

TerranearPMC Safety Share

Week of March 14, 2016– Leading Indicators

The terms, *leading* and *lagging indicators* were first used in the financial world. While a leading indicator is designed to help determine or predict the future, a lagging indicator provides information as what went right or wrong. Thus, a leading indicator uses information prior to an event or occurrence, while a lagging indicator is based on past experience. Examples of economic leading indicators to predict the future of the financial markets include the Dow Industrial Average or the number of new homes being built. Both indicators are used by financial institutions to speculate on how to invest for the future. Meanwhile a lagging indicator could be the unemployment rate or corporate profits, which indicate how well their past decisions fared.

Within the field of occupational safety and health, these concepts of leading and lagging indicators have become strong tools for the S&H professional to understand the true safety culture within his/her organization. But while the most common lagging indicators in the S&H profession can present a good or bad safety record through such tools as the OSHA recordable incident rate or an insurance experience modification, they cannot tell us how we achieved a formidable record or why an unfortunate S&H trend (i.e. multiple accidents) occurred. That is because the consequences of an unsafe environment provide little insight into the root causes that were actually responsible for workplace incidents. Thus, without supporting evidence, a good safety record in one year, may NOT be repeated in the next. Unless we have instituted a proactive S&H program where certain tools are used to ensure that preventative measures have been implemented and that we have a way to measure the effectiveness of these measures, an organization may be simply playing a game of chance.

Unlike lagging indicators which measure the impact of workplace safety incidents after the fact, leading indicators proactively draw attention to specific behaviors and activities. This enables employees and managers to modify behaviors before incidents or accidents occur. Accordingly, leading indicators serve as an effective warning mechanism, enabling employees and managers to take action in advance of damage, injury or other undesired events.

The most common leading indicators have been: job hazard analysis (JHAs), workplace observations, number of times S&H is contacted for subject-matter expertise, workplace inspections, tailgate meetings, and the frequency and number of types of safety training available.

Clearly leading indicators are dependent on a culture of early reporting. If used appropriately (by both employees and managers) leading indicators can trigger immediate feedback, which, in turn, can result in effective corrective actions. This means workers need to understand and be trained to identify unsafe workplace conditions while taking the initiative to properly document or provide feedback (depending how a program is set up) within the organization. Equally important, leading indicators offer insight into the integrity of systems and processes designed to foster safe working conditions.

While the S&H community has been applying leading indicators for the purpose of assessing their respective organization's proactive culture and understanding of how well workplace hazards are truly controlled, there is a struggle to understand just how to determine and even quantify the



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effectiveness of leading indicators. To elaborate, a project can establish an observation reporting program whereby each employee is required to submit one unsafe condition each week. All observations are gathered (each week) and common threads are then identified. For instance, after reviewing all weekly observations, out of 100 observations, there are 10 housekeeping issues (equipment not being replaced after use). One may conclude that there is an increased risk for slip, trip and falls. The question then becomes, should the project not suffer a zero slip, trip and fall incident, to what extent can this zero occurrence be attributed to the established observation program? (Note: if there were slip, trip and fall incidents occurring prior to observations and then ceased, one can get a fairly strong indication that the observations were effective; however, the observation would then be a lagging indicator). How can we be sure that the observation program actually prevented an incident from occurring? In addition, how can a value be applied to show that an observation program is an effective tool?

Of course a proactive approach is always best. After all, as the saying goes, “an ounce of prevention is worth a pound of cure.” Yet, is there a “break-even point,” where a project can be too preventative to the point where production is negatively impacted? This is why having an evaluation method to determine leading indicator effectiveness can be so important: It can support a proactive S&H Program while allowing work activities to progress, maintaining budget and timeliness.

In addition to applying a quantitative effectiveness value, possibly a more immediate concern would be, what are the important characteristics of a leading indicator? In other words, “what qualities are necessary to properly select a leading indicator?” According to the National Safety Council, in their Safety and Health magazine (2/1/2014), eight qualities were identified as being valuable for selecting appropriate leading indicators. They are:

1. Actionable
2. Achievable
3. Meaningful
4. Transparent
5. Easy to communicate
6. Valid
7. Useful
8. Timely

While some of these terms may overlap (for instance, *useful* and *meaningful* may connote the same thing), no two terms seem to contradict each other. Therefore, without getting caught up within “thin lines of controversy,” it appears that if a leading indicator meets all the above criteria, a meaningful method to establish a proactive accident prevention program, while having positive employee involvement may be achieved.

Believe you can and you're halfway there

Theodore Roosevelt

