

How to Promote the Business Value of EHS

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Introduction

It is very difficult to measure the performance of EHS programs in terms of their business value to the organization. EHS professionals can, however, raise the value of their programs in the eyes of executive management with the use of a few accounting and process improvement tools.

The barriers to recognition of EHS performance in relation to business value must be recognized before they can be overcome. Barriers include a lack of a common language or lexicon between EHS professionals and financial analysts and executives, a poor understanding of how EHS strategies affect financial outcomes, lack of market incentives for EHS-related value to a product, and little fiduciary incentive to explicitly disclose EHS-related information in financial reports.

A great volume of literature is available that bemoans the disconnection between EHS performance and business value and that considers or introduces general concepts for overcoming the disconnection. Too few resources offer simple, usable tools for EHS professionals who are not well versed in financial language and practice. This paper provides EHS-business value measuring techniques (metrics) and simple tools and strategies for using them to help EHS professionals lift the value of their programs in the eyes of executive management and uncover their hidden benefits.

Not every EHS project or activity will contribute tangible value to the business, and some activities have intangible values that are difficult or impossible to express as business values. Several techniques have been developed and discussed in the literature to measure intangible values (e.g., Return on Assets hybrids, Delphi Method), but for the most part, they are complex and hard to implement, and are not covered in this paper. However, some simpler techniques, such as the Balanced Organizational Scorecard, are structured in a way that enables the user to demonstrate a measurable correlation between EHS performance and business value.

What is “Business Value”?

In management, “business value” is an informal term that includes all forms of tangible (perceptible and measurable) and intangible (not perceptible and measurable) value that determine the health and well-being of an organization.¹ It includes tangible economic value expressed as profit, revenue, shareholder stake, and market share. Forms of intangible value include company reputation, strategic information, employee talent, political support, employee morale, and many others.

All exchanges of goods, services, or revenue, including all transactions involving contracts, invoices, return receipt of orders, request for proposals, confirmations, and payment, are considered tangible value. In government agencies, these would be mandated activities. In nonprofit organizations, these would be formal commitments to provide resources or services.

Intangible value can be divided into broad categories of knowledge and benefits. Intangible knowledge value is expressed as intellectual property, technical expertise, and collaboration, all which support the tangible product and service value network. Intangible benefits include a favorable reputation, happy employees, a high level of innovation, and low levels of risk.

Business Value and EHS

For management, business value refers to the measurable and hidden assets and qualities that determine the health and well-being of an organization, drive decision-making for all work activities, and attract investors. An activity or product is “value-added” or is a “value driver” when the benefits to the organization clearly reflect the organization’s values and outweigh the costs of producing value.

For example, there are traditional tangible values that are routinely measured, such as profit, revenue, cash flow, and productivity.

There are also important hidden, or intangible, business values, such as company reputation, ability to innovate, employee talent, political support, and employee morale.

There is no easy way to measure the business value of intangibles in the way that traditional financial values are measured. Many qualities of safety programs are in this category of intangibles. You can appraise the value of property like a machine, but it’s more difficult to “appraise” the value of employee talent or skills in accounting or financial terms.

Common corporate drivers of business value are profitability, reputation, and compliance risk.

In government agencies, a primary value driver would be mandated directives. For example, for the U.S. military the primary value is readiness. Readiness is more important than reduced costs or profit in this context. Safety plays a significant role in ensuring the readiness of troops and support personnel to handle all kinds of hazardous conditions.

In nonprofit organizations, value drivers would be formal commitments to provide resources or services to members or the public.

The importance of value drivers can shift, resulting in a shift of resources within an organization to support the new primary driver. For example, profitability is an obvious tangible value. Reputation can be a powerful hidden value driver. Recent industrial explosions and deaths in an oil refinery in Texas, sugar dust explosion in Georgia, and gas explosion in Connecticut

show how profit and revenue can take a back seat to company reputation for a while. Safety performance can play a role in shaping the organization's competitive image and reputation.

Barriers Between EHS Performance and Business Value

The U.S. Environmental Protection Agency (EPA), in a 2000 study, titled "Green Dividends?—The Relationship Between Firms' Environmental Performance and Financial Performance,"² identified five primary barriers to understanding the relationship between a company's environmental performance and financial performance. These barriers are also applicable in the workplace safety arena.

1) Imprecise terminology for describing environmental performance. There is no common terminology to relate EHS performance to financial performance. If EHS performance cannot be precisely defined, it cannot be accurately measured. In other words, the indicators of EHS performance must be defined in the context of an organization's operational objectives in order to be relevant to managers and investors.

2) Lack of information exchange and a common language for describing environmental values. There is no uniform way to convert industry-specific or company-specific environmental data into a language that will correlate with established drivers of corporate value. Financial analysts, environmental managers, regulators, and environmental advocates each have different professional vocabularies to evaluate and describe the same conditions.

Note: Appendix A explains the meaning and applications for several terms used by financial analysts that EHS professionals should know as they measure and express the performance of their programs as a business value.

3) Lack of technical skills to understand how environmental strategies affect financial outcomes.

4) Lack of market mechanisms to encourage environmental strategies that might increase the value to firms. There is currently no way to demonstrate an industry-recognized standard of environmental performance that would increase a company's value or the value of its products in the marketplace. Sulfur dioxide emissions trading in the utility and manufacturing industry has shown some success as a market incentive, but the trading model has not yet been proven in other industries.

5) Fiduciary responsibility to disclose environmental information is discouraged. The lack of uniformity in disclosure of environmental performance means that investors cannot compare performance among companies. The Securities and Exchange Commission (SEC) rules have only recently required SEC registrants to disclose certain information concerning compliance or noncompliance with federal, state, and local environmental rules. For example, the material effects of complying or not complying with environmental requirements on capital expenditures, earnings, and competitive position must be reported (Code of Federal Regulations Title 17, Sec. 229.101).³

7 Steps to Integrate EHS as a Business Value

This section describes common EHS functions, lists the business values critical to the organization's executives, and links the two together.

The maxim to follow is, “What gets measured gets results.” Rather than bemoan the situation that the business end of your company does not understand EHS problems, it is better to learn business-speak so that you can communicate EHS to upper management in their own language. The following steps will help you adopt a system for measuring the performance of EHS functions in the context of their value to the organization, and for communicating your results to decision-makers.

Step 1: Identify Your Organization’s Value Drivers

“Value drivers” are the specific values that steer the organization.⁴ When these drivers change or are readjusted, many of the projects and resources of an organization are changed to express those values. EHS professionals must determine the core value drivers in order to prosper in the organization.

Profitability is a primary value driver for businesses, but reputation can be a powerful secondary driver for generating new revenue or protecting market share. The organization’s focus on a value driver like reputation can be dramatically enhanced when it is threatened or is in crisis. EHS performance can be a primary factor in shaping the organization’s competitive image and reputation in the industry. For governmental and nonprofit organizations, the primary value drivers may be customer service or regulatory compliance.

Following are common business value drivers for business executives and investors:

- Profitability
- Reputation/Image/Brand
- Market Share
- Time to Market
- Shareholder Value
- Cost Containment
- Productivity
- Customer Service
- Compliance Risk

Do some basic research to identify your organization’s business values. You can start by taking the following steps:

- Get a copy of the most recent financial report, annual report, or the budget if possible; look at mission statements, goals, and learn the basic terminology to understand how value is identified and expressed.
- Learn the basic terminology your organization uses to identify and express business value.
- Watch others who are successful in your organization at getting resources for their operations and learn the terminology and methods they use to express their value to the organization.
- Consider taking a short course (online courses may save time and money) or purchase a book about basic business principles for non-financial students, such as *The Ten Day MBA*.

- Identify key personnel in the organization who understand or work with the financial end of the business and learn from them.

Step 2: Identify Injury and Illness Costs

Injuries and illnesses increase production and administrative costs, and reduce profits. They are losses for any organization.

There are some free and useful tools and resources to help you understand how to calculate the financial loss to an organization from unsafe acts or conditions. For example, OSHA has an online calculator that allows you to enter some very basic financial information about your company and a specific type of incident, say, electric shock. You can enter your company's workers' compensation figures if known, or use OSHA's average industry costs for the injury. The URL for the OSHA calculator website is:

www.osha.gov/dcsp/smallbusiness/safetypays/index.html.

The OSHA calculator displays an estimate of the impact of workplace injuries on your company's profit. It also shows how injuries increase the cost of production of product/service. The results can be used to show the potential cost of accidents that do not happen.

Step 3: Identify Investments in EHS Activities

This step will help identify environmental and other EHS-related cost centers with their associated activities and cost items. EHS professionals cannot compete successfully for resources in an organization—or even begin to compare the value of activities—until they know how to realistically assess the cost of their activities. EHS functions are often viewed as a cost center, as opposed to a gain or benefit, from the business management perspective. Table 1 shows a sampling of safety-related cost centers with their associated activities and cost items.

Activity	Tasks	Investment
Safety compliance	Hazard analysis, inspections, reports, incident investigations	Staff time, equipment downtime, production delays
Training	Scheduling, program development, training sessions, recordkeeping	Staff time, consultant fees, production delays, training materials purchase
Worker's Compensation	Reporting, recordkeeping, training replacements, arrange light duty assignments	Premiums, staff time, lost work days
Protective Equipment	Hazard analysis, choosing equipment, maintenance, replace	Staff time, equipment

Table 1. Common safety functions can be grouped by investment categories.

There are many ways you can calculate investments. With today's computing power and sophisticated software packages, these investments can be compiled by activity and not just by product or service category.

Total cost accounting. Activity based costing (ABC)⁵ is a hugely popular accounting technique that allows an organization to determine the actual cost associated with a product and service produced without regard to the organizational structure of the producer. A form of ABC that has been used for EHS activities is Total Cost Accounting (TCA). Each EHS cost center can be put through a TCA calculator. Cost accounting is the process of tracking, recording, and analyzing costs associated with the products or activities of an organization. It is a type of management accounting that translates the supply chain (the series of events in the production process that, in concert, result in a product) into financial values. Managers use cost accounting to support decision making to reduce a company's costs and improve its profitability.

EPA funded a free and easy-to-use TCA program developed by the Texas Commission on Environmental Quality to demonstrate the power of TCA.⁶ This web-based program will allow you to input costs into the calculator and run various scenarios to compare differing inputs. The course can be accessed at the following URL: <http://teexcit.tamu.edu/tca/index.html>

This program will help you understand the impact of EHS costs on your business, provide instruction on comparing the cost of one process to another, and give you a tool for communicating costs and benefits of pollution prevention projects to facility management.

There are many other-cost accounting tools; this just illustrates that they exist and some are not beyond the abilities of professionals unfamiliar with accounting to learn and use in a short

time. Practice running your own cost scenarios with the online TCA program. Find out what financial costing process and software programs that are used by the organization, and learn as much as possible how those systems work. If possible, practice costing EHS programs through the organization's system or a simpler system that uses the same basic accounting process.

Step 4: Link EHS Functions to the Value Drivers

This step helps the EHS professional consciously identify the links between specific EHS functions and the core business values of the organization. The connections will vary depending on a particular organization's EHS activities and core business values. Use the linkage table (Table 2) to link the EHS functions to the corresponding business values. The Table is for illustration only and does not represent conditions at any specific organization.

Business Value →	Profit	Production	Risk	Reputation	Contain Cost	Time to Market
EHS Function ↓						
Training	X	X	X		X	
Waste Reduction	X	X	X	X	X	
Environmental Permit Compliance			X	X	X	X
Studies, Audits, Reports	X		X	X	X	
Safety Compliance	X	X	X	X	X	X
Remediation	X	X	X		X	
Energy Efficiency	X			X	X	
Safety Committee		X	X		X	
Security		X	X	X	X	
Pollution Prevention	X	X	X	X	X	
Recordkeeping		X	X		X	

Table 2. Link each EHS function to each business value.

Step 5: Measure Business Value Performance

Once the connections between EHS functions and the organization's business values are made and measurement techniques are chosen, the EHS professional can evaluate and enhance performance (i.e., streamline, innovate, improve processes) in the context of the organization's business values. There are several tools and programs available to accomplish this.

Use the conversion table (Table 3) to lay out a strategy for measuring the performance of EHS functions as business value outcomes.

EHS Function	Business Value Objective	Measure of Performance	Business Value Outcome
Training	<ul style="list-style-type: none">• Reduce cost per unit of output• Increase productivity• Reduce compliance risk	<ul style="list-style-type: none">• Productivity rate• Noncompliance incident rate	<ul style="list-style-type: none">• % increase in productivity• % reduction in noncompliance incidences

Table 3. Convert of EHS performance to a business value outcome.

A number of program management systems have been developed that can help you measure business value performance and enhance the value of EHS functions and activities⁷:

- Lean Manufacturing
- Six Sigma
- Lean Sigma
- Occupational Health and Safety Management System (OHSAS) 18000
- Global Reporting Initiative (GRI) Guidelines
- Environmental Management System (EMS)/International Organization for Standardization (ISO) 14000
- Quality Assurance
- Baldrige Performance Excellence Model

Balanced Organizational Scorecard. Some of these systems are complex and require considerable resources. There are, however, some simpler tools to help jumpstart improvements in performance, such as the Balanced Organizational Scorecard.⁷

The Balance Organizational Scorecard is a management method as well as a measuring tool for representing business value. It is described in detail in the next section.

The balanced scorecard is a *management system*--as well as a measurement system--that enables organizations to clarify their vision and strategy and translate them into action⁹. The balanced scorecard graphically shows what and how things are measured in order to "balance" the financial perspective. Some organizations use the term *dashboard* as an alternative to the

scorecard. The *dashboard* should include a glossary of definitions (easy way to translate EHS terms into business values) for anyone viewing the *dashboard*.

An organizational scorecard is built into an overall management framework that takes in to account five primary factors⁹:

- Mission—a statement of why the organization exists
- Guiding principles—values that drive the organization toward its mission (profit, productivity, customer satisfaction, employee loyalty, and others)
- Vision—how to carry out the mission (factors that distinguish the organization)
- How the organization is doing—criteria for measuring progress
- Targets—desired performance and results

The scorecard graphically illustrates how the organization is doing measured against the desired targets. Table 4 shows an example of the balanced organizational scorecard.

Ouda-Compe Alliance Corp. Sample Balanced Organizational Scorecard									
Criteria	Indicator	Target	Current Year Actual	Base Year 2000	Exceeds Target	Meets Target	Marginal	Not Acceptable	Responsible Department (Lead/Assist)
Lost work day rate (LWDR)	LWD/1,000 work hours	0.03	0.035	0.18			Yellow		EHS/EHS
Energy Use--Production Process	kilowatt hours (kWh)/month	3,000	3,145	3,500			Yellow		EHS/EHS
Environmental Initial/Refresher Training Sessions Completed	Percent total initial/refresher training sessions / month	95/95	60/40	40/20				Red	EHS/HR
Safety Initial/Refresher Training Sessions Completed	Percent total initial/refresher training sessions / month	95/95	90/75	60/30			Yellow		EHS/HR
Air, Water, Waste Incidents of Noncompliance	Incidents per month	0	4	7				Red	Operations/EHS
Accident Investigation Time to Completion	Business days per investigation	20	18	27	Green				EHS/HR
Accidental Releases-Water/Air	Incidents per month water/air	0/0	0/0	3/5		Blue			Operations/EHS
Environmental Violations and penalties	Number of violations/total penalties (\$)	0/0	2/\$18,000	5/\$77,400				Red	EHS
Safety Violations and penalties	Number of violations/total penalties (\$)	0/50	1/\$500	3/\$15,000			Yellow		Operations/EHS
Water Use--Production Process	Gallons per month	340,000	342,000	400,200			Yellow		Operations/EHS
Hazardous Waste Generation Rate	Pounds per month	220	220	380		Blue			Operations/EHS
Community Complaints	Complaints per month	0	1	8			Yellow		EHS

Table 4. The Scorecard displays business value performance at a glance.

Step 6: Communicate Results

When you are ready to make your business case, use the following guidelines to communicate with management⁸:

- Speak the language of management—use their terminology and methods for displaying and communicating information.
- Compare your case to doing nothing—good business plans and budget proposals usually project the impact on the organization’s bottom line if nothing changes.
- Document your assertions and assumptions—good documentation will do a lot to enhance your credibility and reliability.
- Address risk from management’s perspective—show how safety can achieve business objectives such as compliance at lowest cost.
- Be strategic—make targeted recommendations as to how company operations should act on the trends you are seeing.
- Show future investments, costs, and benefits whenever possible.
- Build a relationship—educate before making a case.
- Show how safety integrates with operations
- Make the pitch in 10 minutes or less—explain the problem, solution, and plan of action.
- Focus on priorities.
- Be ready with counter-proposal.
 - Work incrementally and build support.
 - If you don’t know the answer to a question, say you don’t know and ask for assistance.
- Show injury and illness losses in last year of incidents measured against investment in safety.
- Show how investment will reduce future loss.
- Show the trend that payback will come at a set time in future.
- Prioritize—target the most severe exposures to loss.
- Demonstrate probability of success (this is not ROI, but may be probability of achieving ROI).
- Know that your numbers are correct, don’t guess.

Step 7: Follow Up

Following up is like maintenance activities—vitaly important to the health of the company, but often ignored. Follow up is the key to getting upper management to accept your business case in the long term.

- Update upper management on a regular basis using terminology business managers understand and according to the communication culture of your organization. Use a format they prefer—email, intranet, quarterly meetings, etc.

- Don't overwhelm them with data, and make sure the information is fresh.
- Stay consistent with the measures—if you change an indicator or way of measuring performance, explain what and why the change was made. This goes to the credibility and reliability of your information. Describe an example.
- Management often values information about nonfinancial matters, such as changes in employee morale or the organization's reputation. You may have an opportunity to become a key source of information about the nonfinancial health of the organization.

Summary

The benefits of an organization's EHS functions and performance are often undervalued due to communication barriers between EHS professionals and executive management, and a lack of standard metrics for evaluating all aspects of EHS performance. However, this situation is improving with the advent of EHS-business value metrics and well organized strategies for using them.

EHS professionals need to know the primary value drivers that steer the organization. Primary business drivers include profitability, market share, reputation, and compliance risk. After researching these drivers, identify the costs of EHS functions at the organization. This can be accomplished by using modified cost accounting methods common in financial circles such as Activity Based Costing and its hybrid Total Cost Accounting. Then link the value drivers to each EHS function or activity. Once these links are clear, implement one or more management tools to enhance EHS programs in the context of the organization's business values. Such tools include the EMS, Six Sigma, process mapping, and the Balanced Organizational Scorecard. Use TCA and the scorecard to display information to executives and financial analysts in their language. Once the business case is made to executives, follow up with updates periodically to keep the value of EHS programs fresh in their minds.

Glossary of Terms for Tracking Business Value⁹

- Activity Based Costing—an accounting technique that allows an organization to determine the actual cost associated with a product and service produced without regard to the organizational structure of the producer.
- Business Value—the value of an organization beyond the economic value. It includes all forms of tangible (perceptible and measurable) and intangible value (not perceptible and measurable) that determine the health and well-being of an organization.
- Cash Flow—earnings (total income minus total expenses, or profit) plus depreciation of intangibles (e.g., company reputation or brand name). Related terms include free cash flow and net cash flow.
- Compliance Risk—the risk to earnings or capital from violations of laws, regulations, policies, standards, and prescribed practices. Such risk also arises from activities related to certain rules that are unclear or untested.
- Cost/Benefit Analysis—an analysis of the cost effectiveness of alternative actions or investments that summarizes and compares its costs (money, time, and resources consumed)

and benefits (net added value accrued to the firm). There must be a common denominator of measurement, usually money; all values must be expressed in the same unit of measurement for the analysis to be valid.

- Economic value added (EVA)--shareholder value created or lost over a set period.
- Earnings (Profit)—total income minus total expenses
- Intangible Value—a general term to describe values within an organization that support the tangible product and service value network. These values are not measured by monetary terms. Common examples are strategic information, technical expertise of employees, and company image or reputation.
- Internal Rate of Return (IRR)—the rate (expressed in percentage) for which the total present value of future cash flows related to an initial investment equals the cost of the initial investment. It is often used as a central decision criterion for financial specialists, and to rate alternative investments. It measures the time value of money, or when the present value of gains reaches the present value of costs, or zero.
- Market Share--the percentage or proportion of the total available market or market segment that is being serviced by a company.
- Net Present Value (NPV)—the present value of an investment's (or expenditure's) future net cash flows minus the initial investment (expenditure).
- Payback Period—a measure of time when the costs of an action or investment pays for itself. It is also used as a measure of risk; risk increases with the length of payback time.
- Price/Earnings (P/E)—the ratio of the market price of a stock or share in a company to the earnings of the stock or share. P/E is used to value companies. It is also useful for comparing the value of a company against other company's P/E in the same industry, or against a company's own historical P/E.
- Productivity—ability to produce more with the same or less input of time and resources. Labor productivity is the ratio of the output of goods and services to the labor hours devoted to the production of that output (# of units/hours of work). The formula for overall productivity of a labor force: $Productivity = [total\ labor\ compensation / hours] / [output / hours]$. It is often expressed as a percentage of change over time: "Productivity increased 0.5% this quarter from last quarter."
- Profit/Loss Balance Sheet—summarized list of costs and earnings, giving net savings
- Reputation/Image—an intangible business value that is improved when a company does not have EHS issues or is seen as being proactive in the EHS arena.
- Return on Investment (ROI)—an expression of the expected returns from an investment compared to the costs of the investment. ROI is another form of cost/benefit analysis, but it makes the cost/benefit statement in relative terms, as a ratio or percentage. It is applied to many different financial metrics, such as return on assets and average rate of return.
- Risk—in OHSAS 18001, risk is defined as the outcome of a hazard – similar to the fact that an impact is the outcome of an "aspect" in an EHS management system.

- Shareholder Value—the value of the company minus future debts. At the end of the business cycle of a company, after all debts have been paid, the money that remains is for the shareholders (owners of a corporation). A major goal for a company is to enrich its shareholders by activities that cause the stock price to increase.
- Tangible Value—a measurement of products or services that generate profit. All exchanges of goods, services or revenue, including all transactions involving contracts, invoices, return receipt of orders, request for proposals, confirmations, and payment are considered tangible value.
- Time to Market—the length of time it takes to get a product or service from an idea to the marketplace. In a highly competitive marketplace, the time to market has a marked effect on profitability.
- Total Cost Accounting—a form of Activity Based Costing that calculates costs associated with the products or activities of an organization. Managers use cost accounting to direct decision making to reduce a company's costs and improve its profitability.
- Value Drivers—guiding principles and behaviors that embody how your organization and its people are expected to operate. Value drivers direct the decision-making of every employee, which in turn help the organization to accomplish its mission and attain its vision in an appropriate manner.

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