

Three Critical Actions for Improving Productivity in Technical Organizations

Managers need to understand these important concepts that impact the bottom line.

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It's February 2009, and you are in some way affected by perhaps the worst economic conditions since the Great Depression. Your company is probably "hunkering down," "weathering the storm," or <insert metaphor of choice here> until the financial crisis is over.

Given this situation, businesses can't afford to waste money. Actually, businesses can *never* really afford to waste money. But they do. Lots of it. An inconceivable amount of money is wasted every day in businesses around the globe because managers allow unproductive activities to occur. Think of five ways your company wastes money in your opinion. I bet you can do this in less than two minutes.

Why do businesses allow such waste? Because managers don't know how to measure and improve productivity from more than some narrow perspective they learned along the way. Many don't know how to do this at all.

Cutting costs is often necessary during tough economic times, but cost-cutting usually has a significant detrimental effect – and cost cutting doesn't address productivity issues due to inefficient processes, poor communication practices, mismanaged projects, and many other factors.

Before implementing cost-cutting measures that might have damaging long-term effects, managers must be engaged in productivity initiatives with measurable short-term and long-term outcomes.

You might be wondering, "What *is* a productivity initiative?" A productivity initiative has the goal of sustainable improvements that provide better results (profit, time to market, quality, etc.) at roughly the same fixed costs, or even lower fixed costs if possible. There will always be an initial non-recurring cost to implement sustainable improvements, but the long-term ROI should be significant enough to fund the initiative.

Sustainable improvements might involve eliminating non-value-adding activity; improving communication;

enhancing project management methodology and tools; strengthening leadership; or improving relationships with customers and stakeholders.

Here are three ways to assess and improve productivity in your organization.

1 UNDERSTAND THE COST OF INEFFICIENT LABOR

Someone in your company probably knows what the burdened cost of labor is in your department or across the entire company, division, etc. Burdened cost includes benefits, office space, energy costs, etc. Everyone should have this information.

The fully burdened labor cost for an experienced technical professional is typically in the neighborhood of \$75 to \$125/hour. Let's use \$100/hour in an example to keep it simple. The burdened cost to employ a group of 20 engineers at \$100/hour is approximately \$347,000/month.

The typical workday is filled with distractions, interruptions, and unproductive activities that are sometimes outside our control, but most are candidates for reduction or elimination.

We plow through dozens or hundreds of email messages each day to determine which ones are relevant and which ones require a response. Many of these messages are unclear. Productivity is lost due to poor communication and information overload.

We go to meetings – often meeting after meeting all day – some are very productive but others seem like a waste of time. If they seem like a waste of time, they probably are. Unproductive meetings are very expensive, but unfortunately they occur frequently.

A simple task can take hours to complete because we get interrupted. If we walk to a colleague's desk or work area to chat, the face-to-face conversation might be the most

productive way to communicate, but we risk distractions and interruptions along the way.

Technology helps us stay connected but at the same time provides additional channels for interruptions. Cell phones are especially distracting for many people, and I wonder how much more productive certain people would be without their cell phones?

There are too many examples of distractions and interruptions to list here, but there is one phenomenon that needs our attention. ***One of the biggest productivity killers is “project juggling.”*** When we switch back and forth between multiple projects, every time we stop work on one and start on another there is significant ramp-up time which is not as productive compared to if we were able to focus on fewer projects. This gets worse as we take on more projects that we must work on simultaneously.

Product development methodology gurus Wheelwright and Clark did an extensive study that determined the ideal number of simultaneous projects for an engineer. With just one project, productivity was only about 70%, and was limited due to dead time while waiting for input or actions that enable work to continue. With two projects the average productivity increased to about 80%. With three concurrent projects productivity slipped to about 60%, and with four projects productivity dropped below 50%.

You can imagine what happens with five or more projects!

In their study, Wheelwright and Clark defined productivity as “the percent of time spent on value-adding tasks.” This is a good definition to keep in the forefront of your mind, though there are other good definitions as well. Many people struggle with the meaning of “productivity” and a clear definition such as this one can be helpful.

Other recent studies have found that productivity above 90% is nearly impossible, 80% is excellent, 70% is very good, and ***60% or below is typical.***

With the prevalence of layoffs and other cost-cutting measures, people are expected to do more with less, which often leads to individuals taking on more work. In doing so, productivity can decrease significantly, which means that the output to cost ratio decreases. In other words, businesses get a lower return on their investment when cost-cutting measures reduce productivity – which is frequently the case.

Let’s revisit our example group of 20 engineers. The fixed burdened cost, no matter how many hours they work is about \$347,000/month. If the percent of time spent on value-adding tasks is in the neighborhood of 60%, but could be increased to 80% through a productivity initiative, what would this productivity gain be worth?

To accurately estimate this, we would need to know the value of the output, so let’s just look at it in terms of cost. If 20% of the labor cost is wasted, that amounts to nearly \$70,000/month in this example, or roughly \$800,000 in a year. A successful productivity initiative should cost a small fraction of this, and even if the productivity gain requires hiring one or two additional workers, the ROI is still favorable.

Again, this example doesn’t even address the value of the output, which should be huge, so let’s look at this next.

2 FULLY ASSESS THE COSTS ASSOCIATED WITH PROJECT DELAYS

We’ll look at two real-world examples here very quickly. The first is a product development example where the cost of time-to-market delay is significant.

In this example, a team is working on a new product family that will initially generate about \$5M in revenue per month when released. The cost of delay includes the cost to keep the team working on this project as well as the cost of lost opportunities because new projects can’t be started yet.

To simplify, let’s only consider revenue lost due to each month of delay, which is ~\$5M. In this case we’ll consider a productivity initiative focused specifically on time-to-market with a goal to achieve a 10% reduction in development cycle time. If a 20-month schedule could be reduced to 18 months, the company benefits from ~\$10M in additional revenue upon release of the new product family.

A successful productivity initiative to achieve these results should cost only a small fraction of the return. If the right resources are engaged, the ROI could be well over 10x – maybe even 100x (with an investment under \$100K).

Here’s an example of a process improvement program. This company estimates they are losing \$6M annually due to inefficient processes and data standardization issues, and they decide to invest in improving this situation. The estimate to complete the program is roughly \$7M over an 18-month period.

The cost of delay in this case is the cost to the company due to inefficiencies until the project is complete (\$115K/week) plus the development cost (\$90K/week). The total cost of delay is approximately \$205K/week. If the program is completed one month sooner through a productivity initiative, the benefit to the company is over \$800K. If an investment of an additional \$200K is necessary to reduce the development time by one month,

the overall benefit to the company is about \$600K upon completion of the program.

3 INVEST IN YOUR MANAGERS AND LEADERS

Very few managers know how to measure productivity from the broad perspective necessary to zero in on the most beneficial improvements. Those who do, don't generally know how to implement the improvements to solve "fuzzy" problems that impact productivity such as communication issues, morale issues, or problems that seem outside of their control – like lack of resources.

Managers don't generally receive anywhere near the level of education and training that is needed to significantly improve productivity in their work areas. Companies that invest in their managers often fall way short of providing them with the knowledge and tools they really need. Taking a few management courses or going through a basic corporate training program can be helpful, but much more is needed for managers to solve challenging productivity issues.

I'm happy to see training expenses heavily scrutinized during this recession. Over \$50 billion is spent annually in the U.S. on training and development and most training professionals would agree that much of this money is wasted. This would not be the case if decision-makers understood more about the proper educational activity to pursue given the goals and circumstances.

If the goal is to simply *increase knowledge* for the benefit of the business and the employee, then "education" is the appropriate solution. Don't expect any significant business results unless the educational activity is focused and extensive.

When the goal is to bring a person or group to an agreed standard of proficiency through practice and instruction,

then "training" is the best solution. Training is successful when learning objectives are well-defined and met. The learning objectives may or may not have a significant measurable business outcome. For example, when managers receive basic training covering topics such as harassment, performance management, company policies, etc., though this training is important, it will not generally yield measurable outcomes that improve business results.

To improve business results, some sort of outcome-based approach is needed. Outcome-based solutions first define measurable business outcomes, and then a team is formed that is accountable for results. The team works together until the measurable outcome is achieved. Education is often a major aspect of achieving sustainable improvements, but is not the focus of the activity. ***The outcomes are the focus.*** Getting managers involved in outcome-based activities by definition has measurable business results.

Even better than outcome-based activities, are ROI-based activities. ROI-based solutions first define outcomes that can be measured in terms of financial gains. A team is formed that is accountable for results, and they work together until the measurable ROI is achieved. Education might be a necessary aspect for successful completion. Achieving measurable ROI is more difficult than other outcome-based approaches, and usually requires the support of top-management.

The reason I went through this explanation is because ***managers are not enabled to make or influence significant and sustainable productivity improvements without either extensive education and training, or an organized outcome-based approach.***

An outcome-based approach (or ROI-based) is by far the most expedient way to benefit from measurable results. Success requires an expert facilitator to help define the outcomes, pull the team together, facilitate learning, and ensure the outcomes are achieved.