

# DON'T BE CAUGHT OFF GUARD: PROACTIVELY MANAGE FOOD SAFETY AND COMPLIANCE WITH INTEGRATED ERP

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→ **Nick Castellina**, Research Director,  
Business Planning and Execution



## Report Highlights

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**48% of food and beverage manufacturers noted that ensuring compliance with current and future regulations is their top pressure.**

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**Leaders are over four times as likely to make proactive management of compliance a top strategy.**

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**70% of Leaders have traceability of materials both up- and downstream.**

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**Leaders are over three times as likely to have a process for mock or real recalls.**

This report uncovers the challenges that today's food and beverage manufacturers face, as well as the capabilities they have enabled through ERP to improve compliance, profit margins, and customer satisfaction.

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**By implementing an integrated ERP solution, top performing food and beverage manufacturers can proactively manage compliance, while keeping costs low and delivering high-quality, consistent products.**

Recent Aberdeen research uncovered that food and beverage manufacturers list the need to ensure compliance and the negative effects of non-compliance among their top pressures. In these industries, mandates such as the Food Safety Modernization Act and GS1 standards are constantly evolving and changing, making it difficult for manufacturers to enforce compliance and avoid fines. Further, threat to brand reputation due to non-compliance exists as an equally legitimate threat. Both of these challenges can cost a food and beverage manufacturer significantly.

Unfortunately, avoiding these challenges adds cost and complexity to operations. In these cases, top performers must do what they typically do when attempting to reduce cost and complexity: rely on their business systems. These systems can range from ERP to PLM, and they all help food and beverage manufacturers to communicate standards and provide visibility to help monitor compliance on an ongoing basis.

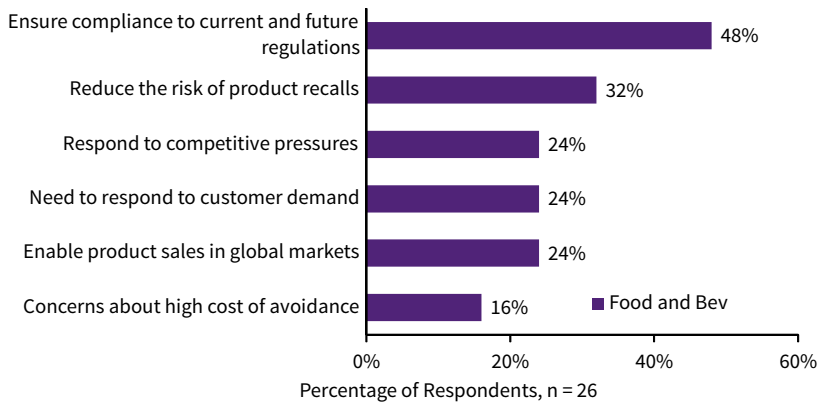
By implementing an integrated ERP solution, though, top performers can proactively manage compliance, while keeping costs low and delivering high-quality, consistent products. This report uncovers the challenges that today's food and beverage manufacturers face as well as the capabilities they have enabled through ERP to improve compliance, profit margins, and customer satisfaction.

## The New Regulatory Environment

Aberdeen's [Environment, Health, and Safety Survey](#) identified the top challenges facing food and beverage manufacturers today (Figure 1, next page). Unsurprisingly, regulatory compliance and food safety issues provide the biggest challenge.

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**Figure I: Compliance and Safety Pressures from Customers and Regulators**



Source: Aberdeen Group, October 2013

Survey takers were asked to select their "top two" pressures. In food and beverage manufacturing, regulatory requirements that are frequently changing are the most significant. For example, the Food Safety Modernization Act is a relatively recent, and evolving, mandate that requires manufacturers to focus on preventing contamination rather than simply containing it. This caused manufacturers to significantly change how they design products and acquire materials. Concurrently, global standards designed to improve visibility in supply chains across a worldwide, and varied, landscape are frequently changing, requiring updates to reports and processes. Not only do these concerns bring the potential of the negative impact of noncompliance such as fines and reputation, but also the potential cost of change to operations and technology.

At the same time, food and beverage manufacturers are wary of the demands of their customers. Increased competition makes quality and safety competitive differentiators, but at the same time the risk of damaged reputation due to noncompliance and recalls is substantial. Therefore, food and beverage manufacturers have additional pressure beyond regulatory

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In this report, Aberdeen groups respondents into two maturity classes:

- **Leaders:** Top 35% of respondents based on average performance in metrics listed below
- **Followers:** Bottom 65% of respondents based on average performance in metrics listed below

In Aberdeen's Environment, Health, and Safety Survey, respondents were ranked on the following criteria:

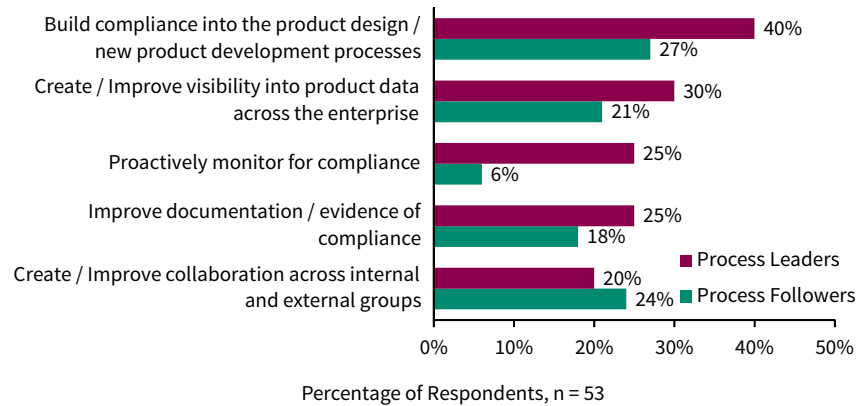
- **Percentage of time that audit action items are completed on time:**
  - Leaders - 96%
  - Followers - 73%
- **Operating margins:**
  - Leaders - 20%
  - Followers - 3% loss
- **Overall Equipment Effectiveness:**
  - Leaders - 89%
  - Followers - 74%
- **Recordable injury frequency rate:**
  - Leaders - .47
  - Followers - 1.41

compliance to do all they can to proactively manage compliance and provide visibility internally and externally.

## Time to Be Proactive

In order to combat compliance issues that are presented by regulators and customers, top performers are placing emphasis on a variety of strategies. It is interesting to note the top strategies that Leading process manufacturers cited when asked to select their "top two" strategies (Figure 2).

**Figure 2: Leaders are Proactive and Attentive**



Source: Aberdeen Group, October 2013

Two main themes emerge. First, there is a substantial difference between Leaders and Followers in strategies related to proactive management of compliance. Forty-percent (40%) of Leaders plan to build compliance into the product development process. This is to ensure that product standards are compliant from the beginning. An example of this practice could include the selection of required suppliers. Further, even after the product goes into production, Leaders are more likely to be on the lookout for noncompliance events, possibly through the use of alerts, rather than waiting for someone else to discover a problem.

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The second main theme that emerges is that Leaders emphasize strategies to improve visibility. This includes the ability to view and trace product data across the supply chain for decision-makers. It also includes improving documentation, making it easier for the organization to interpret, compose, and share that information with key stakeholders, including regulators. Proper documentation is essential for compliance and can be useful for competitive differentiation when used in marketing campaigns.

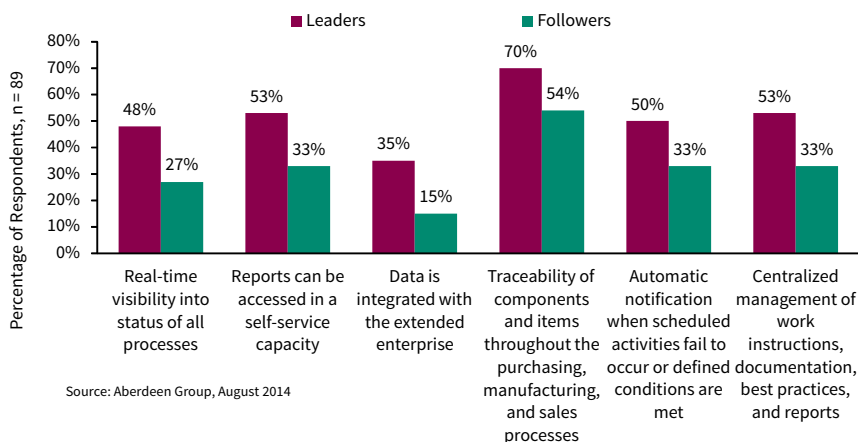
## The Foundation for Success in Food and Beverage

In order to support these strategies, food and beverage manufacturers must rely on their technology to provide improved visibility and communication. Managing many materials from multiple suppliers for many products, shipping to an increased amount of customers would be basically impossible using purely paper or spreadsheets. And providing those reports to external bodies accurately would prove equally impossible. Instead, data collected for Aberdeen's *Creating a Modern, Effective Manufacturing Environment with ERP* identifies the top capabilities that Leading manufacturers have implemented which food and beverage manufacturers could rely on (Figure 3).

In Aberdeen's *Creating a Modern, Effective Manufacturing Environment with ERP*, respondents were ranked on the following criteria:

- **Complete and on-time delivery:**
  - Leaders - 96%
  - Followers - 82%
- **Improvement in profit margins over the past two years:**
  - Leaders - 14%
  - Followers - 4%
- **Internal schedule compliance:**
  - Leaders - 93%
  - Followers - 81%
- **Inventory accuracy:**
  - Leaders - 97%
  - Followers - 87%

**Figure 3: Providing Visibility for Action and Reporting**



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## From Field to Fork

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There are many critical areas where food and beverage manufacturers need traceability. Organizations need to be able to follow a product through every critical node. These include:

- Suppliers
- Raw materials
- Certificates of Analysis
- WIP
- HACCP
- Employee qualifications / sign-offs
- Inspection
- Customer compliance

First, Leaders are 78% more likely to have real-time visibility into all processes. It's all about making that information as easy as possible to access for those that need it. For example, they can share this information with the extended enterprise, both upstream and downstream. This is essential for providing traceability, a capability that 70% of Leaders have implemented. Traceability means that the organization can track product data through purchasing, manufacturing, and sales. They can therefore understand and report where materials came from, how old they are, and if they are safe. This is important because the organization will be able to quickly trace lots in the case of a recall and be able to put products on hold. With instant access to information related to compliance data, decision-makers can be agile, which is why Leaders are 52% more likely to have automated alerts. As a result, public health can be protected, consumers are reassured, and negative financial and reputational impact is minimized.

### Be Proactive with Compliance Standards

But it's not just about providing visibility into information related to ongoing operations. The benefit of having a technology foundation that supports a single source of truth is that best practice standards, recipes, and requirements can be communicated and enforced. Leaders are 61% more likely to have a centralized repository of this information. Of course, the standardization of procedures and products is a perfect opportunity to be proactive in managing compliance.

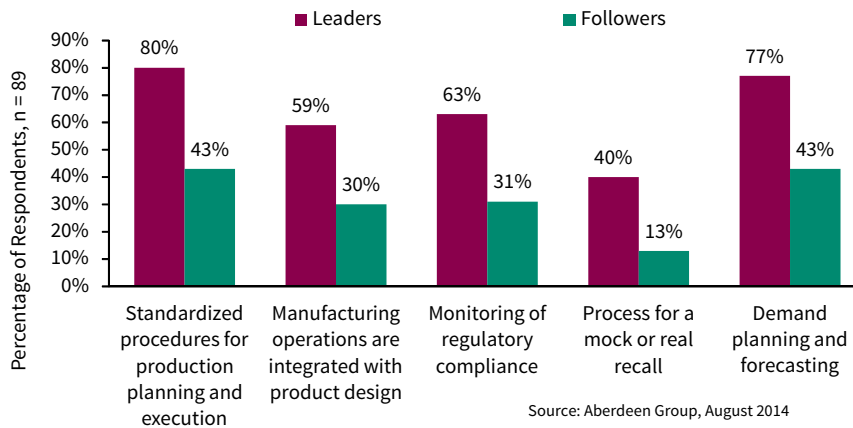
The ability to be proactive helps to ensure that food and beverage manufacturers are not caught off guard when it comes to compliance issues. This is why top performers build in compliance from the very beginning with proactive design and procurement (see sidebar on next page). Forty-four percent (44%) of Leaders have a standardized process for designing,

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sourcing, and validating products for materials compliance. On the design side, Leaders are 47% more likely to have a process to assess the composition of the product. Additionally, they can confirm that these designs are compliant through integration of PLM solutions with ERP and regulatory bodies. And on the procurement side, Leaders are more likely to establish best practices for sourcing from compliant suppliers. These capabilities ensure that product compliance is a priority from the beginning.

After the foundation for compliance has been built in product design and procurement, Aberdeen's *Creating a Modern, Effective Manufacturing Environment with ERP* finds that Leading manufacturers can utilize visibility to improve the processes most essential in ensuring excellence in food and beverage (Figure 4).

**Figure 4: Improved Food and Beverage Processes**



Leaders are 86% more likely to have standardized procedures for production planning and execution. They can therefore ensure that compliance standards are adhered to on the shop floor as well as keep products at a consistent level of quality. Similarly, enhancing visibility between manufacturing operations and product design can ensure that issues and best practices are

## Proactive Design and Procurement

In Aberdeen's *Environment, Health, and Safety Survey*, Leading process manufacturers are more likely than Followers to have implemented capabilities that set a foundation for compliance, safety, and quality:

- Standardized processes for designing, sourcing, and validating products for materials compliance: **44% vs. 33%**
- Established process to generate a roll up assessment of material composition of the entire product (bill of substances): **56% vs. 38%**
- Integration of PLM software with regulatory analysis or content for automated compliant design process: **22% vs. 13%**
- Procurement team establishes best practices for sourcing from compliant suppliers: **44% vs. 33%**
- Standardized process for monitoring product composition against regulatory requirements: **67% vs. 57%**

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## The Importance of Demand Planning

Leaders are 79% more likely to be able to plan and forecast for demand. In food and beverage, this is an essential skill in order to manage perishable materials to keep costs low.

shared. These capabilities indicate that enhanced visibility improves the ability to share and enforce standards across the product lifecycle.

The other way that visibility can come in handy for food and beverage manufacturers comes in the ability to provide compliance information on an ongoing basis. Due to product traceability and instant alerts, Leaders are over twice as likely to be able to monitor for regulatory compliance. Additionally, these capabilities can enable the organization to execute on recalls. While any recall situation can bring damaged reputation, or worse, to the organization, relying on full traceability to perform quick and thorough recalls can help to minimize the impact. Hesitation can be more damaging in the long run. Mock recalls combined with a robust traceability system allows for food and beverage manufacturers to reduce the time to execute a recall down from days to hours. These capabilities are the keys to ensuring compliance on an ongoing basis.

### Integrating for Compliance

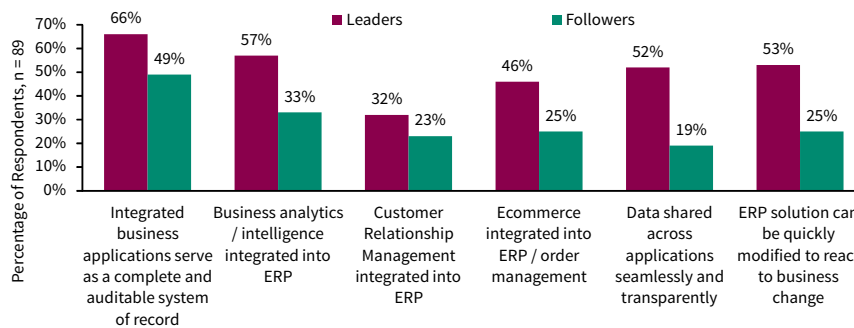
It's been established that standards and visibility are the keys for remaining proactive to ensure compliance, but this can truly only be accomplished by relying on technology. In order to provide full visibility, top performers aim to provide one single source of truth to employees, with ERP as the foundation. Sixty-six percent (66%) of Leaders have integrated business systems that serve as a complete and auditable system of record (Figure 5). This means that no matter what selection of technology is available to users, it is easily accessed and utilizes on consistent set of data. Therefore, end-to-end supply chain traceability is enabled for fast responses to recall events, which would not be possible with siloed systems. An integrated environment can enable food and beverage manufacturers to supplement ERP with technology that can help them manage their challenges,



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such as business analytics, CRM, or ecommerce. Ultimately, this is why Leaders are 2.7 times as likely to enable data to be shared across applications seamlessly.

**Figure 5: Relying on an Integrated Technology Environment**



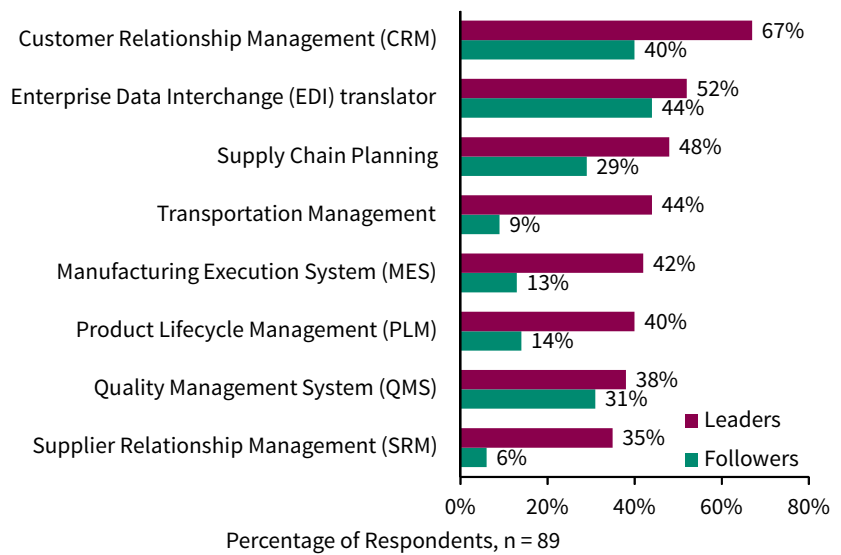
Source: Aberdeen Group, August 2014

Of course, just as any manufacturer needs to continuously improve their operations, their technology environment must be able to improve with them. ERP is the foundation of an organization and must change to support new processes, products, business units, and regulations. For some organizations, managing ERP change can be disruptive and difficult. Therefore, Leaders are over twice as likely to select an ERP solution that can be quickly modified in order to support business change. This is particularly valuable in highly regulated industries such as food and beverage, where mandates frequently change and must be supported within ERP. The FSMA has already been updated since 2011 and will be changing more in the future; ERP must reflect these changes.

To round out the technology environment, Leaders have identified a selection of technologies that can be a part of the integrated environment (Figure 6). This is an opportunity to beef up the landscape with integrated technology that can support their industry specifically. This report has noted that food and beverage manufacturers need to improve quality and

compliance by being proactive in product design and supply chain management. Note that Leaders are more likely to integrate supply chain management, quality management, and product lifecycle management into their technology environment.

Figure 6: Technology Enablers of Leaders



Source: Aberdeen Group, August 2014

## Results

Integrated ERP is the foundation that food and beverage manufacturers can use to proactively manage compliance. This may be reflected by the fact that manufacturers with ERP have 40% more of their customers report better than average satisfaction (Table 1). But this is only one of the quantifiable benefits of ERP. Real time visibility and the enforcement of process standards can lead to improvements in metrics such as inventory accuracy, internal schedule compliance, complete and on-time delivery, and, ultimately, profits. These metrics provide a compelling case for manufacturers to select a solution that they can fully extend across their organization.

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Table 1: The Benefits

Average Performance	ERP	No ERP
Percentage of customers that report better than average satisfaction	77%	55%
Complete and on-time delivery	89%	80%
Improvement in profitability over the past two years	8%	7%
Internal schedule compliance	88%	85%
Inventory accuracy	92%	84%
Percentage of accurate reports over the past 12 months	94%	88%

Source: Aberdeen Group, August 2014

## Key Takeaways and Recommendations

The threat of noncompliance is substantial for today's food and beverage manufacturers. Constantly changing regulations bring the pressure of potential fines as well as the cost of altering processes and supporting technologies to accommodate mandates. But a successful food and beverage manufacturer should not be dragged into compliance kicking and screaming. Rather, top performers must commit to providing quality, consistent, and safe products. It's not just about avoiding a damaged reputation, but about making customers happy. Food and beverage manufacturers should consider the following steps to success:

→ **Stay on top of changing mandates and regulations.**

Regulatory mandates can be varied, confusing, and constantly changing. Of course, they are mandatory and must be followed. Therefore, the onus is on the food and

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beverage manufacturer to understand and enforce them. This includes changing both processes and technology. Leaders are over twice as likely to select an ERP solution that can be quickly modified in order to support business change.

- **Build in compliance from the beginning.** Compliance begins with product design and is reinforced through sourcing. Leaders are 33% more likely to have standardized processes for designing, sourcing, and validating products for materials compliance. Additionally, food and beverage manufacturers should build in tools and processes so that the organization is not caught off guard when a recall is necessary.
- **Track and manage materials.** It is important to know where materials came from and where they went in addition to information such as shelf life and any special restrictions. Having this information can help food and beverage manufacturers to manage inventory, but also to use the information in crisis situations. Seventy percent (70%) of Leaders have traceability of materials both up- and downstream.
- **Communicate with the extended enterprise.** Communication with regulatory bodies, customers, and suppliers enables better reporting, improved sourcing, and better demand planning. Utilizing ERP as a source of data sharing, enhanced communication can make the difference in inventory costs and the ability to manage a recall.
- **Be transparent.** If a crisis situation hits and a recall is necessary, do not try to hide anything. The technology environment should provide the organization with the

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information it needs to keep customers aware of what happened and should go a long way towards diminishing the negative impact on noncompliance.

→ **Don't hesitate.** With automated alerts, food and beverage manufacturers can react immediately when needed. Indecision will only harm the organization. But by relying on ERP, these organizations can be confident that they are making the right decision.

By following these steps, food and beverage manufacturers can take a proactive approach to compliance and never be caught off guard.

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For more information on this or other research topics, please visit [www.aberdeen.com](http://www.aberdeen.com).

## Related Research

[\*Creating a Modern, Effective Manufacturing Environment with ERP\*](#); October 2014

[\*Best-in-Class Product Compliance: Going Beyond the Four Walls\*](#); July 2014

[\*ERP in Food and Beverage: Tracing the Path to Success\*](#); December 2013

[\*ERP in the Process Industries: Functional Ingredients to Create a Good Mix\*](#); February 2013

Author: Nick Castellina, Research Director, Business Planning and Execution  
([nick.castellina@aberdeen.com](mailto:nick.castellina@aberdeen.com))

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