How to Use ROI to Help Financially Justify your EHS Projects

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INSURICA
CONSTRUCTION

This Presentation Covers

- What is “ROI”
- When is ROI used
- What is information is needed
- How is ROI calculated
- Two examples of when ROI was used

What is ROI

- ROI stands for Return on Investment
- It is a mathematical formula to help companies evaluate and make “sound” financial decisions
- Commonly used to determine:
  - If a company should acquire another company
  - Should equipment be purchased to make parts or should the parts be out-sourced
  - Leasing / Renting vs. Purchasing Equipment
  - Process Improvements – computer software

First Step: Benefits Costs Ratio

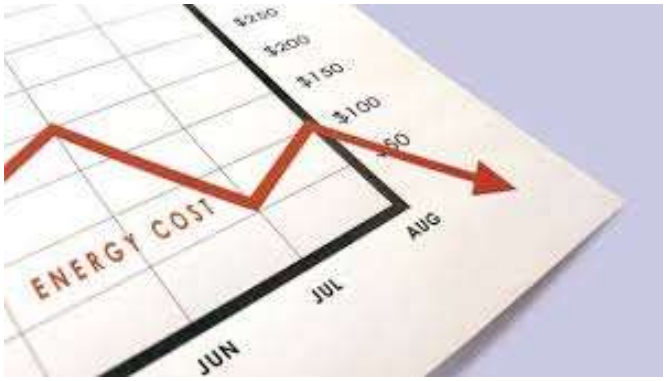
A basic calculation to determine if there is a need conduct a more in-depth ROI calculation:

$$\text{BCR} = \frac{\text{Project Benefits}}{\text{Project Cost}}$$

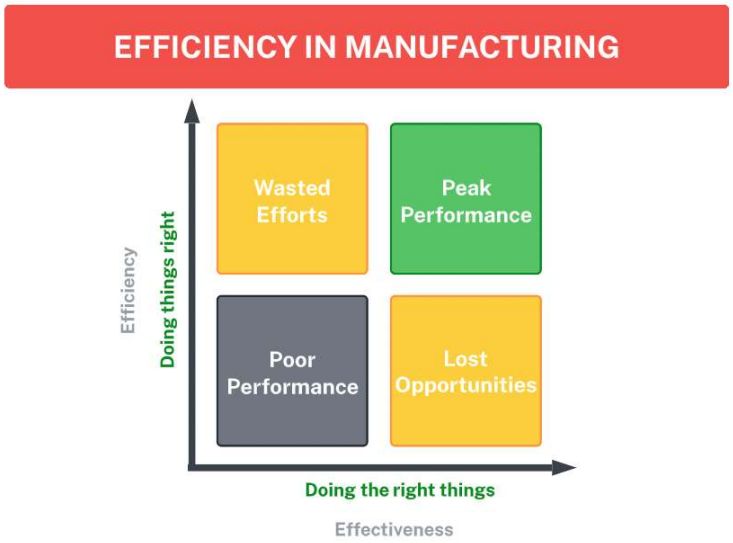
Project Benefits are both direct and indirect benefits

Direct Benefits are

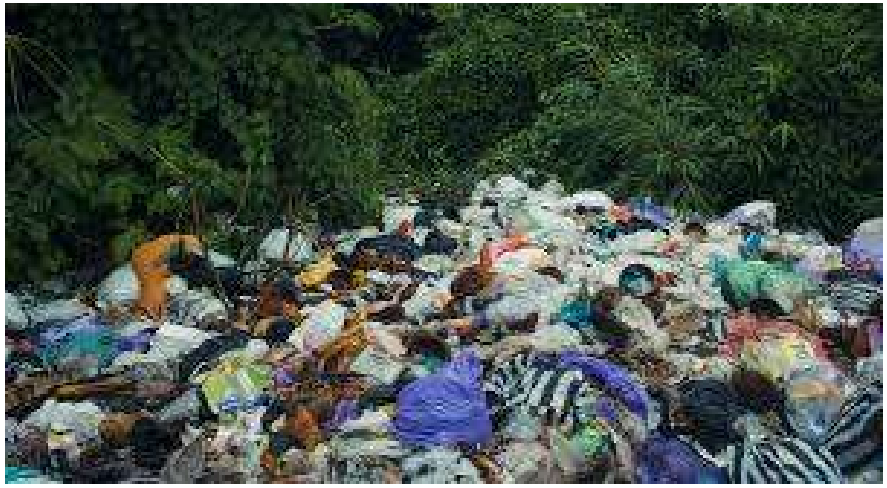
A quantifiable financial gain that can be directly attributed to an investment. These benefits can range from direct income to operational efficiencies and productivity improvements



Reduced Energy Cost



Producing more with less

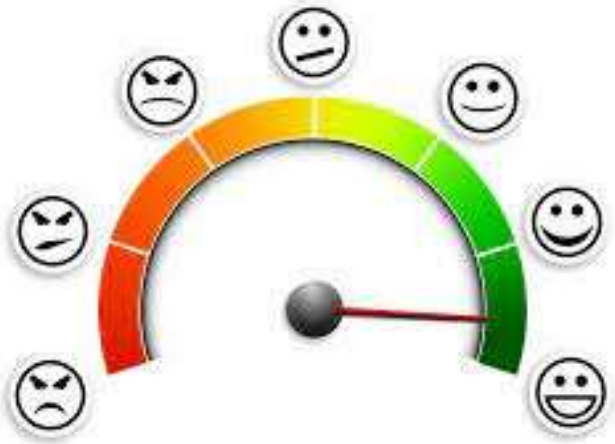


Reduced waste produced

Indirect Benefits are

A positive outcome or advantage gained from an investment that is not easily quantifiable in monetary terms. Indirect benefits reflect items and processes that requires subjective assessment of value

Improve Moral, Reduce Turn-Over



Improve Customer Satisfaction

Improve Data Collection

Pay Back in Dollars Invested

Calculation:

$$\text{ROI} = \frac{\text{Net Project Benefits}}{\text{Project Cost}} \times 100 \text{ (Percent)}$$

Example: The EHS Director wants to buy a software system that is $50,000. The CFO has determined the initial BCR is 2.5 and the Project Benefits $175,000.

$$\text{ROI} = \frac{(\$175{,}000 - \$50{,}000)}{\$50{,}000} = 2.5 \times 100 = 250\%$$

Pay-Back In Time

Calculation:

$$\text{Pay Back Period} = \frac{\text{Total Investment}}{\text{Annual Savings}}$$

Example: The EHS Director and CFO determine that the annual savings will be $25,000.

$$\text{ROI} = \frac{\$50{,}000}{\$25{,}000} = 2 \text{ years}$$

When ROI fails

- **The data used for direct and indirect benefits is not accurate or potentially tainted to get a desired outcome.**
- **Not capturing all the costs, forgetting key items**
- **Over-valuing indirect benefits**
- **Not getting the CEO / CFO involved**

Example 1:

A fiberglass manufacturer is concerned with the amount of acetone that their employees are using and are being exposed to. They also have seen an increase in turn over and other companies adjoining their property are complaining about the smell. The CEO goes to a trade show found a company that makes a piece of equipment that uses a chemical that isn't a hazardous chemical, and the smell is contained in the equipment. The CEO creates a task force to determine if this system can be used to replace acetone.

Example 1: Determining Pay Back

Direct Cost

- **One gallon of Acetone is roughly $10, and the costs of this new product is roughly $5 a gallon.**
- **Spent material can be recycled and then discharged to sewer that would reduce their Hazardous Waste Generator status from a Large Quantity Generator to Very Small Quantity Generator**

Indirect Costs

- **There is no odor with the new product, should help with employee turn-over and the companies adjoining their property.**

Example 1: What Happen

CFO did a BCR and determine that was enough information to conduct an ROI to determine the payback in dollars and/or time. The CEO was slightly skeptical and agreed to purchase one machine on a trail basis:

- **It took 5 gallons of this new material to do the same job as one gallon of acetone which significantly increased the costs.**
- **The EHS Director tested the wastewater effluent generated and found out that it could not be sewered and it created another waste stream.**

Indirect Costs

- **The odor that the companies adjoining their property were complaining about was styrene not acetone.**

Example 2:

A Molding Shop was creating a lot of plastic waste. Their operators were using the molding equipment correctly and there was not other obvious things to do to reduce waste. Throwing the plastic waste in the dumpster took up space and increase disposal costs. They contacted their vendor who supplied their resin (pellets) to see if they could regrind this waste material. Their answer was no citing transportation costs. The CEO and the EHS Director decided to see if getting a grinder to reduce the space being taken up in the dumpster was economically practical.

Example 2: Determining Pay Back

Direct Cost

- **The cost of the grinder**
- **Electrical Wiring – there was a need for an outlet**
- **Determine if there was a need to hire an additional labor**

Indirect Costs

- **Write-up a procedure**
- **Conduct Safety Training**

Example 2: What Happen

The following was discovered:

- **The space that was taken up by un-grinded material was reduced by 50%**
- **The cost of the grinder was reasonable and low maintenance**
- **There was no need for additional labor**

Indirect Costs

- **The cost of writing a procedure and to conduct safety training was minimal**

Unexpected Benefit:

- **The company that sold this grinder to the Molding Shop had a customer who would buy the grinded plastic material**

Questions