A Practical Approach to Effective EHS Leading Indicators: Lessons from the Best

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Introduction

The use of leading indicators and proactive metrics in the field of environmental, health, and safety (EHS) management is characterized by opposites. Leading indicator programs have gained significant traction and momentum in world-class organizations, yet the basic parameters and definitions of terms in the science remain inexact. It is acknowledged that leading indicator programs must be developed based on the unique needs of every organization, yet there is a clamor for prescriptive information on specific metrics to track. Perhaps most critically of all, many organizations recognize the need to take their indicators and metrics to the next level, yet most rely on the slow burn of experiential learning to elevate their approach.

The first section of this paper presents research being undertaken by the Campbell Institute, the global EHS center of excellence at the National Safety Council, on the best practices of its member companies with respect to leading indicator programs, including definitions, a taxonomy, and specific metrics and approaches aimed at sparking innovation in your organization. The second section takes a deeper look at the most elusive yet potentially most telling leading indicators of all – leadership and culture.

A Practical Approach to Leading Indicators

Overview

Since its inception in 2012, the Campbell Institute has focused on the sharing of best practices within and from its member companies, organizations with world-class performance in EHS and Sustainability. Chief among the topics explored by the Institute has been leading indicators; 2015 marks the third consecutive year of a longitudinal research project on metrics launched by the
Institute shortly after its formation. At present, Institute membership includes 34 high-performing organizations across industry sectors and international boundaries; the research discussed below draws on the practices, approaches, and strategies of a subset of these organizations.

The first year of the Institute’s research project on leading indicators focused on defining the basic parameters and ground rules of the science, then aligning these indicators within business systems. In essence, the question behind the research, as simple as it may seem, was “what is a leading indicator?” Over this first year, using a mixed-method research approach that included surveys, interviews, literature reviews, and an expert panel, the Institute developed a common language for discussing and integrating proactive metrics. This includes a definition, the critical characteristics, a taxonomy, enabler and barrier factors, and a review of the current state of leading indicators, all of which are briefly shared below.

The second year of the Institute’s research project focused on refining its taxonomy and compiling a practical list of indicators used by its member companies to help other organizations learn from and implement effective metrics programs. A workgroup/conversational structure was used to capture lessons learned and best practices during this phase of the research. Key findings from both phases are summarized below.

**Definition**
Based on the consensus of a convened panel of EHS experts – leaders with hundreds of collective years of experience in the field – the Campbell Institute defines leading indicators as proactive, preventative, and predictive measures that monitor and provide current information about the effective performance, activities, and processes of an EHS management system that drive the identification and elimination or control of risks in the workplace that can cause incidents and injuries.

Although this may seem obvious, discussion among the numerous Institute members comprising the panel was proof positive that organizations struggle to find common language when discussing the core concept of a leading indicator. In short, though, it boils down to three key concepts: proactive, preventative, and predictive.

**Critical characteristics**
The expert panel of Institute members additionally agreed on eight critical characteristics of robust leading indicators:

- Actionable
- Achievable
- Explainable
- Meaningful
- Timely
- Transparent
- Useful
- Valid

Although not all eight characteristics need be present in every robust leading indicator, all panel members agreed that the majority of these are likely to be present in the best of them. Even
elements that may seem less meaningful, such as “explainable,” were revealed to be crucial – for instance, even the best indicator in the world is not worth much if it takes complex and/or esoteric information to explain. The best indicators are those that seem obvious, can be shared in seconds, and can regularly to be tracked and acted upon.

**Taxonomy**

Taxonomies have long been helpful in classifying and demystifying complex concepts. This holds true in the case of leading indicators, and based on the panel’s discussion the Campbell Institute compiled a succinct taxonomy of proactive metrics comprised of three branches:

- Behavioral – relating to the actions or beliefs of a person or group of people
- Operational – relating to the work processes, tools, or equipment of an organization
- Systemic – relating to the management system and/or activities used to implement continuous improvement

This taxonomy was expanded on during the Institute’s second year of research, resulting in a much more complex classification system that is discussed later in this paper.

**Enabler and barrier factors**

With the critical work of defining and structuring a common language around EHS leading indicators complete, the Institute turned its attention to exploring the ways in which organizations aligned metrics within their business operations. Across a series of in-depth interviews and surveys, Institute research uncovered the following key enabler and barrier factors to EHS leading indicator implementation:

**Enablers**

- Executive buy-in (not technical knowledge)
- Corporate-level rollup and tracking
- Predictive value communicated and understood
- Targeted collection toward specific outcomes

**Barriers**

- Inability to develop consistently actionable metrics
- Lack of reliable, consistent relationship with lagging indicators
- Continued C-suite reliance on lagging indicators
- Sporadic, infrequent, non-standard benchmarking

Collectively, these enablers and barriers impart several key messages. One is the critical nature of communication – from executive buy-in to value proposition to roll up to continued leadership use of lagging metrics, clear communication is a common cause (whether in its presence or absence). Another is the need for targeted collection; not only does this help to narrow the focus to a manageable degree, but it is critical in drawing a line to outcomes after the fact. A final message lies in the lack of benchmarking and sound, vetted information. In a field that so many organizations are devoting such significant resources to, why is information and best practice sharing so hard to come by?
Current state review
The Institute sought to explore this question further in its survey instrument, focusing on three key pieces of information: the perceived importance of leading indicators (now and in the future), the extent to which these indicators were being used, and the source of information organizations were using to enhance their knowledge.

Perceived importance
Reflecting the traction gained by leading indicator programs over the past several years, 90% of Institute members surveyed responded that they found leading indicators extremely or very important, equivalent to responses of a 5 and a 4 (respectively) on a 5-point scale. Going forward, members saw an even greater perceived importance of proactive metrics, with 93% predicting increasing use of leading indicators over the next five years.

Extent of tracking
Despite the perceived importance of leading indicators, only 40% of members surveyed tracked mostly leading metrics at the corporate level. The remaining 60% tracked mostly (or only) lagging metrics of performance, and discussions with leadership and board-level representatives tended to focus on these outcomes more often than not.

Methods for enhancement
Given the disconnect between importance and tracking of leading indicators, one might expect that significant resourcing is being put behind leading indicator enhancement. Yet members surveyed responded that the predominant source of new information and practice on leading indicators came from within the organization itself—in other words, “experience” was the driver of knowledge. Unlike other areas of the science which are regularly benchmarked, leading indicator use tends to exist in an organizational vacuum.

With this final exercise in alignment complete, one finding was clear—more reliable, vetted research on leading indicators is necessary to help organizations worldwide meet their need for continuous improvement. The Institute now had a clear direction for its second year of research—a refinement of the leading indicators taxonomy it had previously developed.

Refining – growing the taxonomy
Over its second year of research, the Institute convened a number of workgroups comprised of member organizations, partners, and other experts to grow its three-branch taxonomy into an instrument that could help organizations discuss and categorize indicators, as well as spark the imagination and creativity of organizations in developing and using new metrics. While it is beyond the scope of this paper to share the entire taxonomy, examples appear below.

Examples – Behavioral

- Employee engagement/participation
  - Participation rate
  - Number of on-the-job observations from employees
  - Number of off-the-job observations from employees
  - Percent of coached observations
Across two years and hundreds of discussions, surveys, workgroups, panels, and interviews, the Campbell Institute has come to understand that for all the complexities surrounding leading indicators, what is needed more than anything is a clear and consistent vocabulary, taxonomy, and framework for proactive metrics. It is only when everyone is speaking the same language that
organizations will truly be able to innovate with leading indicators and use them to their fullest potential.

We’ve all seen the typical curve of lagging indicator performance – an exponentially decaying line toward zero that never quite gets there. If we continue to use the same metrics, we can expect the same results. In a famous anecdote, Nobel Laureate Kenneth Arrow shared his experience as a weather forecaster during World War II. Fed up with the poor quality of the reports he was asked to generate, Arrow wrote a letter to military brass. The response he received: “The Commanding General is well aware the forecasts are no good. However, he needs them for planning purposes.” In many ways, this is where we find ourselves as EHS practitioners, relaying the same data to our leadership with no hope of true improvement.

With a common understanding and a renewed focus on best practice sharing and implementation, the Campbell Institute believes that we can – finally – begin to truly know which way the wind blows for our organizations.

The Essence of Culture

Recent research from around the world has suggested that an “empowerment leadership” style is vital to improving safety standards as, without it, you simply cannot expect widespread “discretionary” or “organizational citizenship behavior” from your workforce. And without these behaviors it’s hugely difficult, if not impossible, to develop a strong safety culture.

That’s a lot of buzz words already so, rather than use any more jargon, I’ll seek to describe the truth of this further with reference to Martin Luther King, Nelson Mandela and Eric Morecambe!

Safety Involvement
In the US, they talk about “discretionary behavior”, which, in the UK, we might refer to as “above the line” or “organizational citizenship behaviors”. Regardless, collectively we are talking about:

- Volunteering to be part of a project or process team, or to be a safety rep;
- Undertaking non-mandatory safety training, or attending non-mandatory meetings;
- Paying any sort of genuine attention, or contributing to a discussion during mandatory training or meetings;
- Saying something to a colleague who has put themselves at risk; making an effort to model safe behaviors and practices in front of new starters;
- Taking the time to show new starters the ropes; stopping to clear a housekeeping issue;
- Stopping to call a “time out” because you’re not comfortable;
- Reporting a near miss; responding (totally!) honestly to questions during an incident investigation; and, to deliberately blur the edges between compliance and “discretionary behavior”
• Complying with a safety requirement when not supervised, or when working alone (because, let’s be honest, often what should be compliance is actually discretionary – especially if it’s late, or you’re working from a van a long way from base).

Compliance isn’t enough. Interestingly, the research suggests that there is a better correlation between workforce involvement in safety and incident rate, and basic compliance and incident rate. If that sounds intuitively unlikely, consider this question: would you prefer your 10-year-old to simply step into the road blindly at a level crossing because the green ‘walk’ sign has come on, or would you prefer them to cross 50 yards down the road but ‘dynamic risk-assessing’ properly as they go?

Regardless of blurred edges, I hope we’d all agree that the above list is simply the basic behaviors we’d all like to see our workforce undertaking. It’s what we want when we get inspirational speakers in, set up behavioral safety processes, or launch “hearts and minds” initiatives. Again, this is important, as the research suggests that these simply cannot succeed in any widespread or enduring way in the absence of what has been described as empowering, or “transformational” leadership.

**Transformational leadership**

An Australian paper describes three types of safety leader: the fireman, the policeman and the knight. The fireman is “reactive”, of course – invisible until something goes wrong. The policeman is primarily about actively seeking out transgressions and is analogous to ‘calculative’ (compliant) in the famous Parker and Hudson model. However, we need our supervisors and managers to be the third sort – pro-active “knights,” leading from the front with passion, honor and integrity!

Traditionally, transformational leadership is held to have four key elements:

• Listening;
• Rewarding;
• Leading by example; and
• Involving.

Note that there is no explicit reference to learning. This is because learning is treated as a subset of listening, but I would argue that it should be a category all on its own, and here’s why.

I have previously written about the vital importance of a ‘Just Culture’ based on objective analysis and learning as the basis of a strong safety culture. Briefly, the point made is that, following the likes of Reason’s ‘Cheese’ and ‘Just Culture’ models, objective analysis will reveal that many unsafe behaviors are out-and-out *unintentional* errors caused by design, task demands, ergonomics, or lack of training, i.e. “I don’t know what I’m doing” and/or “I’m physiologically incapable of doing it – especially if I’m tired”. Further, many conscious *violations* are often caused by the need to get finished before midnight and encouraged by the ‘blind-eye’ syndrome!

The core of a ‘Just Culture’, then, is to step back and apply some objective analysis before rushing to judgment. Just asking “why?” *curiously* will pretty much do it. If you do, you’ll
find that in 80 to 90 per cent of cases you’ll learn something interesting – even if it’s just that there is systemic temptation to cut a corner.

This ‘Just Culture’ approach simply can’t be done well without talking and listening to the workforce. (Indeed, the evidence shows clearly that the more ‘just’ the culture is perceived to be, the more effective the basic incident-reporting and analysis system – let alone anything more pro-active.)

So, as I see it, talking about transformational safety leadership without explicit reference to ‘Just Culture’ and “Why?” analysis is a bit like the Peter Cook and Dudley Moore one-legged man sketch: “Well, I see you standing there OK – standing there you have covered…I’m very impressed with the standing up bit…but how exactly are you going to kick me?!”

In fairness, however, though analysis gives a human-factor process ‘kick’ it must be said that without the “transformational” behaviors discussed below, you could argue that a pro-active culture can’t stand up at all…

**Learning and true leadership**

In terms of inspirational leaders most agree that Richard Branson is one of the very best. The leadership writer Damien Hughes quotes a story about Sir Richard and learning in which he relates how he challenged Branson’s claim that he’d “never failed”. Hughes said “but you must have – for example, what about when you lost out on the National Lottery?” Branson’s reply was as follows:

“Well yes, we made mistakes with that one and got complacent. We thought because we had the media on our side and were the only ones offering ‘not for profit’ that we’d walk it. We forgot some basics, like the details of the business plan and developing relationships with key players. But a month later, very mindful of these mistakes, I struck a deal that made me tens of millions that I probably wouldn’t have got if we’d got the Lottery. So it wasn’t a total failure, now, was it?”

So, is this an inspirational example of a genuine learning focus, or just bull? Well, as discussed below, in a very important respect it really doesn’t matter because the myth can be more important than the person.

I mention this example to stress that a genuine learning focus doesn’t have to be a dry, academic thing. It can often be inspirational, too. Certainly, so much of what influences how we feel about something can be determined by a single event (or even just a mythical story) that resonates.

Technically, it’s called “critical incident” theory and, in safety terms, can be boiled down to something that resonates widely, like “and they actually stopped the job?!” or “and they still didn’t stop the job?!” So I’d suggest a simple but vital amendment to the classic “four factors” by adding ‘learning’ explicitly.
Listening
Listening is key for reasons: one, because you might learn something (as above) but two, because it also helps empower the person you’re listening to.

When locked up on Robben Island Nelson Mandela would make a point of spending as much time as possible talking to his guards. Not just because he was trying to convert South Africa one person at a time – though he was, of course – but because:

“In genuinely listening to them I learned so much about the Boer mindset. Their values, hopes and fears. It stood me in such good stead later when we opened formal negotiations. I had more understanding and more respect.”

As for the second point – that you can influence the person you listen to by the very act of listening – we all know just how many of these guards were later in attendance at his presidential inauguration, shedding tears of joy.

Rewarding (praise)
Obviously, the use of praise is a key chapter in any text on good leadership, coaching, or empowerment. This short section looks not so much at getting your supervisors to do it well but at getting them to do it all.

Many people will have heard of the ‘one-minute manager’ whose golden rule was “catch someone doing something right”, and there is any number of classic texts that stress the importance of this in maximizing an organization’s potential.

Studies show that in order for criticism to resonate and not be seen as yet another nag it needs to have been preceded by five praises. An interesting spot-check is to ask a workforce how many instances of praise they get relative to criticism – it’s never 1 to 5, that’s for sure!

Some American “how to praise” videos are a deep joy to watch (and the more hard-bitten and world-weary the supervisors watching it, the more amusing!) “Hey Joe, I just want to say how great it is to see you in all your PPE there … you won’t be the one going home missing an eye tonight … so, way to go Joe!”

There are, however, more UK-friendly techniques out there, such as “one in ten.” This involves asking people to rate themselves from 1 to 10 on a task. Then, when they say 7, for example, rather than asking “why only a 7?” you ask “why aren’t you a 0?” And when they explain why they justify a 7 you listen, nod, smile, murmur, and maybe even say “sounds more like an 8 to me!”

With some rapport built and some praise naturally given for what they actually do well, you switch to coaching mode, asking: “You know I’m a safety coach and my job is to halve accidents around here, so if I can get you up from that 8 to a 9, that’s my job done – for now at least. How do you think we could do that?”

Both parties are now primed to have a productive and constructive chat, which should lead naturally to the magic “curious why?” questions and other vital objective analysis
techniques. Indeed, as I have previously argued in these pages, the most sincere praise of all is: “I listened to you and did something with what you told me.”

One of the problems we face constantly is being asked to do something that is sensible and effective but, because it comes straight from a textbook (or a HQ in another country, like the US), it isn’t appropriate in Europe in its original format and so goes down like a lead balloon.

Take Dr Martin Luther King’s famous ‘I have a dream’ speech – an excellent example of flexibility. Did you know that the key words we all remember weren’t actually in the formal draft, and his speech was apparently a bit leaden until an aide tapped his arm and whispered “why not try that ‘dream’ stuff that went down so well in church the other day?” So, some listening to reports in there, too!

The point is that we mustn’t give up on a sound but rather tricky principle just because of early setbacks. We must be flexible and persistent and find a better, more appropriate way of applying it locally.

**Modeling**
All of the above obviously comes under ‘modeling’, too, but this case study should suffice to reinforce the point that ‘do as I say, not as I do’ never works.

Just before becoming prime minister, Gordon Brown visited a site to launch a ship but declined to wear his mandatory safety glasses, pointing out that he had severe vision problems (this was not common knowledge at the time). The senior management nevertheless decided to “go for it – the workforce will understand”. But they have paid for that decision every day since. To quote the MD: “Every toolbox talk, every weekly brief, and particularly every disciplinary, we get ‘what about Gordon Brown?’ Half blind or not, it went down like a lead balloon and if I could turn back the clock, I would. We should have realized the rod we were making that day.”

**Involving**
It is now widely accepted that the more the workforce is involved in things like job design, risk assessments and the writing and delivery of toolbox talks, the better. (That said, just because we know it’s true doesn’t mean we always do it anywhere near as often as we should when time constraints and logistics get in the way.)

There is a distinction between ‘required to be involved’ and ‘choosing to get involved’ and, if we get all of the above right, then the discretionary involvement requirement will pretty much take care of itself. For example, we’d certainly have more enthusiastic volunteers for safety committees and behavioral safety teams. Again, there’s a huge learning element here, as in “prove to me you’ll listen and at least sometimes do something with my knowledge and experience, and I’m all yours”.

A subset of “involving” is to use coaching techniques, where workers are asked questions rather than told the answers, so that they take an active part in the discussion. This links in with the technique that research shows to be the single most effective in achieving behavior change – the use of “rational argument”.
For example, rather than shouting “oi you – hold the bloody handrail!” try: “I’ve just been on a course and did you know that 50 per cent of all lost-time accidents in this company last year were caused by failing to hold the handrail? Apparently, the cost to our industry sector overall was about £5 million. I wonder how many jobs that is in this day and age?!” Pause. “Only I noticed back there that you weren’t…”

Conclusion

The vast majority of unsafe acts are errors caused by task demands, poor training, or violations caused by the perception that it’s what the company wants. It’s easy to see that the safety leadership described above would help greatly with all of these, and research shows clearly that transformational safety leadership techniques do indeed inspire the behaviors desired.

On the other hand, it’s also true that in the medium-to-long term the effectiveness of training is determined not by the training itself but by the way it is followed up and embedded into the organization.

This is important, as research shows that, in many organizations, supervisors and managers are apt to act in a transformational way about productivity but not about safety because they “try harder for the most important priorities.”

Therefore, to conclude, here’s a worrying thought: is training in the above techniques – even under the safety banner – sometimes counter-productive because it actually gives front-line management another set of powerful tools for demonstrating what it is they “really, really want”?

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