

Transform Your Safety Culture: Perception Through Continuous Improvement

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Background

It is not easy for a small company to start a significant safety improvement initiative. A company with a total of 120 employees in four separate facilities that house four different businesses is often stretched thin with resources. With a recordable rate of less than 28, Iowa-based Morrison Brothers Foundry did not have a safety resource and faced being designated with a risk status on the state workers' compensation board. This alone would add approximately \$100,000 to the annual bottom line costs, a charge that would threaten their ability to remain competitive.

With four facilities to manage and more than a decade of trying to overcome poor loss-work ratio averages, management and its safety leaders realized they needed a new approach to accomplish any significant and sustainable change.

Foundry General Superintendent George Doremus became dedicated to finding a solution for the company's safety quagmire. His opinion was that they were lost. "Everything they had tried didn't work because they were always focusing on numbers of injuries and setting rules — as well as using a shotgun approach to finding out where the issues were."

Doremus did an extensive search of the resources and approaches that were available from various safety solution providers. In the end, he decided to use a Safety Perception Survey from CoreMedia Training Solutions. "It was our hope that the survey would assess everyone's attitudes and identify where our specific weaknesses were," he says.

The survey's ability to measure the health of the safety culture was followed up with in-depth one-on-one interviews, conducted onsite by a CoreMedia consultant. George then began regular safety analysis meetings for operators and managers."

The Survey

Safety assessments can be extremely beneficial for gaining a deeper insight into an organization's culture, safety-operations challenges and vulnerabilities. Additionally, there was a decision to incorporate one-on-one interviews in order to focus on the practical day-to-day safety culture and job practices/procedures. It was felt that an outside eye of the third-party observer would bring a level of candor and unbiased perspective that was both apolitical and authentic. Assurance that management understood "the way it really is" was among the many benefits in moving forward.

The survey took about five weeks total to implement and report. The facilities' personnel delivered the survey by themselves as part of their regular safety meeting process. The survey data was organized into the 21 Safety Management Processes based on a 1984 Univ. of Minnesota (Duluth) study led by Dr. Dan Petersen and Dr. Chuck Bailey.

The Safety Perception Survey is a first-step tool to:

- Provide a baseline of employee attitudes to effectively build on safety culture strengths and address weaknesses across 21 Safety Culture Indicators
- Understand how well management practices are driving safety performance
- Determine the gaps in beliefs between management and employees on the front line.

The survey includes the following 21 statistically validated categories (Safety Management Processes):

Accident Investigation	Safety Performance Goals	Quality of Supervision
Alcohol & Drug Abuse	Hazard Correction	Recognition of Performance
Attitude toward Safety	Inspections	Safety Climate
Awareness	Involvement of Employees	Safety Contacts
Communication	Management Credibility	Support for Safety
Discipline	New Employees	Supervisor Training
Employee Training	Operating Procedures	Stress

The results of the Safety Perception Survey provide statistically valid data to gauge the condition of an organization's safety culture as well as:

- Provide an independent and objective view of the effectiveness, strengths and weaknesses of an organization's accident prevention and safety processes.
- Illustrate how well management philosophies have been integrated into the accident prevention process.
- Identify safety system improvements that will further strengthen accident prevention processes and drive performance.
- Chart next steps to build on strengths and overcome weaknesses.

With a consultant's assistance the organization identifies a phased approach for establishing a follow-up or continuous improvement program.

Methodology

Initial Communication

There is an initial communication to assure that all objectives, delivery, and outcome are addressing the unique culture and safety-culture objectives of your organization. This kickoff question-and-answer discussion with management helps the team fully understand the organization, its safety processes, and relevant interpersonal nuances to ensure everyone is on board and the right information is captured.

To gauge effectiveness, the organization is asked to fully disclose any site-relevant loss time injury data and/or other recordables. Without tracking industry-standard data, any effort to benchmark a culture-change progress is limited.

The organization's point person (team leader) receives a Safety Perception Survey kit to communicate the process internally. The kit comes with communiqués, a PowerPoint presentation, and coaching to assist in the survey rollout. Management's presence — genuine involvement — is integral to a valid outcome and long-term success.

Questionnaire

The questionnaire is computer-scored from a pre-printed form with a customized heading for the organization. Anonymity is preserved; survey respondents identify themselves by their department and job only, not by name.

Data Collection

Data collection can be administered by paper or online. Either method allows for efficient, and convenient and non-invasive data collection. Software capabilities also ensure electronically flexible data. Graphs and other charts demonstrate where managers, supervisors, front-line employees or other specified groups either align or disagree in their perceptions and attitudes. It's a compelling system that is also cost-effective and consistent when measuring performance benchmarks and progress over time.

Sample

All employees are requested to participate in the survey. It helps to have a space where employee groups can assemble and take the survey at the same time. Based on a group of 25 to 30, the survey takes 15 to 30 minutes to complete. Organization personnel normally administer the survey.

Interpretation & Report

Fielding the survey and tabulating the results without compromising data integrity are integral components of a safety assessment, but the lasting value is derived from the study's meaning. Consultants analyze each of the Safety Management Processes, contrast against industry data, and draw attention to where the improvement is needed. The final report includes an executive summary of key findings and a summary of strengths and weaknesses based on perceptions across all departments.

The final report is sent electronically for client internal review. Following this there is an on-site “commencement” to discuss and present report the findings and dwell into the significant survey findings.

Presentation of Findings

The findings and recommendations are presented organization-wide, a one-day set aside to also discuss the meaning behind the results, training opportunities, mechanics of forming Continuous Improvement Teams, and the principles of establishing a system of accountability.

Reviewing the Results: Percent Positive and Perception Gaps

Aggregated data is grouped by 21 Safety Management Processes to demonstrate where current performance is strong and where improvement is needed. This creates a baseline from which to identify specific safety strategies that will also lay the groundwork for prioritizing the continuous improvement teams. Following are the composite positive percentage perception results for each of the Safety Management Processes. The three “Percent Positive” columns on the left are percent of positive responses. The “Perception Gap” columns on the right reveal the percent difference in scores between personnel levels.

Morrison Bros.		Percent Positive			Perception Gap		
Category		Emp.	Sup.	Mgr.	Emp./Sup.	Emp./Mgr.	Sup./Mgr.
Recognition for Performance		32.1	46.9	42.4	46.1	32.1	9.6
Inspections		40.5	74.4	60.9	83.7	50.4	18.1
Goals of Safety Performance		47.2	67.9	37.3	43.9	21.0	45.1
Discipline		50.0	55.6	53.9	11.2	7.8	3.1
Quality of Supervision		51.8	78.7	59.1	51.9	14.1	24.9
Supervisor Training		52.1	82.8	63.0	58.9	20.9	23.9
Alcohol & Drug Abuse		53.5	73.3	60.7	37.0	13.5	17.2
Involvement of Employees		54.2	73.6	66.0	35.8	21.8	10.3
New Employees		54.5	79.0	60.3	45.0	10.6	23.7
Awareness Programs		55.3	76.1	64.1	37.6	15.9	15.8
Management Credibility		56.3	77.3	70.8	37.3	25.8	8.4
Safety Climate		58.5	78.6	70.6	34.4	20.7	10.2
Support for Safety		58.6	79.4	70.7	35.5	20.6	11.0
Employee Training		60.3	74.1	67.4	22.9	11.8	9.0
Communication		60.6	75.7	73.7	24.9	21.6	2.6
Stress		60.8	82.1	82.0	35.0	34.9	0.1
Accident Investigation		62.5	85.7	74.4	37.1	19.0	13.2
Attitude Towards Safety		63.5	79.3	78.7	24.9	23.9	0.8
Safety Concerns		63.9	69.6	64.1	8.9	0.3	7.9
Operating Procedures		68.1	85.7	72.5	25.8	6.5	15.4
Hazard Correction		69.9	93.5	88.3	33.8	23.5	7.7
Combined Score		55.9	75.7	65.7	36.7	19.8	13.2
Respondents		75	8	14			
		Needs immediate attention		Under 60%			
		Needs improvement		60% to 69%			
		Strong performance		70% to 84%			
		World class		Over 84%			
		Needs attention		14% perception gap			

Exhibit 1.

Survey Conclusions

The company composite (average) mirrored individual department scoring. First line supervisors were much more satisfied with safety than are either the managers or the hourly employees. Recognition for Performance and its counterpart — Discipline — were universally rated low. Goals for Safety Performance also received only a modest score, which reflected the company's general reluctance to set goals. Managers and hourly employees were both concerned about the Quality of Supervision. Looking at the dichotomy between supervisor perceptions and the rest of the world revealed a potential disconnect.

On average, there was little agreement between management, supervision and hourly scores. However the three segments did generally agree on which of the Safety Management Processes were most in need of improvement. The number of unanswered questions was low, indicating a good understanding of safety for all personnel. These were strengths that would help the improvement process.

Qualitative Interviews

The onsite subject matter expert also conducted one-on-one interviews with people at all levels of the organization. This was done in an effort to add qualitative, real, living-practice data to the quantitative data of the Safety Perception Survey. There were a number of specific, notable findings from the interviews, which both reinforced and added to the Survey data results.

- There is a lack of detailed safety accountabilities at all levels of the organization.
- Recognition of positive safety participation was lacking at all levels.
- Senior management had little personal contact with the non-exempt population.
- Exempt supervisor skills and practices needed improvement.
- Continuous Improvement teamwork that involves the non-exempt workforce was nearly nonexistent.
- Safety committees and safety meetings were weak.
- Safety performance metrics were focused on downstream results (incident rate) rather than the upstream activities that deliver the downstream results.
- Rules, regulations, roles and responsibilities with respect to safety were well understood, but not generally followed.

The summary finding as a result of the one-on-one interviews was that Morrison Brothers personnel cared about good safety, but needed a more disciplined and strategic approach in leading safety performance. There was a lack of accountability in the present safety processes. Additionally, the activities being performed to manage safety needed to be upgraded and expanded to improve results.

Recommendations

When safety started to be treated as a discrete number of processes (just like manufacturing processes), continuous improvement techniques were tremendously effective. The Safety Perception Survey had increased awareness of and interest in improvement. Across the facilities, the timing appeared to be ripe for such a tactical effort. One-on-one interviews with hourly, supervisory, and management personnel showed that interested, capable volunteer leaders exist for a concerted, structured safety improvement initiative.

Significant team based safety improvement success looked to be possible if:

- There was both commitment and active involvement at the upper management level.
- An executive steering committee (including volunteer hourly employees) guided the efforts and ensured that “politics” was not a part of the process.
- The individual work cell teams of volunteers were formed to work on their own issues. Each needed a strong, committed, supported leadership.
- A global team(s) would work on issues such as drug and alcohol abuse, supervisor training, safety awareness, etc. Once again, individual leadership was key.
- The safety committee changed its focus to safety process improvement and away from solely looking for condition fixes and blame affixing when injuries occurred.
- The teams and leaders were trained in continuous improvement team rules and tools.
- The executive committee planned this attack thoroughly before kicking off the effort.

Some of the deliverable outcomes for this continuous improvement team effort would be solid processes for:

- Safety accountability at all organizational levels.
- A functional, low cost, effective safety reward system.
- An effective drug and alcohol policy.
- A continuous improvement culture applied to safety that works just as well for production and safety improvements.
- A consistent housekeeping standard that is self-policed and generates pride.
- The elimination of the belief/attitude that personnel can “play the system.”
- A goal for all 21 safety system category scores to be above 85% and perception gaps in organizational levels closed.
- The achievement of “world class injury statistics” — less than 1.0 recordable rate, less than 0.1 lost time injury rate.
- A significant improvement in morale, management credibility and communication.

Basic Training for All Employees

After discussions with subject matter experts from CoreMedia and the continuous improvement strategy was approved, it was agreed that team members should gain some basic instruction on the context of accountability systems and the evolution for culture change. All personnel would interact with a curricula that included:

On The Front Line

Effective supervision begins with the notion that people have to be able to define good safety before they’re able to uphold it. This training series includes how to create an organized, cooperative, safety-focused workforce through employee input and buy-in. Content in the lessons enables supervisors to connect safety with production and quality, understand the correlation between actions and safety excellence, and clearly define and communicate expectations and responsibilities.

START (Supervisor Training in Accident Reduction Techniques)

START training helps participants create an environment where safety is the first among the equals of safety, quality, production and customer service. The course speaks to safety topics such as safety accountability, multi-causation of incidents, recognition and motivation, and how supervisors can shape a safety culture that prevents accidents and incidents.

Speak Up! Listen Up!

The combination of *Speak Up!* and *Listen Up!* provides managers with the complete set of instructions that help their employees learn effective communication. The material shows: how to give and receive feedback; how to focus on the message, not the messenger; and how each employee is able to contribute to workplace safety when listening and responding to one another. While *Speak Up!* focuses on the do's and don'ts of giving important guidance, *Listen Up!* provides the essentials of receiving input.

Continuous Improvement Teams

As Continuous Improvement teams were gaining traction, George Doremus noticed that a shift in how people understood the importance of the safety culture concept was occurring before his very eyes. "Not only were we getting an accurate picture of where we needed to improve, people were also getting involved and liking it." The superintendent also explained that the hourly employees — "A union workforce — jumped at the chance to be candid."

"The process opened up a whole new level of dialog. We had discovered something that was missing and something that helped the company in ways that go beyond safety."

"The Safety Perception Survey works from within by involving everyone and getting buy-in at all levels, so everybody is a stakeholder." When asked about sustaining a shift toward continuous improvement, the company committed to a routine regimen centered on involvement, job safety analyses, safety audits, monthly safety meetings, and Complaint = Goal exercises. All of these provided a forum for managers and operators to talk openly about safety and suggest solutions.

As a result, the company was able to accomplish 85% of the suggested safety improvements after the first round of safety analyses meetings. This ultimately fostered something of greater value: an atmosphere of understanding, respect and all-around unity throughout the company.

As George Doremus' teams finished their first round of safety culture change efforts they did a second set of one-on-one interviews with employees to see what still needed to be done. And while the feedback was very favorable, teams also recognized that a lot had to occur before they could reach "zero-incident performance," which led to a second Safety Perception Survey schedule two years later to benchmark against the first.

Morrison Bros. Company Second Safety Perception Survey

The following table shows the overall dramatic improvement in scores from the survey conducted in September 2002 and again nearly two years later.

Category	Morrison Bros Company Composite Average Hourly Score June 2004	Morrison Bros Company Composite Average Hourly Score September 2002
	2004	2002
Recognition for Performance	63.9	32.1
Inspections	70.7	40.5
Operating Procedures	73.4	68.1
Discipline	74.4	50.0
Awareness Programs	76.5	55.3
Stress*	76.6	60.8
Alcohol & Drug Abuse	76.7	53.5
Supervisor Training	80.5	52.1
Involvement of Employees	81.1	54.2
Quality of Supervision	85.3	51.8
Attitude Towards Safety	86.1	63.5
Support for Safety	86.4	58.6
Communication	86.6	60.6
Employee Training	87.0	60.3
New Employees	87.3	54.5
Safety Climate	88.0	58.5
Safety Contacts	89.7	63.9
Management Credibility	89.8	56.3
Goals of Safety Performance	91.7	47.2
Hazard Correction	92.7	69.9
Accident Investigation	94.2	62.5
Average Score	82.8	55.9

Exhibit 2.

George Doremus was both surprised and pleased at the results of the second Safety Perception Survey. “We immediately saw the impact of our changed safety culture when we conducted a second survey a year and a half later.” Where the baseline survey resulted without a single world-class score (out of a possible 21 categories), two years later the perceptions revealed twelve. “So much progress was made that we became very careful, cautious and conservative about setting our expectations for the next year. To our continued surprise, we once again blew right on by the injury number goals we had so carefully set.”

“Our employees were an active part of a major safety culture change that just did not slow down,” Doremus adds.

A part of the added benefit from safety culture and the process improvement initiative, “complaint = goal” teams applied the techniques into the production and quality issues that had challenged Morrison Brothers’ efforts all along. The company experienced some spectacular results:

- Recordable Injuries decreased by 90%
- Productivity increased by 29%

- Experience Modification Factor reduced by 41%
- Fewer quality defects
- Lost time injuries tracking at 1.6 million hours without an LTI

Management has always understood that good safety performance impacts the bottom line. Once they started experiencing an ROI on safety-related equipment and process improvements, management became even more active in how they contributed.

Cultural Outcomes

The culture change process has created a totally new shift in the company's commitment. With the consistent, regular meetings and activities, Morrison Bothers has created a systemic change that continues to build and gain momentum. Leadership maintains that employees have gained ethos of accountability where employees take safety ownership to heart. No longer does management have to be pushing, prodding and threatening. Says Doremus: "This is a high-performance workforce that is self-motivated and self-sustained!"