



# NOURISHING THE WORLD TO 2050

## RESTORING TRUST IN FOOD

### INTRODUCTION

The next 30 years are the most important 30 years in the history of food and agriculture. Facing a population slated to grow to 10 billion people by 2050, it has been said that we will need to produce the equivalent of 10,000 years of food in the next 30 years. Advancements in science and technology will be required to power up new innovations, and these innovations will need to scale globally if they are going to make an impact. Incumbent food companies (large-scale farmers, consumer packaged goods companies, distributors, and even retailers) are increasingly distrusted by consumers, who see them as being singularly driven by profits and by a disdain for social and environmental concerns. In a sense, one could say that **big food has lost its social license to operate.**

**Paradoxically, while consumers distrust big food, the world still needs big food players to provide the scaling and acceleration of innovation needed to meet our 2050 challenge.** This will require a restoration of the public's trust in food.

*"Nourishing the world to 2050 will require a radical transformation of our global food system, but in order to do this, we must first restore trust in food science, information, companies and brands."*

So as we look ahead, we must ask: what are the reasons for our mistrust, and what will be required to restore it? What are the barriers we face? What emerging innovations might help transparency, traceability and trust? Why is there often such a large gap between science and popular perception, and in what way(s) does new media affect public perception? Most importantly, can we identify an actionable set of principles that can guide stakeholders' actions?

**Ultimately, trust is foundational to innovation and progress.** Nourishing the world to 2050 will require a radical transformation of our global food system, but in order to do this, we must first restore trust in food science, food information, food companies and brands.

For these reasons, on September 17, The World Innovation Network (TWIN) convened a group of over 30 diverse global leaders for a **Challenge Session at TWIN Global 2019 focused on Trust Your Food**. During this session, we explored and discussed barriers and opportunities to creating greater authenticity and **trust in food science, food information, food companies & brands and the food system overall**. This report summarizes and builds upon the outcomes of a recent TWIN Challenge Session and covers the following:

- ▶ **The State of Trust:** Where are we today?
- ▶ **The Evolution of Mistrust in Food:** How did we get here?
- ▶ **Restoring Trust in Food:** What can be done?  
What new possibilities might engender trust?
- ▶ **The New Mandate for Food Industry Players:**  
Key principles for thriving in a post-trust world

## THE STATE OF TRUST WHERE ARE WE TODAY?

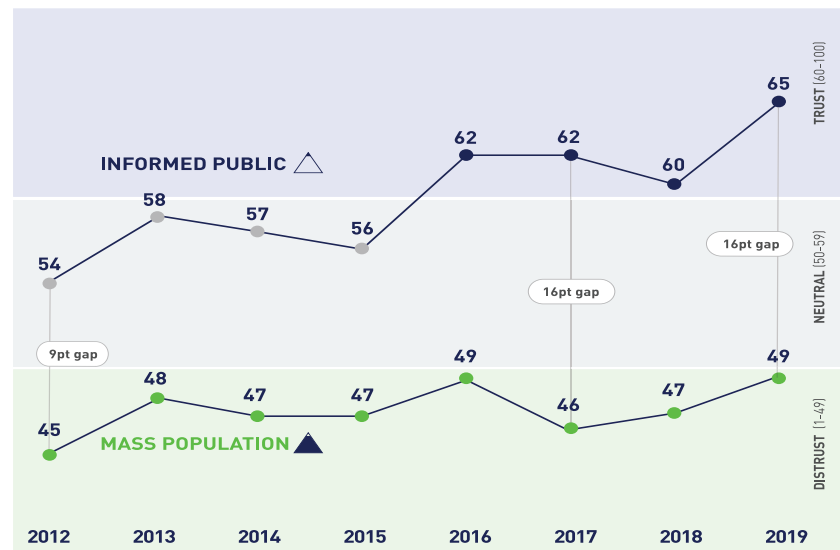
For years, we have been facing a growing crisis of mistrust in leaders and institutions – a challenge that goes beyond food and is cross-sector and global. While we have seen pockets of modest improvements in the past few years, distrust in leaders and institutions remains a constant across markets and sectors. Edelman, the global public relations firm responsible for *The Trust Barometer*, has pointed out that trust inequality, or the “trust gap” (the difference in trust between the informed public and mass population) has risen to an all-time high and has nearly doubled since 2012. Worth noting, this trust gap is increasing while consumers are becoming even more engaged in media and information globally.

As Kent Grayson, associate professor of marketing at the Kellogg School of Management and faculty director for The Trust Project, pointed out, “When trust works, it’s invisible.”

And so, backward-looking measures from the Edelman’s Trust Barometer only reveal what we’ve been experiencing for many years: **a crisis in slow motion that has been appearing and is now in full view.**

### TRUST INEQUALITY RETURNS TO RECORD HIGHS

Trust Index (23-market average)



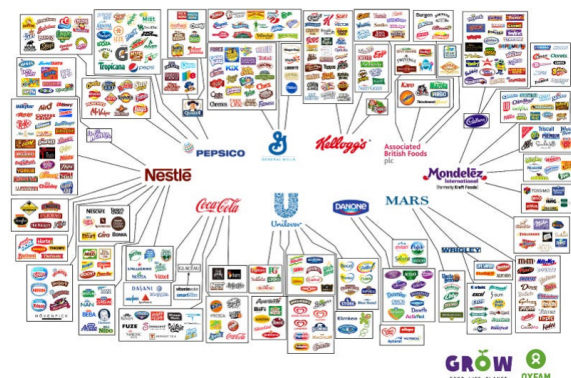
Source: 2019 Trust Barometer (Edelman)

### The food industry is facing its own unique crisis of trust.

Although respected experts like Steve Ostroff, former Deputy Commissioner of the U.S. Food & Drug Administration, have argued our food is safer than it has ever been, The Center for Food Integrity reports that:

- ▶ a mere **33% of respondents agreed** with the statement, “I am confident in the safety of the food I eat” – down from 47% in 2017.
- ▶ Additionally, **less than half of respondents** (44%) said they had a **positive impression of food manufacturing**
- ▶ only **25% believe U.S. meat is derived from humanely treated animals**
- ▶ and a mere **30% strongly agree** with the statement, “American farmers take good care of the environment.”

Some advocate that big food has become too big and powerful and wields too great an influence over consumers. In 2015, Oxfam released an infographic highlighting the fact that ten global brands control “nearly everything you buy” that ignited a global firestorm on social media. Subsequently, there has been a steady rise in smaller, venture-backed food brands and businesses.





Some also point to the “bad behavior” of big brands, such as PepsiCo suing four Indian farmers earlier in 2019 for cultivating its patented Lay’s potatoes<sup>1</sup> – an action which was later promptly reversed after a consumer backlash and negative PR campaign against the company. Actions such as these, however uncommon, serve to reinforce many consumers’ preconceived notions that big companies are bad actors and are not to be trusted.

Even when players engage in corporate social responsibility initiatives, their efforts are often perceived as “green-washing over other corporate sins.” They are viewed as inauthentic in their desires to improve the livelihoods of people and the planet at large.

Producers and distributors also contribute to the challenge. Food safety issues such as the E. coli outbreaks in 2019 generate a renewed skepticism over how our food gets from farm to table. This also drives a greater desire for transparency and accountability across supply chains.

These examples, while not comprehensive, illustrate the clear and present danger to continued innovation in the food industry. Incumbent food players must overcome a crisis of trust if we are to make progress in nourishing the world and advancing prosperity through innovation.

*“Perhaps no economic system is viewed with suspicion by so many people around the world as the food system.”*

– Ray A. Goldberg, the George M. Moffett Professor Emeritus of Agriculture and Business, Harvard Business School



## EVOLUTION OF MISTRUST IN FOOD

### HOW DID WE GET HERE?

The fact that the food industry is viewed with skepticism is not new. In his 1899 poem entitled, “I Wonder What’s in It,” Dr. Harvey Washington Wiley, an early pioneer of food chemistry, food toxicology, and food safety, offered sentiments that echo the concerns of today’s consumers well more than a century prior.

#### I WONDER WHAT’S IN IT

*We sit at a table delightfully spread,  
And teeming with good things to eat,  
And daintily finger the cream-  
tinted bread,  
Just needing to make it complete  
A film of the butter so yellow  
and sweet,  
Well suited to make every minute  
A dread of delight. And yet while we eat  
We cannot help asking “What’s in it?  
Oh, maybe this bread contains alum  
or chalk,  
Or sawdust chopped up very fine  
Or gypsum in powder about which  
they talk,*

*Terra alba just out of the mine.  
And our faith in the butter is apt to  
be weak,  
For we haven’t a good place to pin it  
Annato’s so yellow and beef fat so sleek,  
Oh, I wish I could know what is in it.  
The pepper perhaps contains  
cocoanut shells,  
And the mustard is cottonseed meal;  
And the coffee, in sooth, of baked  
chicory smells,  
And the terrapin tastes like roast veal.  
The wine which you drink never heard  
of a grape,  
But of tannin and coal tar is made;*




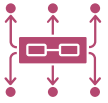






*And you could not be certain, except  
for their shape,  
That the eggs by a chicken were laid.  
And the salad which bears such an  
innocent look  
And whispers of fields that are green  
Is covered with germs, each armed  
with a hook  
To grapple with liver and spleen.  
The banquet how fine, don’t begin it  
Till you think of the past and the future  
and sigh,  
“How I wonder, I wonder, what’s in it.”*

—Dr. Harvey Washington Wiley

<sup>1</sup> [PepsiCo sues four Indian farmers for using its patented Lay’s potatoes](#), Reuters, April 26, 2019 page 4

## TWIN PERSPECTIVES: Restoring Trust in Food

During our discussions at TWIN, Steve Ostroff highlighted **ten factors** contributing to the rising level of mistrust in food in recent years. These ten factors and their trust impacts were discussed in depth with TWIN leaders:

	<b>GREATER OPACITY</b>	Many packaged foods have become sophisticated formulations of highly engineered products, and the journey from farm to table has become increasingly complex. Opacity in both product development and distribution has led to skepticism and a desire for both simplicity and transparency. As one global food producer recently stated, the food sector needs to “close the mystery gap about what is going on behind the logo.”
	<b>LACK OF CONTROL</b>	As we moved from an agrarian to an industrialized society, our relationship to food became less personal and more distant. We have been witnessing a resurgence in the desire to take back control (or at least perceived control) over what we are consuming and how we are consuming it.
	<b>INCREASING GLOBALIZATION</b>	Over the past 50 years, our food system has gone from being largely local and regional to highly globalized in nature. Food-borne pathogens and outbreaks have far greater potential to cross international boundaries and create far broader impacts, leading to greater concern over supply chain authenticity.
	<b>SUPPLY CHAIN COMPLEXITY</b>	Increasingly global and interconnected supply chains have led to safety gaps and vulnerabilities, which is one reason why we have seen a continued rise in food product recalls. While these recalls demonstrate that detection and intervention is working, they also help fuel consumer mistrust.
	<b>FOOD FRAUD ECONOMICALLY MOTIVATED ADULTERATION</b>	Industry experts estimate that food fraud in its various forms (adulteration, tampering, illegitimate sale, counterfeit, etc.) is responsible for tens of billions of dollars in lost sales for the food industry and significant consumer confusion. One notable example is low-quality olive oil being sold as extra virgin olive oil. Some food fraud even results in serious health consequences (e.g. melamine).
	<b>INDUSTRY MISINFORMATION</b>	In recent years, social media and democratized information have shined a bright light on misinformation. Terms like “natural” have been abused. Words like “fruit” convey health but the products are laden with sugar. This bright light has ushered in an era of skepticism and mistrust by consumers.
	<b>BAD, CONFLICTING AND POLLUTED SCIENCE</b>	Poorly designed and/or poorly funded research studies that have led to inconsistent or perhaps even contradictory findings about such topics as eggs, fats, and carbohydrates have added to consumer confusion. Additionally, industry-funded research efforts have long been viewed with skepticism, as many over time have been shown to be advancing self-serving agendas of industry participants.
	<b>FOOD INDUSTRY LOBBYING GROUPS</b>	Food industry lobbyists have come under increased scrutiny in recent years, with players such as the International Life Sciences Institute, an industry group that advocates on behalf of 400 global food and beverage firms around the world, being criticized for its role in shaping recent studies that contradict years of scientific evidence regarding red meat and processed meats.
	<b>PARADIGM-CHANGING INNOVATIONS</b>	Food technology is advancing in many vital areas, with innovations that promise to bring with them healthier and more sustainable food options. However, what is often considered “new and different” fuels the rise of social media labels such as “Frankenfood” that sensationalize the innovations and foster further mistrust.
	<b>THE GMO EFFECT</b>	The mismanaged GMO debate has led to an overwhelming consumer skepticism of and bias against genetic technologies, many of which may be necessary to help us achieve our 2050 goals.

Behind these ten factors are **three fundamental forces** – forces operating at a **broader societal level** – that are accelerating their rise and amplifying their impact:

### ▶ OUR RELATIONSHIP TO FOOD HAS CHANGED

Over the past few decades, especially in western economies that have seen the rise of industrialized and packaged foods, consumers are increasingly concerned with the authenticity of the foods they eat, their provenance (origins), the ethics of how they were produced and delivered to them, and the impacts of foods on their health as well as on their environment.

### ▶ OUR RELATIONSHIP TO INFORMATION HAS CHANGED

Social media has become a powerful force in shaping public opinion. And while social media has yielded tremendous good by democratizing information and giving a voice to those without power, it has also radically impacted the mistrust we are now witnessing. With social media, we have institutionalized echo chambers and confirmation bias, accelerating polarity and division in almost every domain of society. We have espoused the virtues of the “wisdom of the crowd” without acknowledging that the crowd itself has biases because people are *biased*. The media cycle and changing consumer expectations are only accelerating this effect. Many news outlets now use opinion in their headlines in an effort to get people to click on them, and the need to be trending online means that contrarian views (sometimes even demonstrably false) help fuel the business models of media companies and personalities. In the case of food, one outcome of this phenomenon is that, in the words of Jack Bobo, “[*The equation*] is no longer hazard times exposure equals risk; rather, it is now hazard times media exposure equals perception of risk.”

*“[The equation] is no longer hazard times exposure equals risk; rather, it is now hazard times media exposure equals perception of risk.”*

—Jack Bobo, CEO Futurity; Senior Advisor, Global Food Policy, U.S. State Department (2002-2015)

### ▶ TECHNOLOGY IS CREATING AN EXISTENTIAL THREAT TO TRUTH

The promulgation of social media platforms, especially when powered-up by technologies like artificial intelligence (AI), have impacted how we come to know what is true. The rise of active disinformation campaigns, and sadly, terms like “fake news” have become part of the lexicon of the new economy. Negative influence campaigns used by foreign actors in the 2016 U.S. Presidential Election as well as the Brexit vote provide poignant examples. Now, these same technologies are super-charging the spread of misinformation and taking things to a new level with “deepfakes” (which creates human image synthesis through machine learning algorithms) – fostering an environment where rogue perspectives are propagated, conspiracy theories take hold in the public psyche, and the truth increasingly appears unknowable. This issue, while not unique to the food sector, poses a fundamental threat to society’s institutions, and will accelerate the distrust we are now witnessing in food science, food companies & brands, and the food system.

## RESTORING TRUST IN FOOD

### WHAT CAN BE DONE ABOUT THIS?

It has been said that **trust takes years to build, seconds to break, and years to repair**. But we must **make trust-building our life's work**, because **trust is foundational to innovation and progress**.

During our TWIN Challenge session, Kent Grayson highlighted three factors that act as **building blocks of trust**, that should act as a lens through which all actions are evaluated:



Underlining these three factors are **three over-arching imperatives** to build and sustain trust:

#### 1. Authenticity

Ensuring your actions are truly aligned, both public and private, with your values as a firm.

#### 2. Transparency

Being open with all stakeholders about your processes and methods.

#### 3. Consistency

Being true to your word over time and across all levels/groups in the firm.

The old phrase *"be sure your sins will find you out"* has never been truer than it is today. Bad behavior will be uncovered and widely communicated. Inauthentic corporate social responsibility will be spotlighted as green washing. Incompetence and negligence in operational practices around food will be treated harshly and the long-term impacts to shareholder value and brand value will be pronounced.

Leaders in the food industry interested in improving their trust and social license to operate must engrain these three building blocks and imperatives deep into the ethos and cultures of their companies, use them the filter for their hiring and management practices, and align both their resources and incentive systems accordingly.

*"I'm not upset that you lied to me, I'm upset that from now on I can't believe you."*  
—Fredrich Nietzsche

## EMERGING TECHNOLOGIES, NEW HORIZONS

As we look ahead, technology holds promise for improving the trust gap. Our TWIN leaders spotlighted two powerful emerging technologies that can address *aspects of the challenge*—bringing greater authenticity and transparency of the foods we eat and the ways in which they are delivered to us.



### BLOCK CHAIN AND A DIGITAL RECORD

Block chain technologies will enable each player across the food value chain to create an accountable and traceable record of the journey food took, from farm to fork. This will radically shrink both the effort and time required to verify the authenticity and provenance of food products. As these technologies are deployed, consumers will be able to know the origins of a head of lettuce, down to the farmer and field level, or whether a cage-free egg is really in fact from a cage-free farming operation. These technologies will also enable speed and faster response times for supply chain participants and regulators. For example, mango tracing at Walmart has reduced from 6 days down to 2 seconds. And while much has been said in the press regarding block chain, block chain technologies are only 2-5% penetrated across the food supply chain. That means the upside potential may be significant, especially in helping us collectively tackle issues like food safety and food assurance.



### MICROBIOME AND DIGITAL SIGNATURES

The majority of public and scientific discourse around microbiome and food technology has been in the future promise of food personalization for health reasons – and that is indeed an exciting future horizon. However, microbiome analysis techniques, powered by artificial intelligence and geo-spatial mapping technology, is also opening up radical new possibilities in supply chain traceability. Food products are covered in microbes that inhabit and reflect the human-made environments in which they are farmed or processed. New technologies developed by companies like **Phylagen** are emerging to enable the analysis of the “microbial signatures” of end products and their raw materials to determine their provenance and authenticity. Such solutions, especially when combined with technologies like block chain, will enable new possibilities in traceability, security and authenticity.

### Technologies like these and many others will open up new possibilities in tackling the trust gap.

In addition to addressing authenticity and transparency, new food technologies will also be necessary to achieve our shared goal of *nourishing the world* to 2050. Next generation solutions involving genomics, microbiome, food personalization, cellular agriculture, and the like, will all be needed. It has been said that we will need “all the tools in the tool bag” to tackle the challenges we are facing. However, new food & agriculture technologies must be trusted if they are to achieve their intended outcome.

Working hard to restore trust with end-consumers in particular will be critical, because, in the words of Jack Bobo, “*People love innovation about as much as they hate change.*”

So where do we go from here, and how do leaders in the food industry not just survive but thrive in a world of distrust? How do we (re-)build bridges and find common ground? What actions can we take to begin to restore trust?



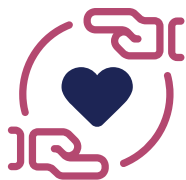
## THE NEW MANDATE FOR FOOD INDUSTRY PLAYERS

### FIVE KEY PRINCIPLES FOR THRIVING IN A POST-TRUST WORLD

Big food is caught in a **paradox. Trust drives brands, but brands engender mistrust as they scale.** While there are some big brands that are deeply trusted, for most brands, as they scale and profits rise, so does the scrutiny and skepticism. For example, no one seriously discussed the

quality of the ingredient label for the Impossible Burger until it became the Impossible Whopper. However, the world will continue to need big food, so big food companies will need to work actively to restore the trust gap they have with society.

**Below are five key principles for thriving in a “post-trust world.”** These together form the **new leadership mandate** for food industry participants to make progress on closing the trust gap:



#### 1. Change the conversation.

It was said at TWIN that “if you lead with science, you will lose with science.” The human tendency toward confirmation bias (seeking out science that agrees with our prior commitments) compels us to begin by aligning around the *why* rather than the *what*; to seek out and build alignment around the end-outcomes we share in common, not the underlying technologies being deployed to enable them. If the goal, for example, is to reduce harmful pesticides, framing it as “We’re using nature to fight nature” instead of “We have developed a technology to modify the genes of a tomato to address blight” is much more effective. The former provides a more fruitful basis for achieving alignment.



#### 2. Develop a shared definition of trust.

What trust looks like, and what it demands of stakeholders, varies widely based on the context. Trust in an underdeveloped country looks different than it does in a developed economy. Trust in food categories like baby food has significantly different implications than it does in farmers’ markets. Leaders of food companies should take the initiative to engage stakeholders in their ecosystem and develop a shared definition and shared framework of what trust looks like, the expectations of stakeholders in the system, and what is required to maintain it.



#### 3. Seek out and build alignment with unlikely stakeholders.

The food industry is deeply tribal. Food companies are often at war with nonprofits, NGOs and consumer advocacy groups; and vice-versa. While at times this can lead to productive outcomes—in particular when specific actions need to be called out and rectified—often the long-term effects of this tribal warfare is a lack of real progress on the important issues we must address. The old adage rings true in this case: *“When you throw mud at other people, not only do you get your hands dirty, you also lose a lot of ground.”* At TWIN, we believe in the value of bringing together diverse and unlikely groups of leaders together in a neutral, trusted way that promotes productive dialogue.



**4. Drive the building blocks and imperatives of trust deep into your organization and engage in authentic storytelling.**

Clearly, if trust is being eroded for tangible reasons (lack of honesty, benevolence, competence; or lack of authenticity, transparency or consistency), that should be the first order of business. Fix your trust gap internally before building the messaging and stakeholder engagement efforts externally. However, for those that are acting in trust-engendering ways: engage in storytelling. We live in the new era of the CEO statesman and advocate, and leaders of organizations need to take a stand on broader societal issues and share stories about how they are mobilizing internally and externally to take action. Stories, so long as they are indeed authentic, can be helpful in building and maintaining trust.



**5. Make the “Copernican shift.”**

The famed Renaissance-era Polish mathematician and astronomer challenged the prevailing notion that the earth was the center of the universe. His heliocentric view, once thought to be heretical, reshaped our entire understanding of the universe. Big food companies need to make a similar shift. Rather than viewing themselves as the “center of the food universe,” they should put the consumer back in the center of their universe and rethink their offerings, business models and approach to market to be consumer-back versus business-forward. If consumers are truly front-and-center, shouldn’t the last mile actually become the first mile? Such reframing will open up new ways of framing and tackling the trust gap food companies are facing. ◀◀

*If consumers are truly front-and-center, shouldn’t the last mile actually become the first mile?*

# SPECIAL THANKS

Many thanks to those who contributed insights at the 2019 TWIN Food Trust Challenge Session:

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Jack Bobo – CEO, Futurity; Senior Advisor, Global Food Policy, U.S. State Department (2002-2015)

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Steve Ostroff MD – Deputy Director, Food and Veterinary Medicine, U.S. FDA (2013-2019)



## About The World Innovation Network

The World Innovation Network (TWIN) is focused on enhancing and enabling global prosperity through innovation. The TWIN is an invitation-only global community of innovation and growth leaders from around the world who work across a variety of sectors including business, government, non-profit, the arts, academia, and defense. The annual TWIN Global Summit in Chicago brings together over 400 leaders from 25 countries, from the most senior levels of their organizations, as well as select individuals making a differentiated impact around the world.

TWIN was originally launched and incubated at the Kellogg School of Management at Northwestern University, where it was called the Kellogg Innovation Network (KIN). After nearly a dozen years of growth and impact, the KIN was spun out from Kellogg and the name was changed to The World Innovation Network (TWIN).

## Connect with Us:

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*TWIN Perspectives report authored by Scott Bowman.  
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