

THE HIDDEN VALUE OF MAINTENANCE

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THE HIDDEN VALUE OF MAINTENANCE

- ▶ \$50,000 in fire damage because oil in a transformer hadn't been checked.
- ▶ \$100,000 loss caused by failure of a main switchgear, because no one ever cleaned it.
- ▶ A plant shuts down for 12 days because of dust.
- ▶ \$60 million in losses caused by improper use of an old extension cord.¹

If these types of maintenance failures can happen when the economy is healthy and maintenance budgets are at all time highs, what will happen in a slower economy when budgets are cut?

Business losses due to downtime alone are estimated to be nearly \$50 billion per year world wide. Studies show that 60% to 70% of that downtime is caused by human error.

It doesn't make sense. With these types of statistics, why do so many businesses and other organizations underestimate the value of maintenance and slash those budgets first?

The answer is because the work they do is invisible unless there is a mistake.

The value of maintenance is hidden when done right. But if one small step is forgotten or one tiny error is made, suddenly the entire plant notices and blames the maintenance staff for the failure. But more often than not, it is not their failure at all, but a failure of the organization to support them in their critical jobs.

This report is designed to help people better understand the value of the maintenance worker, the role training plays in his or her success, and how an

organization can turn maintenance and training budgets from being "necessary evils", into practical ways of saving money, improving efficiencies, and adding to the bottom line.

It's all about... *Creating a Better, Safer and more Efficient Maintenance Workforce*

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TOP 8 MISTAKES IN MAINTENANCE WITH TIGHT BUDGETS

- 1. Change for the Sake of Change** – When times are tough, people have a tendency to try and over-control the situation, often making it much worse. As a result, they make changes in hopes of improving a situation, but without really knowing that maybe what they are already doing is already the best thing. The changes they make often come with much more work for everyone that doesn't produce much, but only gives them a sense of being able to say "we tried everything". So don't over react. If you had a maintenance strategy or processes you believed in when times were good, then how much more important is it to stay the course on that strategy when times are bad?
- 2. Not Focusing on the Fundamentals** – Working on new projects means something else won't get done. Make sure the basics are covered and the fundamentals of keeping your plant up and running are not neglected.
- 3. Cuts in the Training Budget** – You might make some short term gains on a budget issue, but the cost will only show up somewhere else, and in much bigger numbers. "Turning-them-loose-training" (learning from your mistakes), "Follow "Old Joe Training" (learning bad habits from others), and "Band-aid-training" (sitting a worker in front of a boring video or webcast), while sometimes are good supplements, are poor substitutes for professional training from a live human being. The costs for taking these shortcuts will eventually surface.
- 4. Communication Neglect** – People tend to keep their heads low when they are stressed. This causes poorer communication across all lines at a time when it is more important than ever to have clear and consistent communication to pull your company through.
- 5. Employee Neglect** – If management is stressed, you can bet the employees are too. Forgetting to remind people of the good job they have done or acknowledging their accomplishments will only make the situation worse. Improve their morale by letting them know you appreciate their work.
- 6. Putting Off Small Repairs** – The stories are endless about companies who "hold off" on minor repairs during a budget crisis so that they can concentrate the bigger issues, only to have their neglected small repair become the bigger issue.
- 7. Switching Vendors to Save a Buck** – If the lowest priced vendor wasn't good for your company before, what makes you think they will be good for your company now? Trying to save money on a \$1,000 component might sound like a good idea until you have to face a shut down for days or weeks at a time because it hasn't been delivered. Stick with what has kept you up and running.
- 8. Laying off the Wrong People for the Wrong Reason** – Don't create a worse problem down the road than you already have. Maybe laying off the young novice to keep "Old Joe" around sounds like a good decision, but not if Old Joe decides to retire in the next year and leaves you high and dry. Likewise, laying off Old Joe because he makes the most money might help your short-term budget, but if he really can "do it all", you probably need to figure out a way to keep him around. Be careful to analyze your needs and company policies before making a quick decision. Knowing your employees on a more personal level can help to clarify these decisions as well.

NEGATIVE EFFECTS OF DOWNTIME

The true cost of downtime is ten times what is used in cost justification reports.³ This is due to the fact that downtime eventually weaves its negative effects throughout everything a company does. Consider the effect downtime has on the wear and tear of other properly operating equipment, the stress it causes to workers and management, the impact it has on employee morale, the product quality issues that may arise, complaints by customers, and the time and money lost because of all these extra circumstances. Downtime at your facility even directly affects your local and national economy!

DETERMINING THE TRUE COST OF DOWNTIME

There are a variety of methods and calculators for determining downtime. In general however, you need to calculate:

1. How many employee hours are lost to unproductivity while the system is down, and then convert those lost hours into dollars
2. How many hours maintenance and other personnel spend repairing and getting the system back up and running, and convert those lost hours into dollars
3. How many hours the facility or unproductive machinery is burning up energy and resources, and convert those lost hours into dollars
4. How many hours management and administrative employees spend researching replacement parts, expediting orders or doing other "rush" related work, and convert those lost hours into dollars
5. How many hours customer service or sales personnel will spend explaining the downtime to customers and the effect it will have on them, and convert those hours into dollars
6. How many sales are lost due to the downtime, and convert those lost sales into dollars
7. How many customers are lost due to the downtime, and convert the future value of those customers to dollars.
8. Add all these figures up and add 10 to 20% to account for the less visible or intangible damages associated with downtime like lower employee morale, stress related unproductivity, negative publicity, etc. and you arrive at a *minimum* cost of downtime.

AVOIDING DOWNTIME

Clearly, the "best defense" as the say, is a "good offense". This means being "proactive", and not "reactive", in your maintenance responsibilities. Running a plant on a proactive maintenance basis makes your work much more efficient, productive, profitable, and your life less stressful. This is because *being proactive is the only way to reduce and eliminate downtime!*

HOW TO TELL IF YOUR CREW HAS A “REACTIVE” or “PROACTIVE” MINDSET

Changing from a “reactive to a “proactive” mindset is said to reduce maintenance costs by as much as 20%, and increase productivity as much as 15%. Those are huge savings for any company or organization. Ricky Smith, a CMRP and a contributing author for plantservices.com, provides guidelines for determining whether maintenance is being conducted with a reactive or proactive mindset. Mr. Smith says that you know you are in a reactive mode when:

1. Your PM labor hours stay the same (or increase) and emergency labor hours trend upward
2. PM work orders lack specifications, procedures and other data.
3. Yesterday’s maintenance problems and reliability issues consume 90% of daily maintenance meetings.
4. The maintenance supervisor is a hero one day, a “nogoodnik” the next.
5. The maintenance supervisor must work late at least twice a week.
6. Maintenance crews don’t know what equipment they’ll be working on tomorrow.
7. The maintenance supervisor routinely expedites parts for emergency work.
8. Equipment reliability issues prevent the plant from operating at targeted capacity.

In short, being reactive means performing preventive maintenance on equipment that continues to fail, or worse yet, not knowing what preventive maintenance to do at all. Quick fixes are repeatedly implemented, band-aids are put in place, but these solutions really never “fix” anything. Knowing the real reasons why equipment fails, and how to prevent it from failing in the future is the first step in changing from reactive to a proactive mindset. Gaining this knowledge requires education, and the most efficient, least costly, and time saving form of education is training received by others who have already been in your shoes.

TRAINING AS A SOLUTION FOR TIGHT BUDGETS

Training is a proactive solution to a reactive problem. Knowledge gained today saves the heavy costs of downtime tomorrow.

During the recession at the outset of this decade, high achieving companies like Southwest Airlines, Viacom & Dell not only survived, they thrived. All of them credit training as a being significant factor in their success during a period in which many of their competitors were just struggling to survive. Rather than cutting their training programs and budgets, they increased them.

Flexibility and agility are also key attributes for surviving a recession. Proper training is one of the quickest ways to improve the flexibility and agility of your employees. Relative to the maintenance function, this means that having a well-trained staff that can competently perform multiple skills in a variety of disciplines, is a key to success in your department.



American Trainco offers the most comprehensive course offering in the industry with dozens of industrial and commercial maintenance training classes for facilities, building, plant and manufacturing.

BENEFITS OF TRAINING

Each year, ASTD (American Society for Training and Development) provides a State of the Industry Report, which demonstrates the clear link between learning and performance in successful enterprises. Staff who receive formal training can be 230 per cent more productive than untrained colleagues who are working in the same role.⁴ The benefits of training go far beyond an individual just being able to do a better job. *Training is a recession solution!*

Top 10 Employee Benefits –

1. Improves Morale because Employees Feel Valued
2. Boosts Confidence
3. Provides Motivation
4. Allows for Career Advancement
5. Inspires Personal Satisfaction
6. Enables a Willingness to Take on Greater Responsibility
7. Improves Communication with More Experienced workers
8. Sets the Tone for New Hires
9. Prevents Unsafe Work Practices
10. Reduces On the Job Injuries

Top 10 Manager Benefits

1. Happier Employees (and it spreads!)
2. More Self-Reliant Employees
3. More Flexible Employees
4. Fewer Fires to Put Out
5. Improved Use of Your Time
6. Lower Stress Levels
7. Easier Budget Management
8. Makes the Overall Job Easier
9. More Likely to Maintain a “Hero” Status
10. Improves Career Advancement

Top 10 Company Benefits

1. Ensures the Future of the Company
2. Less Down Time or Business Interruption
3. Improved Life of Equipment
4. Increased Accuracy and Efficiency
5. Improved Capacity or Cycle Time
6. Increased Innovation / New Perspectives
7. Increased Sales / Revenues/Profits
8. Minimizes Liability and Lowers Insurance Costs
9. Enhances Company Image
10. Lower Employee Turnover / Attracts New Employees⁵

5 Benefits for the Customer

1. Improved Product Quality
2. Improved Customer Service
3. Lower Cost
4. Greater Confidence
5. Better Overall Satisfaction

TRAINING TRENDS

Companies that monitor their training results have found direct links to performance in their business and spend 31% more on training per employee than the average company. Top producing companies that are part of the ASTD Benchmarking studies for training spend 52% more than the average company, and average over 40 hours of training per employee, per year.⁶ Nearly 40% of all training expenditures are used for external training services, and the trend towards outsourcing has been increasing since 2006. The leading type of training companies seek are for profession-specific or industry-specific skills for their employees. Less than 11% of training curriculum developed is for mandatory or compliance type issues, meaning most training is done for general improvement of the company.

PREFERRED METHODS OF TRAINING

Live, classroom training is still the number one preferred way to receive training, but this is especially true for the skilled trades. Even with the advancement of e-learning technologies, over 60% of all training is still delivered with live instructors, and more than twice the money will be spent on live classroom training than all types of web-based or online training combined.⁶ E-learning has plateaued. According to a recent survey of 300

mechanical, electrical, facilities, utilities, and plumbing professionals, 41.4% of respondents indicated their company will spend its training budget dollars on classroom training only, whereas only 19.4% report their company will spend its training budget dollars on Web-based training only. "Obviously, you have to have some hands-on training for some of these things; there's just no way around it," says Jeff Dickey-Chasins, VP of marketing for MEP Jobs.⁷

WHICH TYPE OF TRAINING IS MOST EFFECTIVE

Ranked in order of effectiveness are the following types of training:

1. Mentorship
2. On-site Instructor-led Training
3. Off-site Instructor-led Training
4. Trade School / Vocational School
5. Simulation Programs
6. Online Training
7. Videos
8. Books

SIMPLE STEPS IN CALCULATING A RETURN ON YOUR TRAINING INVESTMENT

National and international research alike indicates that the increased productivity resulting from targeted training of specific employees yields a return on training investment of more than 30 percent on average. Many complex and sophisticated techniques can be used to evaluate the precise benefits of training, but in general there are five simple steps.

1. **Know Your "Cost of Failure"**. How much downtime do you experience each year at what cost? (Refer to the section DETERMINING THE COST OF DOWNTIME).
2. **Know the "Benefits of Success"**. What additional benefits and cost savings will you gain with the successful operation of your department, and what dollar amount does that represent? (Refer to the section BENEFITS OF TRAINING to assess your situation).
3. **Determine the "Cost of Training"**. Include instructor/facilitator fees or salaries, course materials/videos/workbooks, equipment rental/use, facility rental/use, productivity downtime (the cost of employee "time off" for training), travel if required, administration costs, and training design or curriculum development if required. (In the case of outsourcing your training, most of these costs are already included in a fee for an open enrollment seminar, or in the on-site fee for bringing training for your group directly to your facility.)
4. **Calculate Actual Dollars Saved:** *Cost of Failure plus Benefits of Success, minus Cost of Training*
5. **Calculate a Return on your Training Investment:** *Cost of Failure plus Benefits of Success, divided by the Cost of Training*

WHERE TO GET MONEY FOR TRAINING

There are two primary ways companies have been successful at raising money to cover their training costs. First is by sponsoring a training event, inviting customers or other companies in your community to attend, charge a fee, and turn your training "cost" into a training "profit". Secondly, convince a government or non-profit agency to grant training money for your organization, or have them sponsor or co-sponsor a training event like that already mentioned. To do this, contact the Executive Director of your local, county, state or regional;

1. economic development team
2. employment office
3. private industry commission
4. workforce development board
5. department of commerce
6. National Education Foundation arm (NEF)
7. local university, community college or private technical school

TRAINING PATTERNS IN TOP PERFORMING COMPANIES⁶

1. **Strategy** – Learning initiatives are closely aligned with a larger business strategy.
2. **Appropriateness** – Learning is matched to individual competencies, development plans and organizational goals.
3. **Support** – There is visible support for training from senior executives.
4. **Involvement** - Individual leaders lead by example, are champions for training, and offer to be mentors or teachers.
5. **Efficiency** – Organizations maximize efficiency by balancing the use of internal and outsourced training activities to meet company needs.
6. **Need** - Organizations are need driven, rather than budget driven when making training decisions.
7. **Investment** – In general, top performing companies spend more on training and provide more employee hours of training than the average company.
8. **Variety** – Broad ranges of internal and external training opportunities are provided to employees to match their learning styles and improve interest.
9. **Measurement** – Effectiveness of individuals and the benefits provided to the company as a whole are continually monitored for improvement and linked back to the training investment.
10. **"Non-Training" Solutions** – Commitment to other improvement activities that complement the training function, such as; viewing and speaking of training as an "investment" rather than a "cost", instilling a "learning culture" by basing compensation on skills and results rather than years on the job, creating a clear and documented progression path for the workforce, developing mentorship programs, and planning for succession of retiring workers.

