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Measure What You Treasure

The single biggest threat to food safety is *culture*. Robust food safety plans and quality systems become ineffective when they are undermined by the wrong, or immature, culture. What is culture? Culture is the learned behaviors one extracts from their environment. It can be described as the collective values of an organization, family, and society. Culture is learned from the environments in which we operate.[1]

Leadership has a strong influence on the overall food safety and quality culture of an organization. Employees pay attention to behaviors that are rewarded and what goes unnoticed by leadership. They see who gets promoted and who does not advance. They hear what leadership emphasizes and what they fail to acknowledge. Employees absorb the overall values of the organizational environment and adjust.

It is imperative for leadership to walk the talk when it comes to food safety. Leadership behavior and actions that are inconsistent with the values of the organization can have dire consequences on the effectiveness an organization. A culture of food safety is an environment where employees hear, feel, and see food safety all around them. These values are propagated by cultural "carriers" who visibly prioritize and bring focus to food safety.[2]

What is the business case to build the right culture? The Conference Executive Board has stated that for every 5,000 employees, improving culture can save a company up to $67 million. Improving the food safety/quality culture leads to fewer mistakes, more accountability, and drives an environment of continuous improvement.[2]

Changing the culture of an organization is a burdensome task at best. There are many factors you will need to take into consideration before you embark on this journey. First, don't assume the entire global organization has the same culture. Societal/regional differences will have an impact on your corporate culture. Second, measure your culture across the organization to obtain a baseline. Third, create cross-functional focus groups to pull insights from the raw data. Different groups will have different interpretations of the same question. Fourth, start by making a few simple changes that are spearheaded by the top of the organization. Different plants regions may need a different emphasis. *One size doesn't fit all* when measuring and maturity culture.

There will be societal differences within different regions that will influence your culture and approach to driving change. According to Hofstede,[3] societies are classified based on the following social factors they tend towards: 1) collectivism vs. individualism; 2) masculinity vs femininity; 3) relationship to authority and acceptance of social inequality; and 4) uncertainly avoidance. You need to be aware of these differences and take them into consideration when designing your solution to drive change.

Leverage a tool that measures the culture of food safety and quality across your company. It is best to utilize a survey that you can benchmark against other companies for purposes of creating a baseline and a competitive comparason. Don't accept data at face value. Create focus groups to draw meaningful insights from the data, champion the process, and help define and implement the changes. Employee engagement is critical to a successful resolution. Visible leadership–walking the talk–is also needed to reinforce the desired change. This needs to be a bottom-up and top-down endeavor.

THREE TAKE AWAYS

- ☐ Identify and implement meaningful metrics.
- ☐ Routinely review and take action on the results.
- ☐ Observe, coach and institute consequences-both positive and negative, if necessary.

A Case for Metrics

Measurement is a cornerstone of the food industry, every other industry, and arguably nearly every actiity human beings undertake. We are bombarded with data and information from measurement throughout our day: the amount of sleep I got; how fast is my car going; how many unread emails are in my inbox–the list is almost endless. We measure things in our daily lives to drive improvement, attain goals, mitigate risk for ourselves and our loved ones, and comply with laws and regulations. Some of the metrics in our personal lives are things that we have consciously chosen to measure; others are metrics put in place by others.

Simply measuring something but not using the data and information generated make the data and the act of obtaining the data wasted. Even worse is the scenario where data are generated, but the people who need the information do not see it or chose to ignore it.

Drive Decisions, Actions, and Behaviors

Food industry metrics exist for many of the same reasons that we have metrics in our personal lives, and there are many of the same challenges in using the data generated. Most food companies have metrics to ensure that appropriate laws and regulations are complied with; that products are manufactured to formula or specification; that appropriate Standard Operating Procedures are followed; and that products are meeting the expectations of customers. An entire industry comprised of many successful companies has been established around developing and executing food safety audits and using the data generated by those audits. The Global Food Safety Initiative was started to drive consistency and efficiency in food safety audits around the world. Most food companies require annual audits and proof of compliance from their various suppliers. Yet there are many incidents every year of food safety problems where companies have successfully conducted audits, have measured all of the right things, and still have food safety issues. In many cases, the problem was not that the right programs or measures were not in place, but it was that the proper actions or responses were not recognized or taken. The missing element is often the culture of the company.

Scientists are trained to measure as a way to identify and quantify a problem, drive solutions, and quantify progress against goals. Yet measuring food safety culture is a difficult and often foreign concept for scientists who are comfortable with hard data but often unfamiliar with social sciences that drive human behavior. But the culture of an organization that drives engagement and action from senior executives to the technicians and line operators is often the most important and missing factor in a food safety plan. Data are obviously useless if not used and acted upon.

Companies measure and collect data for many reasons: 1) they are required to conduct audits by regulation and/or customers; 2) they have internal policy requirements to comply with that are driven in large part by brand and consumer protection; and 3) in some cases, the reasons for measurement are historic or even unknown. Yet measurement itself accomplishes little other than generating data. What is *done* with data is the key to compliance and risk mitigation. The decisions, actions, and behaviors that are driven by measurements like audits and product testing are what make measurement useful.

We Get the Results for which We Reward

Over-reliance on metrics and data points comes at a risk, so a delicate balance must be achieved. A natural human desire is to want to achieve the best possible score on a measurement, regardless of what we measure. We are conditioned to do that from an early age–we want to perform well on exams in school and when we grow up to become food safety professionals, we want to score well on factory audits. Many facilities incentivize their management and operators through financial bonuses to perform well on food safety audits. This strategy of incentivizing performance on audits may actually be counterproductive, however. While audits can measure the presence of programs and deficiencies on a single day, they do not directly measure overall compliance with policies and procedures, and they do not measure the enthusiasm of a company's workforce for ensuring that safe products are produced or doing the right thing, even when no one is watching. Simply incentivizing a company to perform well on an audit one day out of 365 without an expectation of continuous, positive performance and behaviors that exude proper risk identification and mitigation skills on an ongoing basis throughout the year is a risky and dangerous place to be. But, who can blame the plant manager and quality assurance manager if that is how they are incentivized and how their bonus structure is based? We obtain the results through decisions, actions, and behaviors, for which we reward. A challenge is to motivate and incentivize companies and individuals to recognize problems and issues identified in audits, internal assessments, measurements, or observations, and proactively address them rather than just measuring and recognizing "snapshot in time" successes. Rather, companies should consider using additional measures that must be met on a daily, weekly, and monthly basis, and place equal weight on these expectations and behaviors as you do that one audit score that happens on one day out of 365 in a year. Establishing

incentives, rewards, as well as positive and negative consequences, if the expectations are not met, aides in implementation and accountability. Consequences are often a sensitive topic; many companies are uneasy to hand them out. Note that consequences are easier to issue when you have the power of data to back you up and are incentives for behavior change.

Choosing the "Right" Metrics

Creating simple, understandable measures is important for buy-in and support at all levels of an organization. This is easier said than done. The reality is continuous improvement and mature cultures in food safety require a robust, comprehensive measurement system, with timely review cycles, dashboards, early indicators and alerts, root-cause investigations, corrective actions, and detailed documentation. Yet, remaining keenly focused on the metrics that are most critical to success, that is, the "critical few," will go far in ensuring success.

The right metrics also allow meaningful benchmarking of performance across multiple facilities. This is encouraged because it can create an opportunity for knowledge sharing as well as healthy competition between operational units. When benchmarking is leveraged, standardization and normalization of the metrics is required to achieve fair and meaningful comparisons.

The metrics chosen in any food safety benchmarking tool (e.g., executive summary, dashboard) will likely be a mix of lagging and leading indicators that provide management the right perspective on how the food production and sanitation processes are working and how well the people in that system are performing their jobs. Behavioral observations are important to get a view to the culture of the operation. And, from a big picture standpoint, a great indicator of culture in the company and/or plant is to assess how the metrics and measurement systems are used by management! In other words, we can select the most appropriate, "critical few" metrics and design a perfect measuring tool, but if it is not reviewed and acted upon effectively, in a timely way, with consequences associated with missing performance criteria, it will have little impact on food safety performance. In sum, any measurement system is worthless unless it is paired with a rigorous and timely cadence of review, by the right people, at the right times, and is tied to short-, medium-, and long-term goals.

An Enterprise-Wide Approach to Making Food Safety Risk Metrics & Reviews a Ritual in Your Culture

Goal setting is critical in everything we do in business. Food safety performance is no different. The key to success in achieving a goal is to first gain alignment from all key leadership stakeholders in the business, including the CEO, on the long-term improvement goal, how it will be measured, the agreed-upon time frame for achievement, and the attached incentives for attaining the goal. And, if the CEO becomes an active participant in setting the goal and vocal champion, then all the better!

Goals must be challenging but attainable. This balance is important, and the leadership team must be prepared to adjust the goals based upon learning and insight over time. Business scenarios change, production processes change, product innovation creates new challenges, supplier capability may fluctuate over time, regulations may affect a process or outcome, and teams can improve or decline in performance over time. All these factors, and more, should be considered when the long-term goal is set and when a decision is made to adjust a long-term goal. Gaining alignment from the line operators, quality supervisors, and supporting cross-functional departments who have an impact on food safety like R&D, marketing, purchasing, and others becomes an important next step. Once long-term goals are agreed upon, then appropriate short- and midterm milestones can be set and tracked, and these can become the ongoing mechanism to determine if a team is meeting, exceeding, or falling behind the goal.

The cadence of food safety metric review is vitally important to success. This separates the great operators from the good. Ad hoc, inconsistent, and nonstandard approaches to tracking and reviewing food safety metrics will lead to poor performance and potentially tragic food safety errors. Food safety reviews should become a *ritual*, just like brushing your teeth morning and night, every day. Rituals can provide a powerful mechanism for achieving consistent and constantly improving results. Leadership teams are encouraged to hone the process of food safety metric review at each level of the organization.

Every organization and facility functions differently–one size does not fit all–and it is critical to work within the natural rhythms of the business to coordinate the food safety reviews with the other major operational reviews where appropriate. These reviews must be developed for each level, from the line level "within shift reviews" to the daily, weekly, monthly, and quarterly reviews with operators, supervisors, managers, and the senior leadership team *(including* the CEO). Be all-inclusive in this process of developing the review cadence to achieve collective support from the business. This is the chance to hold functional area leaders accountable to deliver against key aspects of food safety performance. These venues provide the opportunity to recognize great performance and identify opportunities for improvement.

Case Study: Meaningful Metrics and Cross-Departmental Collaboration at PepsiCo

One area that has historically received more attention than food safety culture in the food industry is environmental health and safety, specifically worker safety. Certain parallels and learnings can be made from this space. The benefits of these programs are tangible and easy to understand. A measure commonly seen and publicized in most factories is lost-time accidents. Reducing and eliminating lost time accidents generate personal motivation for operators and economic motivation for management. One tool that engages management and operators in managing lost-time accidents is measuring and recording "near misses"–those incidents that might have resulted in a lost-time accident.

PepsiCo has a policy of encouraging the recording and reporting of near miss incidents. Every near-miss incident must be reported, recorded, and investigated, the root cause identified, and preventive measures put in place. Additionally, factories are incentivized by the number of near-miss incidents that are recorded. Specifically, the more near misses that a factory records, the better their rating is in this area. This system encourages the identification and reporting of risks that can lead to lost-time accidents. PepsiCo also believes that encouraging the reporting of near-miss incidents improves the culture of safety in a facility by involving the entire workforce in risk reduction activities and making them all owners of the process.

The near-miss program has been extended to food safety near misses as well. The food safety near-miss program, like the worker safety near miss program, encourages the reporting of food safety near misses by incentivizing reporting–the more near misses reported, the higher the score. And like the worker safety program, each near miss is required to be investigated and the issue mitigated if appropriate. PepsiCo is finding that factories with food safety near-miss programs have higher food safety audit scores and better engagement of the workforce in food safety issues.

As part of its food safety culture journey, PepsiCo has found many synergies between its worker safety culture program and its food safety culture program. As such, the company is combining the two programs into one "Culture of Safety" program that takes the best of both programs and uses common tools and measurements.

Case Study: How Maple Leaf Foods Measures Food Safety Performance

Maple Leaf Foods has launched a comprehensive food safety metric referred to as the Food Safety Incident Rate or "FSIR." This is an indexed, normalized, single numerical metric that has six components that its teams deemed the most important, key indicators of food safety performance. Some of these metrics have been weighted more heavily in the overall index to account for severity and risk. Once the FSIR baseline for the first year for each of the 21 facilities was established, alignment with all stakeholders to a 3-year goal for improvement was formulated (for Maple Leaf, a 75% reduction in FSIR from the baseline year). The CEO played a key role in pushing the team to seek this significant improvement over the 3-year span but also allowed a modest ramp-up improvement goal in the first year as the team adapted to this new measurement system–signifying the importance of senior management commitment.

This FSIR result is tabulated each month, and the 21 company-owned facilities are placed into quartile positions based upon their quarterly FSIR result–using a green, yellow, amber, and red zone. These quartile rankings are reviewed monthly by senior leadership in food safety and operations, and a quarterly review is held with the CEO and all plant and food safety managers. And finally, three times per year, the FSIR metric results and trends are reported to the Maple Leaf Board of Directors committee on safety and sustainability. This comprehensive review process creates an opportunity for dynamic dialogue between the plant leadership team and senior leadership on a routine basis about food safety performance and plans to address gaps and to celebrate successes.

But the CEO quarterly review of the FSIR results are just the "tip of the pyramid." The real change happens within the plant, with the operators, supervisors, and managers who are responsible for producing safe food every day. The FSIR has six components, that are highly objective, numerical measures, but are mostly lagging indicators. The plant teams identify their key leading indicators that they believe will drive improvement in one or more of the top line FSIR measures. These indicators get the focus at the in-shift, daily, and weekly operational performance meetings that occur at the facility.

Leveraging a Risk Based Approach: Enterprise Risk Management in Food Safety

Some companies have elected to incorporate the philosophies and principles of enterprise risk management (ERM) when designing and striving to achieve a more integrated, mature food safety culture.

ERM seeks to identify risks that may adversely impact a company, then create a top-down, enterprise-wide view and approach to manage those risks within the company's risk tolerance. It is a process of coordinated risk management that places a greater emphasis on cooperation among departments to manage the

enterprise's full range of risks, rather than as independent units or "silos," as the industry has come to refer to such an approach. While ERM was initially adopted by accountants and internal auditors to implement internal controls in the wake of certain financial scandals, the model has since been adopted into policy and regulation, and subsequently developed into a framework to assist companies to effectively identify, assess, and manage nearly any type of risk.

Applying this ERM definition to food safety and food safety culture programs, and witnessing its application, whether intentional or not, in the case studies above, one can quickly surmise that food safety is, and should be, viewed as an enterprise-level undertaking. Beyond the historic and obvious need to control for microbiological food safety risks, food companies today are faced with myriad additional operational, reputational, and regulatory risks (e.g., implementing new food safety regulations, being inspection and audit ready all the time, managing the impact of evolving science such as the use of whole-genome sequencing, dealing with increased social media and mainstream media exposure of outbreaks and recalls, and supplier and co-manufacturer management-related risks, etc.). All of these risks must be effectively managed on a daily basis. A cross-departmental approach to successfully managing these various exposures is necessary in the new age of changing risk. Engaging departments outside the typical food safety and quality staff such as marketing, R&D, purchasing, legal, and the C-suite is crucial to tomorrow's thriving food safety programs and creating an integrated, mature culture where food safety becomes embedded in the everyday behavior of the entire organization.

As such, applying ERM principles to food safety culture programs is highly advantageous. Using this approach, the food safety organizational structure and long-term goals are sculpted by senior leadership and the Board of Directors, much like the Maple Leaf Foods and PepsiCo case studies. This top group weighs in on food safety strategy, ensures alignment with the overall corporate strategy, participates in the risk identification and assessment process to identify potential events that, if they occur, will affect the organization, and identifies ways to manage risk within its organization's risk appetite.

PepsiCo's near-miss program and Maple Leaf Food's FSIR metric review process are both part of a broader hazard and risk awareness program, serving as good examples of an ERM approach to food safety program implementation. While most companies already have parts of these programs in place, proper verification is necessary to confirm that the effort to generate hazard and risk awareness is succeeding.

Conclusion

As extensively discussed above, one critical key to success is using meaningful metrics to ensure each facility and the company as a whole are on a path of continuous improvement. Metrics measure behavior. But the master key? The one that has the potential to unlock nearly endless learning opportunities? *Action*. It's what we as industry *do* with the *outcome* of those metrics–this is the master key.

Equally important is collaboration–who we take action with on those meaningful metrics to create actionable information. This is where cross-functional ERM principles can be applied to this process, which ultimately contribute to a mature food safety culture. The food safety and quality team cannot do everything alone, and should not, as other departments are dependent on the success of making safe food every day.

As seen, we need to be smart about what and how much we measure. Data overload is a real concern and can lead to an environment of generating data that are ignored and not turned into action. Driving a culture of safety in an organization is often most effective when the metrics and programs are simple, straightforward, easy to understand, and when results are generated that are valuable and immediately used and turned into actions.

The old saying that "what gets measured gets improved" is often misinterpreted when one does not explicitly understand that implied in "measuring" is the imperative that a team must carry out timely and ritualistic review of those measures with the intent to take specific actions to improve on identified deficiencies. That is the only way to create the accountability model necessary to drive food safety improvement to its most mature state where food safety culture is embedded in the organization; where doing the right thing, even when no one is watching, becomes an inherent behavior that everyone, from the CEO to the line operator to R&D and marketing, just do the right thing because it's built into the fabric of the inner workings of the organization.

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