Digital Transformation Pathways in Food & Beverage

A practical guide for F&B leaders to make an impact in critical areas

A marathon, not a sprint

Every Food & Beverage enterprise is in the race to transform digitally. This didn't happen by chance. As consumers shifted away from traditional advertising and mass media and toward social media, marketing organizations across the F&B industry began to realize they were losing the connection with their customers. This meant missing out on the opportunity to engage in dialogue and collect meaningful feedback.

Since the race began, F&B enterprises have embraced digital transformation with different approaches. For example, many organizations have adopted industry 4.0 technologies like cloud computing, data analytics, robotics, machine learning, or AI to streamline internal processes, automate tasks, and analyze data to gain insights into consumer behavior and preferences.

According to one study, 73 percent of F&B companies have continued or increased their investment in digital technologies, with supply chain operations (51 percent), data collection (38 percent), and improved business analytics (37 percent) standing out as the primary use cases.

Today, it's often thought that transforming digitally must be achieved in sprints: modernizing every workload, grasping for every piece of data, or enlisting the latest point solutions. In a recent article, Dr. Venkat Venkatraman, Professor of Management at Boston University, argues that digital transformation is such an overused term that it "loses its power to be the glue that drives organizations forward." [1]

In fact, the marathon is a better metaphor: a series of strategic investments and actions that combine to help drive a unique organizational vision. It's a long-distance race that includes reinventing the business and reallocating key resources. Importantly, observes Venkatraman, it "starts with steps to recognize and respond to inherent traps that prevent change."

Digitization and digitalization are enormous initiatives, and there's no one-size-fits-all solution. Because every F&B enterprise is unique, digital transformation can be reached by multiple pathways. Research has found that while these pathways represent a critical pursuit, it's not easy—only 33 percent of organizations successfully meet the challenge. But those that do tend to make big strategic bets and are rewarded with significant revenue growth and 14 extra points of total shareholder return, on average. [2]

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1. "How to Make Digital Transformation More Than a Catchphrase in Your Organization," Venkatraman, 2022.
2. BCG, Digital Strategy Roadmap.

FOOD SAFETY

QUALITY

REGULATORY

In the running: Convergence of three critical disciplines

In the early stages of digital transformation, sales and marketing organizations within F&B took the lead, driven by the need to adapt to a disruptive change in consumer behavior. Digitization initiatives eventually spread into areas like R&D, supply chain, and procurement. Meanwhile, teams focused on **Food Safety**, **Quality**, **and Regulatory**—all hugely important to consumer trust of the brand—remained at the back of the pack.

These business functions have been traditionally viewed as back-office, risk-averse cost centers. The way F&B organizations were conventionally structured, and because of insufficient technology investments, they became siloed.

Today, F&B companies are beginning to understand the value of earlier involvement and tighter integration with Food Safety, Quality, and Regulatory in product development efforts. These functions are increasingly recognized as the core of what a F&B company is, and the value proposition a brand presents to customers. There's almost nothing that Food Safety, Quality, and Regulatory do not touch in F&B enterprises: consumer experience, brand

trust, product differentiation, innovation speed, and cost of quality (COQ). Consequently, they should be an essential part of any F&B enterprise's digital transformation.

These functions also need to become more interconnected. Given the rapid pace of digital, cloud, and decision-making—along with Environmental, Social, and Governance (ESG) initiatives and demands for sustainability and transparency—leading F&B companies are better connecting these disciplines or have merged them to be part of the same organization as they digitally transform.

The area of Product Claims is an example of why stronger digital collaboration between these functions is vital. Visibility of claims is important because it can work to power—or validate—marketing efforts. The scientific and innovation side of the organization—R&D, marketing, consumer insights—needs to be in lockstep with the operational side—manufacturing, supply chain, finance, procurement—to accurately deliver on the claims being made about food and beverage products.

Gaps and traps: Knowing where to go and avoiding pitfalls along the way

As on any journey, obstacles and hurdles are common features of digital transformation in the F&B industry. Having an awareness of them, while keeping an open mind, allows F&B leaders to better navigate the twists and turns so that transformation efforts don't run off track.

GAPS

Confidence in delivering safe products

Consumers and broader society are demanding product transparency; what they buy must be safe for their families and the planet. Yet many F&B organizations have built silos throughout their supply chains, upstream to downstream. For F&B leaders to be confident they're delivering safe, sustainable products to the marketplace, they need to be able to provide visibility at every point, from farm to fork. This area is ripe for digital disruption.

Supply chain collaboration

Collaboration, data sharing, and co-innovation with suppliers are key. Yet today, these processes remain remarkably inefficient: F&B enterprises often lack the tools to help them connect with suppliers across their expansive supply chains. A robust feedback and communication platform between entities means you will better meet each other's requirements and, as a logical consequence, evolve better, more innovative products.

Information access

Talented, intelligent people are assets to F&B organizations. Yet much of their potential remains untapped when they're wasting time and cycles looking for information that should be available yet is hard to access due to disconnected and fragmented systems. This leaves money on the table and has no place in digital transformation when it's possible to give the right people secure access to the right information, content, education, and processes right when they need it.

Generational realities

The workforce generation that set up and is most comfortable working in outdated, manual systems is retiring. Meanwhile, new hires are increasingly vocal that these disjointed processes are inconsistent with stated organizational values and don't set team members up for success. Investing in a modern solution to unify food safety and quality management allows newer generations to learn and act faster. It's what they've come to expect in the workplace: 93 percent of millennials cite modern and up-to-date technology as one of the most important aspects of a workplace.

TRAPS

Relying on old ways of working to solve new challenges

Operating under the assumption that today's technology partners should be tomorrow's partners is making a choice based on heritage rather than market realities. For example, many F&B companies rely too much on ERP systems to manage their quality and food safety efforts to maximize value. These are primarily transaction-based systems that only partially cater to the comprehensive needs of quality-driven organizations. To bring together Food Safety, Quality, and Regulatory, systems of engagement are needed—not systems intended for transactions.

Remaining stuck in a local mindset

While mandatory standards and guidelines are customarily set at the corporate level, local companies and factories traditionally had more freedom in how these were implemented. Local autonomy is beneficial in some ways, but F&B enterprises can face challenges when they need to look across their global manufacturing landscape to adapt to supply chain disruptions or correct inconsistencies in quality standards.

Using too many disconnected tools

Point solutions are software or services that solve one particular problem without regard to related issues. There are F&B enterprises that deploy hundreds of these point solutions to solve different challenges in fragmented ways. That technical debt is hard to unwind in a world where companies are moving toward a smaller number of enterprise-class connected systems to create more visibility, agility, and productivity.

The end goal for every F&B organization is to become increasingly customer-centric while providing safe products of the highest quality. This focus provides a valuable lens for any digital pilot that leaders undertake.

Think big, start small, scale fast: Finding the right entry point

There's another, overarching trap: F&B leaders often continue along a digital transformation pathway with the right intention but either come out of the gate too fast or don't invest in the resources required to make a measurable difference. It's important to find the balance between starting too narrowly, where the effects are negligible, and going too broad, where any adverse effects can turn into a major setback.

While speed is essential, the end goal for every F&B organization is to become increasingly customer-centric while providing safe products of the highest quality. This focus provides a valuable lens for any digital pilot that leaders undertake, prompting questions like "Does this help us deliver a safe, quality product while being more customer-centric and providing a rich customer experience?"

Take, for example, gluten-free. The global gluten-free products market size was USD 5.9 billion in 2021 and is expected to grow at a compound annual growth rate of 9.8 percent from now until 2030. There's clearly a growing market for the category; consuming foods that contain gluten can have harmful health effects on individuals living with celiac disease.

What happens if R&D makes a slight formulation change to a food or beverage product claiming to be gluten-free, affecting the integrity of the claim? If the areas of innovation and operations aren't connected with an end-to-end view, the implications can be far-reaching, ranging from starting over to recalls to fines to global brand damage.

Investing in a digital pilot that helps R&D and regulatory fully connect with manufacturing and supply chain can have an enormous benefit for the brand.

For a digital transformation pilot to be meaningful, you'll want to aim for critical mass, where results from testing will be compelling enough to indicate success or failure. A pilot with a handful of people in a USD 50 billion organization will not be as effective as a 250-person pilot in multiple geographies across a meaningful percentage of the business.

We'll now show you four examples demonstrating how you can launch a successful digital pilot that starts with a portion of the business and brings together the disciplines of Food Safety, Quality, and Regulatory in a consumer-centric way.

Which digital transformation pathway might you take?

Critical areas where functional leaders can make an impact:

1 / Unified Food Safety & Quality Solution

2 / HACCP at Enterprise Scale

3 / Supplier Food Safety & Quality Management

4 / Sustainability and ESG

DIGITAL TRANSFORMATION **PATHWAY 1**

Unified Food Safety & Quality Solution

Moving towards predictive Food Safety & Quality through a unified approach and integrated solution providing assurance and control.

The task of managing Food Safety & Quality (FSQ) is becoming more complicated. Between supply chain disruption, increased rate of innovation in the industry, and the need to maintain knowledge bases within the company, food and beverage organizations need ever-increasing agility. An increased reliance on suppliers and external manufacturers has made maintaining a culture of food safety more challenging while expanding product portfolios puts further strain on limited FSQ resources.

Companies lack a unified view of all their data in the context of business operations and a structured process for communicating and sharing data with suppliers and external partners. Current systems are often fragmented, disjointed, not connected, and unable to capture both food safety and quality events in the same system. With an inability to capture patterns in the data scattered across these various systems, F&B organizations are unable to move from a reactive to a proactive management of their Food Safety & Quality.

**PATHWAY IN ACTION:
GLOBAL MARKET LEADER IN NUTRITION**

A global market leader in nutrition, operating with production facilities across many geographic regions, is taking action to interconnect its sources of information to stay ahead of supply chain shocks, ensure commodity supply stability, and deliver safe and quality products to consumers. To achieve these goals, the company needed to digitize its data and make it available and actionable in a centralized tool that enables quick and safe decision-making.

VEEVA'S APPROACH

Veeva's cloud-based unified solution is a platform that can support the entire variety of this company's food safety and quality processes. By adopting Veeva's solution, the company plans to establish a modern technology infrastructure that prioritizes quality, safety, agility, and speed. Beyond food safety and quality, this initiative is part of a larger digital transformation effort that can improve collaboration and business outcomes throughout the organization, fostering seamless communication and coordination among teams.

DIGITAL TRANSFORMATION **PATHWAY 2**

HACCP at Enterprise Scale

Effectively manage the deployment of HACCP and food safety knowledge of complex product portfolios across manufacturing locations.

HACCP (hazard analysis and critical control points) is a systematic, preventive approach to food safety, controlling biological, chemical, physical, and allergen hazards that can cause the product to be unsafe by designing measures to control these hazards at safe levels.

F&B enterprises with complex product portfolios and large numbers of manufacturing facilities are challenged to manage the deployment of HACCP efficiently and effectively across a variety of products and geographies. Effective sharing of knowledge from central experts to the factory floor is essential to ensuring that control measures are deployed consistently to safeguard consumers.

In many F&B companies, HACCP studies are derived from disjointed database systems providing hazard information and maintained in spreadsheets and documents, often relying on human action to keep all systems in sync and up to date. In today's increasingly disruptive business environment, your organization will struggle to sufficiently solve this using non-scalable solutions and often unstructured data.

PATHWAY IN ACTION: TOP-FIVE GLOBAL F&B COMPANY

A top-five global food and beverage company with a portfolio of over 1,000 brands has been managing HACCP plans manually in spreadsheets. This painstaking process not only consumed valuable time but also posed a significant risk of error. With the mounting complexity involved in creating and maintaining a quickly expanding number of HACCP studies, the company recognized the need for a platform that transparently standardizes the creation, management, and sharing of HACCP studies across various divisions of the company, including creating master HACCP plans at the R&D level that can then be modified and localized. This company approached Veeva to co-develop a solution to meet their growing needs.

VEEVA'S APPROACH

Veeva's HACCP management capabilities—part of a cloud-based, unified food safety and quality application—seamlessly digitizes and automates HACCP study management, mitigating the risk of critical errors and omissions, and identifies food safety threats that need to be mitigated. As part of a larger digital transformation initiative, this solution will help deliver increased efficiency and improved business outcomes across the company.

Supplier Food Safety & Quality Management

Streamline communication and ensure compliance across your entire supply chain.

The supply base in the F&B industry is extremely fragmented, diverse, and involves the complex interaction of thousands of participants. F&B organizations rely on their suppliers to manage their food safety by ensuring that the materials they're supplying are safe and their food safety processes are effectively managed.

Most organizations use standard digital tools such as email, spreadsheets, and shared drives to organize and communicate requirements to their supply networks, making response times slow when speed is needed most. Supplier audits or assessments by F&B organizations typically reside in a separate system or approach, making it difficult to manage the supplier authorization process without substantial manual rework.

VEEVA'S APPROACH

Veeva's cloud-based Food Safety & Quality (FSQ) solution allows F&B enterprises to invite external partners like suppliers and co-manufacturers onto the platform to securely exchange information and collaborate.

The solution allows for the exchange of documents, such as specifications and Food Safety & Quality requirements; collaboration on supplier NCRs, CAPA, and root cause analysis; conducting audits; and FSMA supplier verification. Workflows and timely alerts inform users of recurring tasks and document expirations, preventing blind spots. Audit trails ensure that all workflow participants know what's been completed, saving precious time. The result: completely streamlined supplier FSQ management in a single end-to-end solution.

DIGITAL TRANSFORMATION **PATHWAY 4**

Sustainability and ESG

Build confidence in today's dynamic and uncertain regulatory world.

Consumers increasingly demand that companies be vocal and transparent about what they do to address sustainability and Environmental, Social, and Governance (ESG) concerns and how their products are being developed and sourced. While regulations are spotty, the rate at which they're being implemented across the globe is increasing.

F&B companies are in many ways at the center of the sustainability challenge, as ingredients can often negatively impact the environment from which they are sourced, and the long-term impact of packaging is a constant source of concern. In addition, sustainability and ESG data and documentation up and down the value chain is often difficult to obtain, track, and manage due to the many disparate and siloed systems used today

VEEVA'S APPROACH

Veeva can help bring order to many critical areas related to sustainability and ESG. With several applications to serve the product journey, all built on a unified platform, Veeva can bring sustainability and ESG-related data and documents together to serve the needs of the diverse teams working on sustainability priorities within companies.

From requesting and managing data or documentation from suppliers related to sustainable ingredients to managing dossiers and usage of third-party certifications across brands globally to managing the complex world of sustainability and claims at the product or corporate level, Veeva is a partner in helping F&B companies bring order to the often chaotic yet critically important area of sustainability and ESG.
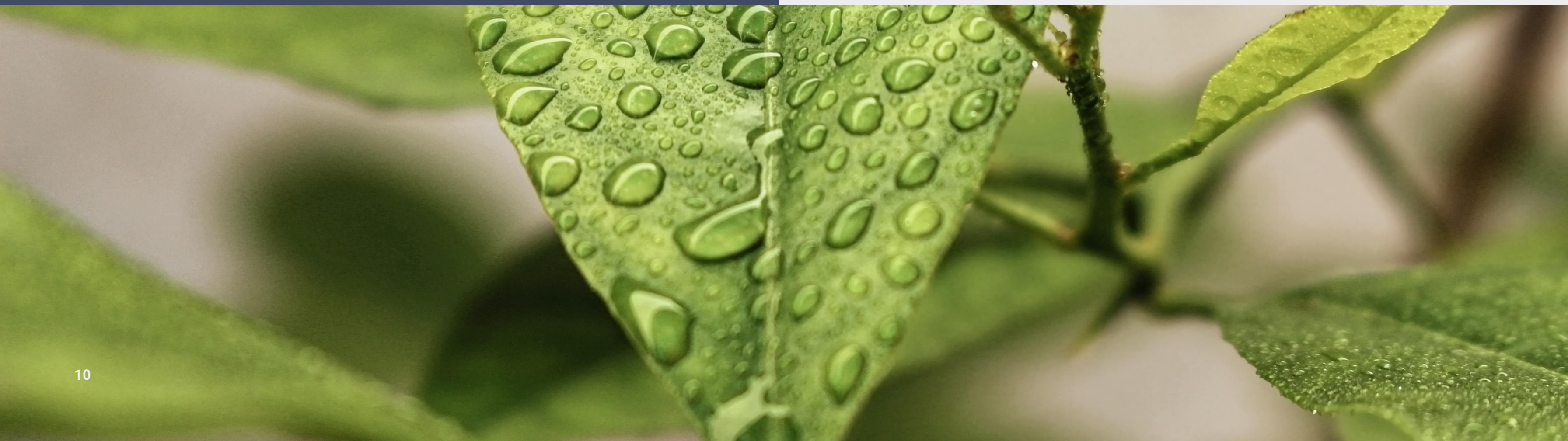
Every vision needs a leader

Digital transformation is a difficult undertaking. It's sometimes hard for F&B leaders to make the business case, which can involve large sums of money and isn't guaranteed to succeed. One differentiator that drives fast-moving succeeders in the F&B industry is having senior leaders who are engaged in a vision for using new technologies to transform the business and move beyond traditional ways of working.

Determined, thoughtful leaders who understand the power of reimagining a business process by taking advantage of the latest cloud capabilities will drive true results. For example, from a product quality and safety perspective, companies utilizing the cloud will have instant access to compliance data and documents in real time, and critical information like food safety measures will always be up to date.

Functional leaders in these disciplines, who know the lay of the land and often have hands-on experience, should consider presenting their ideas for change to senior leadership. It's important to have a clear vision—and supporting hypotheses—about the future and be able to articulate what needs to be done now, and why. The most successful leaders will focus on an important problem and feel confident about a partner with whom they can build a strong, long-term relationship.

The final stretch is often the most challenging

Many F&B companies have made substantial progress in digital investments like optimizing manufacturing, improving communications and collaboration, digitizing processes, centralizing systems, and training and upskilling teams to work in a more productive environment. Now the industry may be nearing a critical stretch that organizations must complete to manifest the opportunities that come from those investments. And in a world of lowered barriers to entry, fast followers, and agile disruptors, the final stretch is often where the winner emerges.

But many of these hard-won advancements can be throttled or squandered if there are significant roadblocks in the three key areas of Food Safety, Quality, and Regulatory. Companies attempting to meet the demands of these disciplines with fragmented point solutions are likely to run into challenges because it's not easy to integrate these efforts across the stack. There's a real advantage to having a single partner and a unified system that runs alongside you for the entire race.

While it remains true that F&B organizations need transactional solutions to help run the business, they must complement these with collaborative solutions that break down internal silos. Collaboration systems also accelerate the ability to get safe products to market faster and deal with complex, modern consumer requirements.

Everything you've put into place along your digital transformation journey has prepared you for the *now*—the opportunity to leverage the power of digital for Food Safety, Quality, and Regulatory—and to confidently fly past your competitors along your own digital transformation pathway.

To explore which digital pathway is right for your organization, contact one of our F&B digital transformation experts for a complimentary assessment of your organization's challenges and opportunities.

Industries.veeva.com/food-beverage

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