementations can be routed through IT support.

Contact Us

Learn More

Conclusion

Process improvement projects can be incredibly beneficial and help your organization find ways to do more with the labor you already have. But they can also feel intimidating and scary! Ultimately, their success depends on whether you can successfully manage implementing the changes.

Process improvement is one of Axsium's strengths. We help companies of all sizes bring their process improvement ambitions to life, finding incredible savings along the way. And we can do the same for you.

Congratulations are in order—you are now officially (back) in the process improvement groove!