Return on Investment Calculator

Cost of an Open Position

DIRECTIONS: Fill in the blanks below and on the following pages for your company or business unit.

Your Company/Business Unit

Number of Technical Employees	50
Number of Hires Per 12 Month Period	5
Average Wage of Open Positions (Fully Loaded)	$ 20 /hr

Recruiting and Hiring Costs

Advertising
Combined expenses for online job boards, newspaper ads, etc.

5 (Vacancies) x $ 3500 (Average Cost) = **$17,500**

Internal meetings to screen and select candidates
Staff time to interview all considered candidates

25 (Candidates) x 1 hr (Length) x 3 (Participants) x $ 45 /hr (Management cost) = **$3,375**

Internal meetings to select new employee
Staff time spent reviewing and considering candidates

10 (Meetings) x 1.5 hr (Length) x 3 (Participants) x $ 45 /hr (Management cost) = **$2,025**

Annual cost for preemployment testing	$ 10200

Other Internal HR Hours associated with these hires (screening applicants, setting up interviews, paperwork)
Staff time required for other HR procedures

5 (Candidates) x 1 hr (Time per Candidate) x $ 25 /hr (Cost per hour) = **$1,250**

TOTAL RECRUITING AND HIRING COST	**$34,350**
Divided by number of hires	5
RECRUITING AND HIRING COST PER HIRE	**$6,870**

Staffing/Placement Firm Costs

Staffing/Placement Firm Costs

Premium paid to a search firm to identify and select candidates, or to a temporary agency (if not applicable, enter zero jobs).

5	x	$ 20 /hr	x	25 %	=	$50,000
Jobs filled by staffing firm		Hourly wage		Fee		

STAFFING FIRM COST PER HIRE **$10,000**

On the Job Training (OJT) Costs

Employee OJT () Costs

Amount of time a new employee spends on in-house training or non-productive position

300	x	$ 20 /hr	=	$6,000
OJT hours		Loaded salary		

Supervisor OJT () Costs Per Hire

Amount of time staff spends training or supervising new hires (time spent away from actual production)

150	x	$ 36 /hr	=	$5,400
OJT hours		Loaded salary		

Cost of training equipment, production equipment, or consumables used for training instead of production $ 2000

TOTAL ON THE JOB TRAINING COST PER HIRE **$13,400**

TOTAL COST PER HIRE

$70,270

Business Impact

Research indicates that unfilled technical positions have a significant impact on overtime, cycle time, and downtime. According to business studies, on average, these amount to 11% of earnings for a typical production facility.

Since most companies calculate overtime, we will start with that expense and its impact on ROI.

Overtime Costs

Average Overtime Per Employee

Estimate the average overtime for employees in production, maintenance, or skilled trades

4	x	$ 30	x	50	x	52	=	$312,000
Avg OT hours/week		Wages (1.5x)		Employees		Weeks per Year		

Premium on Overtime 10 %

Research has shown a 10% increase in overtime due to the skills gap. You can use that estimate, or enter in a different figure for your company's overtime premium.

ANNUAL OVERTIME COST

$31,200

Downtime and Cycle Time

This ROI calculation may be just the tip of the iceberg in the total cost of the skills gap for your business.

Downtime and cycle time are two hidden impacts from lacking the right workers in the right position. Consider the costs when higher setup or programming time reduces your efficiency. Or when a lack of skilled maintenance workers leads to machines going down longer and more frequently.

To get an estimate of the potential impact, start by entering your revenue.

Annual Revenue $ 12000000

10% INCREASE IN DOWNTIME **$8,640**

Research has shown a 10% increase in downtime due to the skills gap. Using the Overall Equipment Effectiveness calculation of Availability x Performance x Quality, a 10% increase in downtime leads to a 0.07% decrease in revenue.

8% INCREASE IN CYCLE TIME **$77,760**

Research has shown an 8% increase in cycletime due to the skills gap. Using the Overall Equipment Effectiveness calculation of Availability x Performance x Quality, an 8% increase in cycletime leads to a 0.6% decrease in revenue.

TOTAL COSTS OF DOWNTIME AND CYCLE TIME **$86,400**

Although we aren't adding this total of downtime and cycle time into the overall estimated ROI calculation for your company, you should consider these as "hidden" factors that are negatively impacting your bottom line.

Possible Savings

Reduction in Turnover

Consider an additional perk companies frequently realize from hiring from a better candidate pool: These employees are a better fit for the job, and they typically stay longer in the position. This benefit is actually realized the following year because less employees need to be hired and trained. Companies report that employee retention may **improve by 50% or more** when they hire candidates with an industry certification that matches their needs.

DIRECTIONS: Enter a percent reduction you expect to achieve in turnover for your new, better-qualified employees.

Reduction in employee turnover 50 %

Reduction in hiring costs **$17,175**

Reduction in OJT costs **$33,500**

Total savings due to reduction turnover **$50,675**

Cost Savings Resulting from an Education Partnership

Hiring workers is expensive! Building a pipeline of workers with the right skills can dramatically reduce your costs.

By partnering with a community college, you can lay out your minimum and optimal competencies and help establish a recruiting relationship. One of the most important steps you can take is to identify manufacturing certifications that validate the skills needed on the job.

How much difference can this make? Businesses that have partnered with a community college have estimated it can **reduce by 50% or more** the number of candidates they have to interview.

DIRECTIONS: Enter a percent reduction you expect to achieve from a partnership that helps you build a pipeline of workers with the right skills. (If you're not sure, you may leave the figure at 50% to get an idea of the possible cost savings.)

Reduction in recruiting expenses 50 %

Reduction in recruitment advertising	**$8,750**
Reduction in interviews required	**$1,688**
Reduction in meetings required	**$1,013**
Reduction in preemployment testing	**$5,100**
Reduction in candidate screening	**$625**
Total reduction in Hiring Cost (company-performed)	**$17,176**

Reduction in Hiring Cost (Staffing or Placement Agency)

If you rely on temporary/placement agencies for some or all of your technical hires, that's another potential area where you can save. Some businesses have completely eliminated temporary agencies, and the fees they pay, when they build a robust community college partnership.

DIRECTIONS: Enter a percent reduction you expect to achieve in your staffing/placement fees. (If you didn't enter any staffing agency fees before, you can skip this step.)

Reduction/Elimination of Staffing Agency Fees	100 %
Reduction in staffing/placement agency fees	**$50,000**

Reduction in OJT Cost Per Employee

Frequently, better qualified candidates require less on-the-job training to come up to speed once hired. Many companies have reported a 33% reduction in OJT for employees that already possess an industry certification.

DIRECTIONS: Enter a percent reduction you expect to achieve in the training time required for a new employee.

Reduction/Elimination of Employee Training	33 %
Savings due to reduction in employee OJT time	**$9,900**
Savings due to reduction in supervisory OJT time	**$8,910**
Reduction in OJT costs	**$18,810**

Reduction in Overtime Cost

As you saw in the previous section on Business Impact, overtime needed to cover unfilled positions represents a significant expense. Having a pipeline of qualified candidates is a source of savings that can positively benefit your bottom line.

Savings due to reduction in overtime	**$31,200**

TOTAL POSSIBLE SAVINGS

$167,861

Company Investments in Industry Certifications and Workforce Partnerships

Of course, partnerships with a community college do require an investment. Most companies find the biggest costs are staff time to establish a partnership and manage candidate flows.

DIRECTIONS: Use the numbers and formulas provided to calculate business impact. Enter figures you expect for your company, or use the prepopulated numbers that other companies have reported spending.

Project Planning Activities

Typically, the company's initial investment in setting up workforce certification includes time spent by the line management, supervisors, and HR Manager to plan and implement the process.

Planner Costs

$	/hr	x	hr	=	
60		150			**$9,000**
Planner Salary		Hours			

Project Management

In successful projects where certified workers are being prepared, the company identifies a point person to serve as manager of the project. This person will serve as the point of contact with the company for all aspects of the project.

Project Manager Costs

$	/hr	x	hr	=	
45		50			**$2,250**
Project Manager Salary		Hours			

Workforce Supervision

Costs to Oversee Interns/Trainees

$	/hr	x	hr	=	
36		60			**$2,160**
Supervisor Salary		Hours			

Miscellaneous Costs

Enter other costs you associate with this project, such as equipment donation, travel, or stipends/wages for interns.

Miscellaneous Costs	$ 0

TOTAL IMPLEMENTATION COST

$13,410

Calculating Total Return on Investment (ROI)

Using the investment and savings numbers from your above work, you now are ready to see an estimated Return on Investment (ROI). for The formula for ROI is:

$$\frac{\text{RETURN - COST OF PROJECT}}{\text{COST OF PROJECT}}$$

Your numbers from the previous sections have gone into the table below to calculate your expected ROI from this project.. You can go back to previous sections to change any variables and see how they impact the ROI. When you are satisfied with the results, you can print or save your work.

Return on Investment

Total Possible Savings	**$167,861**

Total Investment **$13,410**

True Return

$167,861	—	$13,410	=	**$154,451**
Total Possible Savings		Total Investment (Cost)		

TOTAL TRUE RETURN **$154,451**

Return to Investment Ratio

$154,451	÷	$13,410	**11.52**

RETURN TO INVESTMENT RATIO **11.52**

TOTAL RETURN ON INVESTMENT

1152%

Want to learn more about manufacturing certifications and building community college partnerships? Visit The Manufacturing Institute (http://www.themanufacturinginstitute.org/Skills-Certification/Skills-Certification.aspx).