Session No. 611

Harmonizing Performance Metrics: The Key to Sponsoring Organization Change

John McConnell, MBM, C.S.P., CRSP
Fran Sehn, MS, C.S.P., ARM

Overview

There are two words that characterize the challenge that organizations face in preventing occupational injuries and illnesses "Idea and Execution". While it is commonplace to hear executive management acknowledge the importance of preventing injuries, only a small percentage of companies actually achieve what we would consider to be "World Class" status. This is the paradigm that we will examine. Why is it so difficult to sponsor organizational change?

In our discussion we will explore performance metrics and their use as a basis for shaping organizational performance. If we can harmonize performance expectations for all levels within an organization, then we create a culture where priorities are continually reinforced resulting in the formation of deeply rooted organizational values.

Finally, once performance metrics are harmonized, what needs to go into the pipe? How can an organization move beyond regulatory compliance to foster a culture that embraces the prevention of injuries? We will discuss the integration of a management process that focuses on reducing operating risk as a means of improving performance. We have used this basic principle to successfully effect change in organizations around the world regardless of their operating culture or their countries health & safety regulatory environment.

The process described in this discussion relates to but one approach in improving an organizations safety performance. While we have successfully used this approach worldwide in a variety of different industries, there is a wide variety of approaches which have demonstrated significant reduction in work related injuries and illnesses.

Recognizing the Need for Change

Is there a critical event that needs to take place for an organization to realize that change is needed?

It is our contention that a principle factor in affecting organizational change relates to integrating injury prevention initiatives into every facet of the operating culture through an

integral management process. This not only reflects the reporting of operating metrics but also injury prevention metrics and initiatives which are integrated into every process and project which takes place to drive continuous improvement.

In 2008 the IBM Global Making Change Work Study examined how organizations can manage change and identifies strategies for improving project outcomes. The IBM Study explored differences in how change was implemented by over 1,500 practitioners worldwide, starting with the awareness that very few organizations do it well. IBM conducted surveys and face-to-face interviews with project leaders, sponsors, project managers and change managers from many of the world's leading organizations. One conclusion the study identified is that the ability to manage change must be a core competence – and yet, as the level of expected change continues to rise, many are struggling to keep up. "Eight out of ten CEOs anticipate substantial or very substantial change over the next three years however; the study suggests that most CEOs consider themselves and their organizations to be executing change poorly".

Understanding that many organizations need assistance in recognizing the need for change, can this change be generated from within or does an outside influence need to be sought. I really can't define a universal answer as every situation is unique however several important considerations have been identified. John Kotter identified these key elements in the Harvard Business Review Blog entitled "Four Ways to Increase the Urgency Needed for Change" April 15, 2009

The following is a summary of Kotter's suggestions:

1. Top management sees an opportunity and not only a problem.
2. They give as much of the disquieting information to as many people as is practical.
3. They make it clear that a prosperous future is the only issue.
4. The top managers act with self-confidence and little visible fear, anger, or arrogance

Establishing Injury Prevention Goals

"Skin in the Game"

Two basic themes have proven themselves in most organizations:

1. What Gets Measured Gets Done; and
2. People do what they are held accountable to do

There are several ways to create an environment where site management has a vested interest in improving their operating culture. The first relates to including a safety improvement metric as a component of their performance review. People respond to monetary motivation. The second relates to the practice of allocating the cost of risk back to the operating site. Optimally both features can be used in tandem.

What happens many times in the absence of management having "skin in the game" relates to their focus on performance metrics that impact their compensation and delegating secondary metrics to specialized staff? Such is the case where safety professionals operate in a capacity

where they are accountable for regulatory compliance but have no operational authority or input as to how a site operates.

Risk Allocation

The first comment to make in discussing risk allocation is that this strategy is only useful in the United States and the United Kingdom where Workers Compensation and Employers Liability exposures can be defined financially. Risk Allocation is typically not a construct that can be equated in countries with socialized medicine programs. With that being said, we will continue under the premise of discussing workers compensation costs in the US.

It has been our experience that the majority of organizations do not have a robust risk allocation system. While most organizations have some basis for risk allocation, it is commonly allocated by sales, number of employees or another standardized measure that does not incentivize risk reduction. The perception is that workers compensation costs are a part of doing business and that claims can only be managed and not prevented. As such executive management does not want to penalize a site manager who is a star performer (P&L metrics) by holding them accountable for workers compensation.

If an organization has a risk allocation system, typically it is structured solely on historical losses. While this will create skin in the game, it's common for general managers to be frustrated with their attempts to control expense allocations which are deemed beyond their control and new cases can't be estimated in the budget forecast. The system can be structured to use multiple years of loss information which will lessen year to year impact, but this type of system is continues to be seen as a penalty and not a motivation for improvement.

On the other hand, one of the better risk allocation systems we have seen to date uses a set of 3 criteria as a basis for allocating the cost of risk.

1. PAST: Loss History (3 year average)
2. PRESENT: Standardized Measure (i.e., number of employees) – an equalizer for small vs. large sites
3. FUTURE: Auditing the implementation of a global best practice metric (what goes into the pipe)

Establishing a goal is simple process yet achieving the goal is where the challenge comes. Goals at the Executive Level are traditionally numeric. If we want to be consistent with other metrics in the business process, our metrics should also be numeric. It has been our experience that a numeric goal for preventing injuries is most often a lagging indicator such as the Total Recordable Incident Rate or TRIR). Keep in mind that a numeric metric is a simple measure of where we have been and not a predictor of where we are going. This is a primary paradigm of using zero as a numeric metric. The desired outcome can influence the process.

For those organizations with superior injury prevention performance, zero may be an appropriate goal but many organizations cannot consider this a realistic goal. In consulting with organizations around the world, zero injuries are a common management perception of a place they need to be. There is a natural tendency in organizations to meet expectations. As sponsors of organizational change we cannot always impact the perceptions of Executive Management. If zero must be the metric due to management's perception, we would suggest a supplemental goal

be established as a continuous improvement goal. In contrast, we might also consider establishing a metric related to the implementation of a management process that defines strategies, initiatives and audits as a numeric metric.

Zero as a goal is analogous to establishing a zero defect goal for a quality system. Is it realistic to think that all human behavior is predictable and that all injuries can be prevented? The temptation is to focus on "What comes out of the pipe" instead of "what goes into the pipe". Every organization is different as to what motivations are present in their operating culture. Certainly the financial performance, market position, operating capital and share price all drive perceptions at the executive level.

We have found that the lower the total recordable injuries rate (TRIR) for an organization, the greater the emphasis that needs to be placed on "what goes into the pipe". If we can identify those strategies and initiatives which impact the operating culture, the more successful we'll be in preventing injuries. We have been very successful focusing on the establishment of operational accountability through reductions in operating risk. The implementation of a risk assessment process is a key feature to this type of continuous improvement strategy.

Metric Harmonization

Ultimately it is the goal of any safety management process to integrate injury prevention metrics into the operating culture of the organization. One example of metric integration which we have encountered in a number of organizations relates to a four metrics comprising the basis of monthly reporting. These four metrics are:

- Safety (TRIR, OHSAS or VPP Certification or best practice implementation audits)
- Quality (could be various metrics from defect rates to audit scores, ISO certification, etc.)
- Delivery (On time delivery to customers)
- Cost (Cost of Goods Sold)

It is typical that all metrics are reported together in monthly operations updates and tracked on a daily basis in publication boards present throughout the site. A favorable characteristic of this method is that all metrics are reported together which lends itself that no one metric is more important than another.

There are two issues here. The first is the inclusion of a safety performance metric. The second issue is the nature of the metric and whether it fosters continuous improvement in the operating culture. Before we can discuss these elements in detail we need to explore the central issue of sponsoring organizational change. We wish there was a one size fits all or a magic bullet for sponsoring change, but there is not. Organizations are complex in their perceptions, beliefs, personalities and structure. All of these elements can inhibit communication, openness, performance and even the willingness to sponsor change.

Safety Management Systems

Any discussion relating to improving injury prevention must mention regulatory compliance. Being involved in assessing injury prevention Best Practices in a global arena, we conclude that regulatory compliance is necessary as a corporate responsibility. Of interest in our perspective is that many organizations achieve regulatory compliance through continually reducing operating risk and the implementation of an integrated management system. Thus regulatory compliance is the product of organizational change and not the process of improvement.

It is our observation that most organizations do not integrate safety metrics and initiatives into the operating culture. In this discussion we will focus on harmonizing performance metrics to create and sustain the implementation of a management process to drive the change process. Ultimately this would result in integrating injury prevention metrics and initiatives into an organization's Manufacturing Excellence initiatives. We have had excellent success in focusing on continuous reduction in operating risk as the driver to minimize injuries and illnesses worldwide. This is a metric that is consistent with most operating cultures and is readily embraced as a counterpoint to regulatory compliance. From an executive perspective, this provides a means to enhance corporate branding and financial performance.

Two widely recognized safety management systems which we would like to reference in our discussion relate to the ANSI Z10 (2012) and the OHSAS 18001 systems. We mention these two processes just to set the stage for our discussion. First we would like to review the ANSI model which is based upon the W. Edwards Deming premise that business processes should be analyzed and measured to identify sources of variations that cause products to deviate from customer requirements.

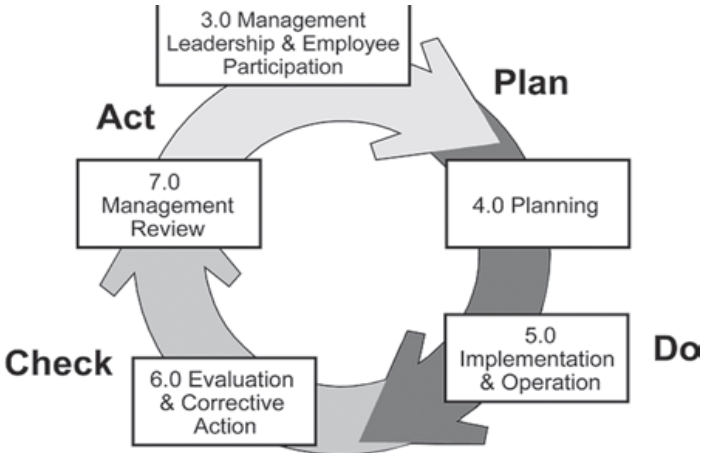


Figure 1. ANSI/AIHA Z10 (2012 Revision) Management Process, "The Deming Wheel"

This is a Deming Construct:

PLAN: Drill Down, Cause and Effect Diagrams, and the 5 Whys can be used to define the issue.
DO: Evaluate possible solutions and then pilot the solution and re-evaluate.
CHECK: Review the scope and implementation of the initiative based upon the pilot. Review costs and revise accordingly.
ACT: Communicate – Implement and Track

The second widely accepted safety management process is that which is contained within the OHSAS 18001 system depicted below.

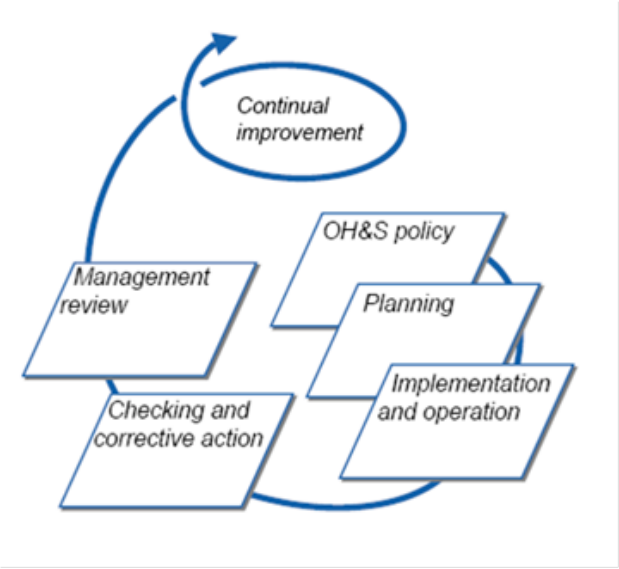


Figure 2. OHSAS 18001 Management System Implementation

- Safety and Environment
- OH&S Manager shall ensure that a safety management structure exists.
- Safety Audit Team shall be responsible for monitoring the overall operation of the Safety system.
- Those with management responsibility should demonstrate their commitment to continuous improvement.
- Persons who perform duties in relation to the Health, Safety and Environment System shall be well defined and communicated to the relevant personnel.
- Roles, responsibilities and accountabilities shall be defined of those personnel who manage, perform and verify activities.
- Top Management shall establish Safety policy and its implementation.
- OH&S Manager, as a member of the executive management team shall serve as the Safety management Representative having ultimate responsibility for Health,

Having reviewed the ANSI and OHSAS models for a safety management system we propose a simple adaptation to a management process that focuses on consistency with the overall business process. The advantage of this model is that it can be used for virtually all business metrics. If we design our system to be consistent with other business processes, then we create an environment where resistance to change can be minimized.

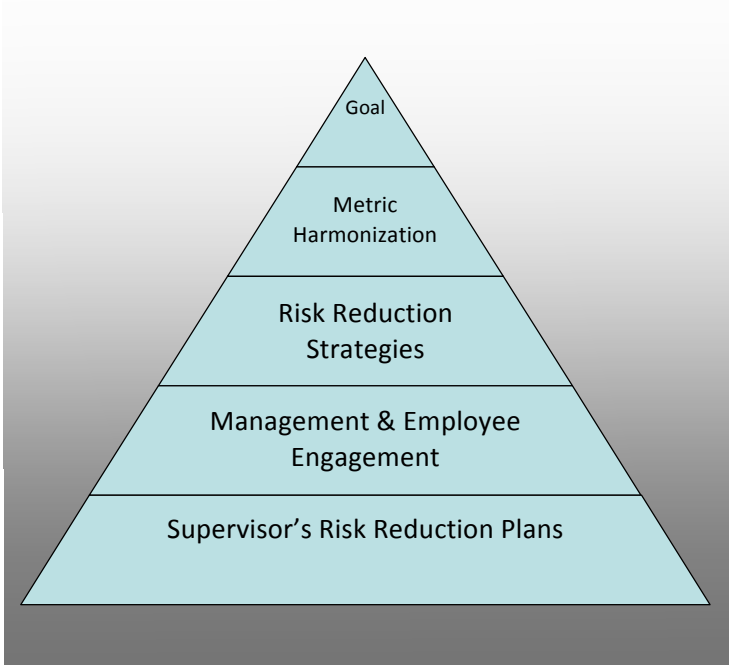


Figure 3. Simple Pyramid Illustration for a General Business Model

This simple pyramid has been used historically as an illustration for a general business model. It is universal in its application to processes, projects or as a general operating system. In this presentation we're going to adapt this illustration to the injury prevention process.

It is our contention that the ability of an organization to achieve superior performance, we must move beyond regulatory compliance. The challenge is to relate injury prevention to the business culture in a way that is consistent with business metrics and execution.

We offer that in order to impact the operating culture of an organization, loss prevention best practices must be integrated and harmonized with other business metrics.

Reducing Operating Risk—The Risk Assessment Process

The intent of the risk assessment requirement is to assess all significant occupational safety and health hazards in the organizations sphere of influence. Risk Assessments are to be completed for all manufacturing process and operations having recognized hazards.

In general the risk assessment process emphasizes three primary elements:

1. identification of the hazard
2. the evaluation of a hazards potential impact
3. systematic review of how it can best be controlled

It is important that the links between the risk assessment process and other elements of the safety management process is clearly established and apparent. Examples of this relationship include coordinating the risk assessment program with inspection practices, safety training requirements, the accident investigation process, audit results, medical surveillance programs, preventative maintenance programs, occupational health evaluations, injury trends and applicable legal requirements.

The purpose of the risk assessment section is to establish principles by which the organization may determine whether their hazard identification, evaluation and control process is effective. The risk assessment process varies greatly across the manufacturing operations throughout organizations, ranging from simple qualitative assessments to complex quantitative analysis with extensive documentation. It is for each location to determine what measures should be taken to comply with organizational best practices and any relevant country specific legislative requirements. The risk assessment process should provide evidence of the following elements of decision-making, which are fundamental to the risk-based approach:

- Identification of a hazard; process, mechanical or equipment related, chemical, ergonomic (e.g. repetitive motion), material handling, occupational health exposures, work practices, fire/explosion and other considerations which could result in employee injury or illness.
- Evaluation of risk with the existing (or proposed) control measures in place (taking into account exposure to the hazard, the likelihood of failure of the control measures, and the resulting consequences.
- Decision on the acceptability of the residual risks i.e. the risk that you decide to live with.
- Identification of any additional control measures considered necessary.
- Evaluation of whether these are sufficient to reduce the risk to a tolerable (satisfactory) level.

The organization should keep its documentation, data and records concerning the identification of hazards and the assessment and control of risks up-to-date to include process/equipment revisions, new equipment procurement, changes in chemical processes, and workstation or layout changes.

Hazard Description	Exposure	Frequency	Severity	Risk Score	Risk Control Comments
Ergonomic Risks	Force	2	2	4	This is a highly repetitive task that would benefit from reductions in force and repetition. Assess for Kaizen project improvement. Supervisor to include in their Safety Improvement Plan for next year.
	Repetition	2	3	6	
	Posture	2	2	4	
	Vibration	1	1	1	
	Total Risk Score			15	

Figure 4. Example of Risk Assessment Process Scorecard

One of the useful features of focusing on reducing operating risk relates to the ease of evaluating risk by a numerical ranking scale. The higher the risk assessment score, the greater the opportunities to not only reduce risk but also to make improvements in productivity and efficiency. Risk assessments are required by regulations in many countries outside the US. The example used above is a very simple approach and can be significantly modified depending upon the application and complexity of the task being studied. In a manufacturing environment we would encourage simplicity, as it would lend itself to effective implementation and involvement by a wide variety of employees.

Establishing Best Practices—What Goes Into the "Pipe?"

We've laid the foundation for managing perceptions of organizational change and the establishment of a safety improvement metric. It's very common for continuous improvement metrics to be stated, but how do we achieve our goal. Going back to the management pyramid, we need to establish a framework of strategies and best practice expectations in order to make progress.

There are several important program elements that we would like to emphasize. First, it is important to move the operating culture from reactive to proactive. Most organizations are adept at investigating accidents and making corrective actions aimed at preventing a recurrence. In contrast a proactive approach is one that focuses on the assessment of operational risk prior to someone being hurt. The Risk Assessment process is one of the core programs that can change an operating culture from reactive to proactive.

While the risk assessment process is not currently a regulatory requirement in the US, it is an expectation in other parts of the world. Our approach is to conduct a risk assessment for each task within the production realm of the organization. The more drill down we can achieve, the more useful this information will be. A task orientation of risk can be very helpful in assessing risk reduction strategies and employee training. It can also be an integral component Kaizen events, Lean manufacturing initiatives, 5-S, New Engineering Projects and so forth.

Other elements which need to be identified as best practice include common elements that could be viewed as traditional safety program elements. Obviously the nature of launching a space shuttle is vastly different than assembling fabricated metal components. The following list can be modified depending up the complexity of the industry and its associated operating risks and loss drivers.

- Manufacturing Excellence Projects (Lean Mfg., Kaizen & 5-S)
- Chemical Hazard Communication
- Mechanical Safeguarding
- Controlling Hazardous Energy
- Worker Protection (PPE)
- Health Exposures
- Ergonomic Exposures
- Managing Change
- Inspection Programs
- Employee Involvement
- Safety Training
- Emergency Planning

The specific elements included in the best practice provisions shouldn't be an issue. The important element relates to having the management system in place to engage all levels of management in a process that is similar to their other business metrics.

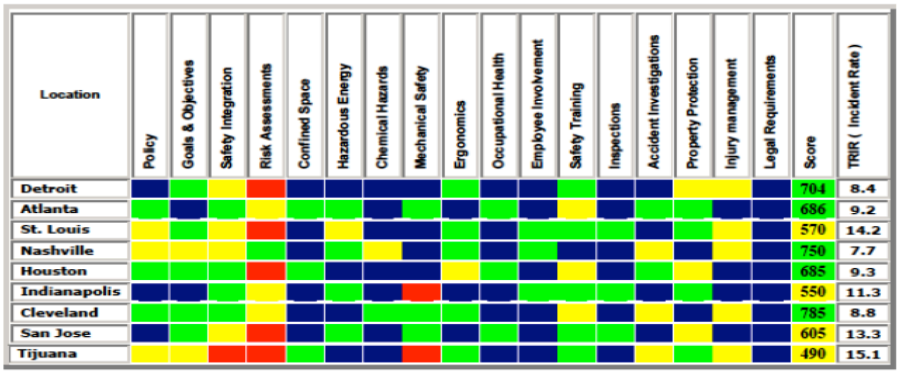
Continuous Improvement Measurement and Feedback

We've had very good experience with correlating best practice implementation to a colored dashboard. This is especially true when there are a number of sites pursuing best practice implementation. This provides a simple means of developing an executive summary for management. The following is an example of how a dashboard would look if there were (16) sections to the best practice model.

In this type of design, the colors depicted represent:

BLUE represents implementation of best practice
GREEN represents a minor non-conformance usually relating to needing to improve documentation
YELLOW represents a major non-conformance usually relating to partial implementation
RED represents a missing element

Applying this methodology to a number of locations might appear like the example below:



Location	Policy	Goals & Objectives	Safety Integration	Risk Assessments	Confined Space	Hazardous Energy	Chemical Hazards	Mechanical Safety	Ergonomics	Occupational Health	Employee Involvement	Safety Training	Inspections	Accident Investigations	Property Protection	Injury management	Legal Requirements	Score	TRIR (Incident Rate)
Detroit																		704	8.4
Atlanta																		686	9.2
St. Louis																		570	14.2
Nashville																		750	7.7
Houston																		685	9.3
Indianapolis																		550	11.3
Cleveland																		785	8.8
San Jose																		605	13.3
Tijuana																		490	15.1

Figure 5. Example of Colored Dashboard for Correlating Best Practices

You may note that the last column reflects the total recordable incident rate for the location. While recognize that TRIR is a lagging indicator, we would expect the frequency of injuries to decrease as sites improve the implementation of best practice elements. The sites focus remains on what goes into the pipe (best practices) and we evaluate the success of the project by their lagging indicators.

Summary

Both the ANSI and OHSAS models are universally accepted within the global communities. The methodology we have discussed relates to an alternative approach that is based on the premise that of integrating safety metrics and best practice elements into the organizations operating culture (i.e., Manufacturing Excellence programs). As such the prevention of injuries becomes part of the process and not a separate construct and regulatory compliance is an output and not an input.

This approach focuses on continuous improvement as well as historic losses. It also equalizes the cost of insurance between sites of different size and complexity. While this type of allocation may be considered complex, it captures a balanced motivation for general managers to reduce operating exposures over the long term. Once motivation is established for the site manager, it will translate to his/her direct reports thus serving to harmonize involvement and expectations throughout the organization.

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