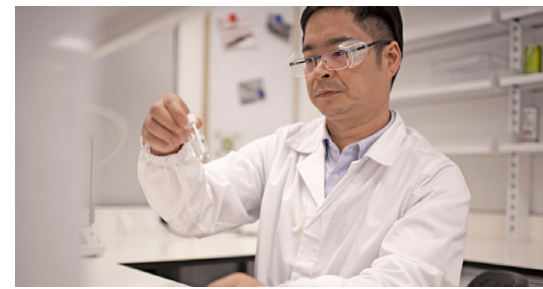
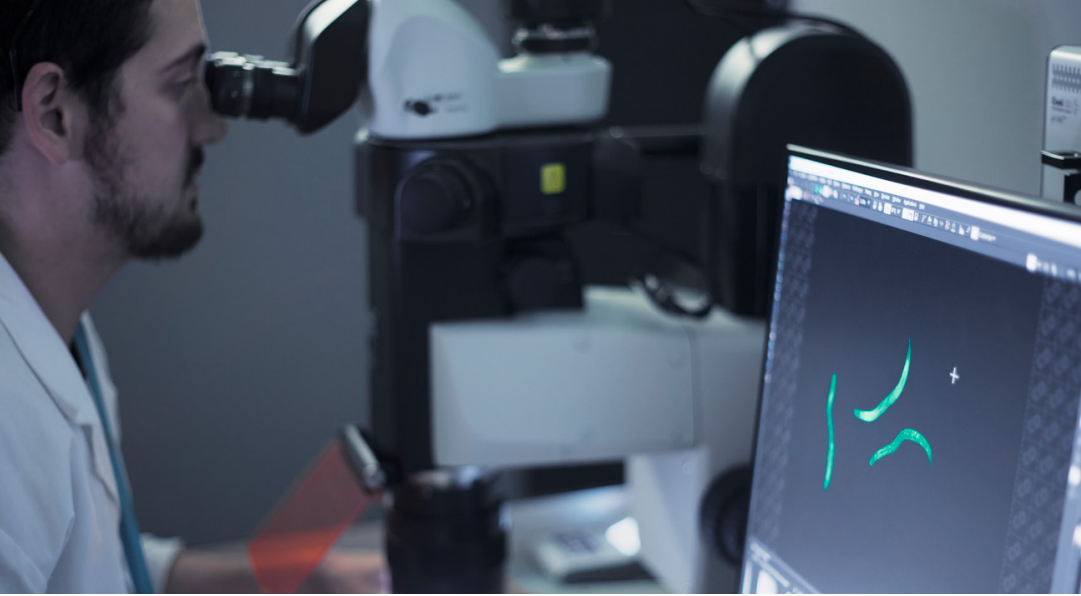




Byte-Sized Revolution

How cutting-edge tech is transforming the way we eat

A 2024 ADM Global Consumer Trend Series



We are in the midst of a technological revolution that is changing how food is produced and consumed

While science and technology have long been integral to the global food system, recent advancements are hastening the pace and reshaping the nature of innovation.

New and innovative technologies which promise to address environmental, social, ethical and health challenges are driving growth and causing disruption across categories and throughout the supply chain.

From increased connectivity and information access to advancements in artificial intelligence and hyper-personalization, new technologies are accelerating change and heightening expectations among consumers. This has led to a shift in how consumers think about the food they eat – where it comes from, how it's made, and even what food is.

The question that everyone wants answered is:
How can businesses leverage technology to meet rapidly evolving consumer trends and drive innovation?

Understanding consumer trends and the impact of technology is essential for modern businesses to thrive



A deep understanding of consumer wants, needs, attitudes and behaviors related to technology's impact on food and wellness products allows businesses to keep pace with current consumer-driven trends and anticipate where they are headed in the future.

As the industry leader in global consumer trends, ADM can help you apply this knowledge to innovation, to create products and services that resonate with consumers' ever-changing considerations and aspirations.

**Consumer expectations are high –
ADM can help you not only meet, but also exceed them.**

ADM's Global Consumer Trends Framework illuminates the market growth drivers impacting food culture today and into the future

Based on in-depth proprietary research and a network of trend explorers around the world, each layer of the framework is key to understanding consumer behavior:

Macro forces: broad cultural shifts that impact across societies, markets and industries.

Enduring Consumer Trends: unifying principles that shape consumer demand for products and services.

Market Growth Drivers: A dissection of larger trends that highlight consumer attitudes, expectations, and behaviors which serve as starting points for brands to prioritize opportunities for innovation.

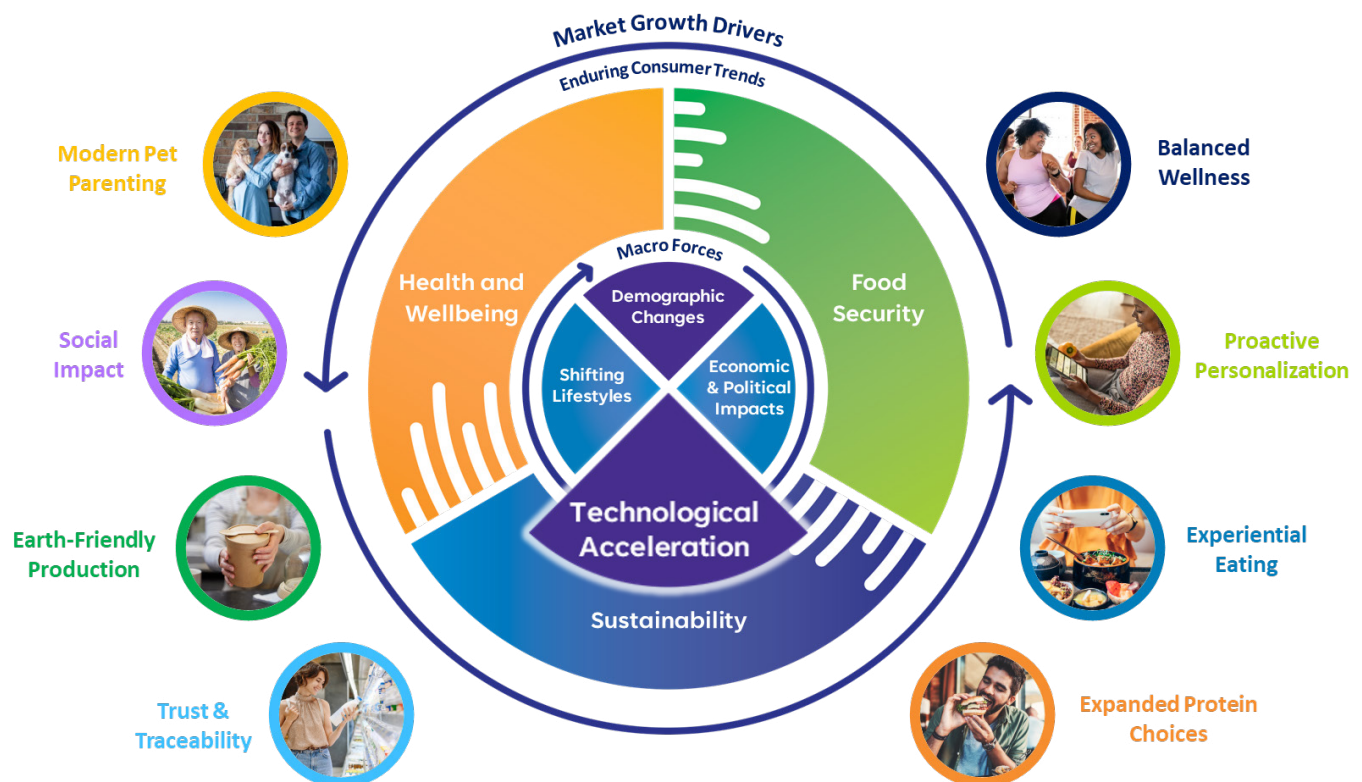
Technological acceleration is a macro force changing how global consumer trends are expressed in the marketplace

Technology is the driver of innovation across global trend spaces.

Advances in and the convergence of fields such as microbiology, genetics, artificial intelligence, robotics, and materials production and manufacturing are playing out across the entire supply chain, from agriculture to food service and retail to the home.

While all trends are impacted, technology plays an outsized role across manifestations of these trends (or "micro trends"), which are shifting rapidly.

Global Consumer Trends Framework



Learn more about global trends @ ADM.com/trends

From seed to fork, a broad range of technologies are changing how consumer trends are manifested globally



SEED

FORK

Some Key Technologies Driving Innovation



Agriculture

- Seed AI Genetics
- Urban, Vertical Farming
- Laser Scarecrows
- Farm Automation, Robotics
- Regenerative Agriculture Technologies



Ingredients

- AI-Generated Colors & Flavors
- Precision Fermentation
- Microbiome Science
- Cell Cultivation
- Extraction Technologies



Production

- AI Product Design
- 3D Printing
- Food Waste Management
- Traceability Technologies
- Microbial-Based Food Preservation



Delivery Channels

- Robot & Drone Deliveries
- Smart, Autonomous Stores
- E-Payment Technologies & Apps
- D2C & C2C Channels
- Immersive, Cloud, Ghost Kitchens



Consumer Tech

- AI-Generated Diets
- DNA & Biometric Testing
- Wearables
- Next Gen Appliances
- VR/AR Foodservice Experiences, Food Tok Connectivity

In a new Trend Series, we harness the power of our framework to delve into the 4 key areas that are rapidly being transformed by technology

These 4 areas represent newly emergent shifts in consumer and industry behavior where technology is having a transformative role. They underlie multiple market growth drivers and have the potential to mature into full-fledged trends in the future.



1 Unapologetic Flavor & Color Experiences.

Multisensorial eating like never before



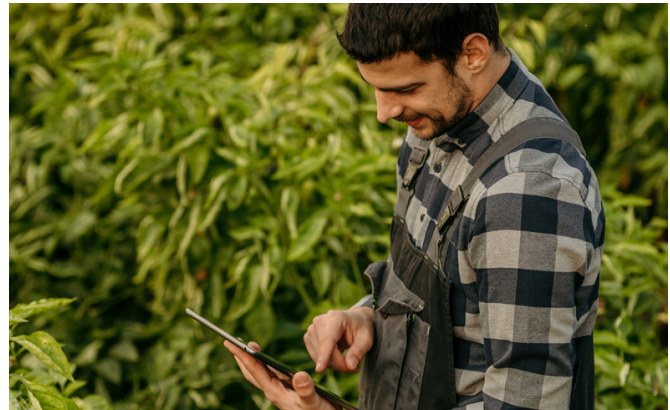
2 Replacement Isn't the Future. Variety Is.

Expanding food choices to meet lifestyle goals



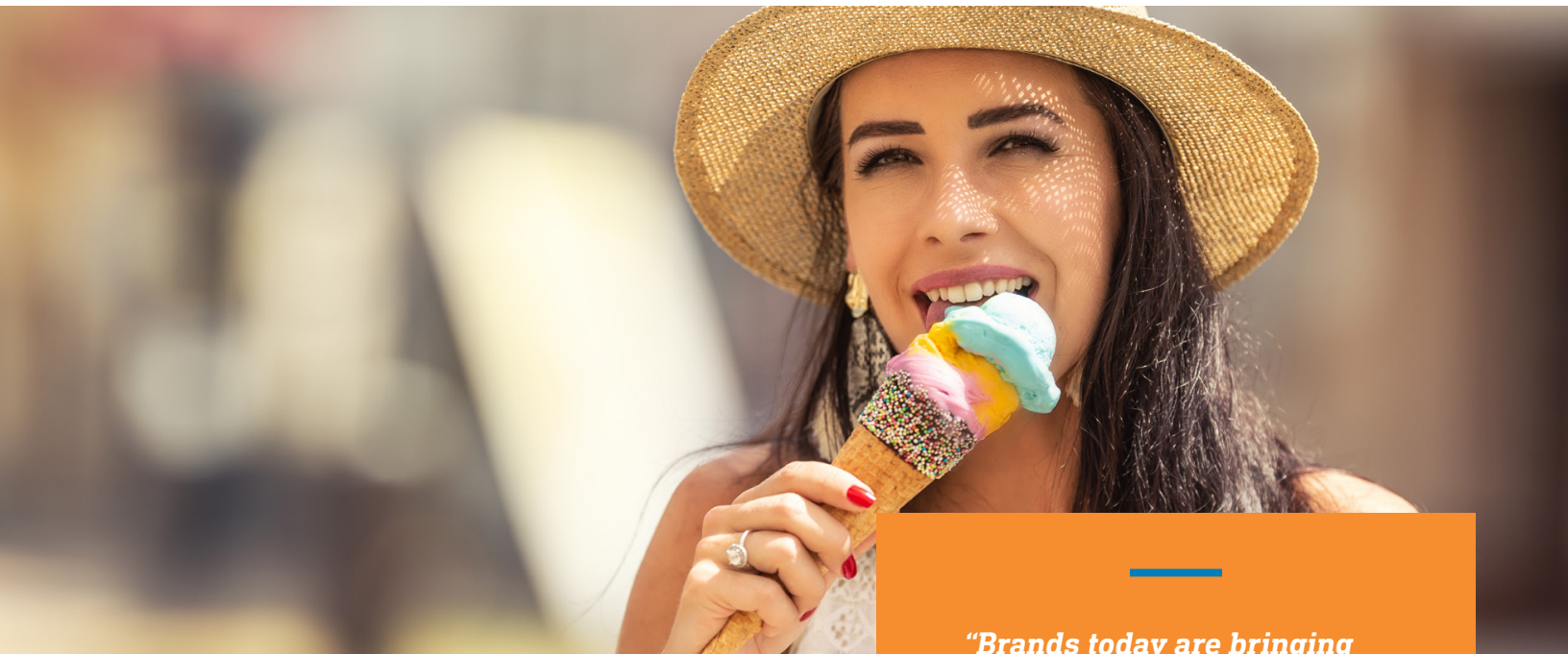
3 What's For Dinner? Data.

Optimizing everyday personal performance through data



4 The Next Big Tech Boom? It's on the Farm.

Transforming agriculture with next gen technology



1

Unapologetic Flavor & Color Experiences.

This coming year will see consumers seeking out flavors and colors that reflect their own unique personalities and desires – unapologetically gravitating towards flavors they deem delicious and shades that appeal to their aesthetics. AI advancements track these preferences, allowing brands to respond quickly to specific consumer wants and needs.

More meaningful consumption choices will lead consumers to prioritize immersive, multi-sensorial, unique and enriching products that also demonstrate value (quality + affordability).



Most Impacted Market Growth Drivers

Experiential Eating

Expanded Protein Choices

“Brands today are bringing creativity into products to ‘blow people’s minds’, to surprise them with a new combination of ingredients and unusual flavor combinations. They [consumers] see something different and are excited to try it.”

- Global Industry Expert, Brazil



of global consumers believe that food is all about enjoying a multi-sensorial experience (taste, colors, smell, texture, sounds, etc.)¹

1: ADM Outside Voice™, Global Lifestyles Proprietary Research conducted in 22 countries, 2023



2

Replacement Isn't the Future. Variety Is.

Having an abundance of choice is a fundamental component of modern food culture – consumers want choices and make decisions based on the occasion, social context, mood and health or lifestyle goals.

Whether it's plant-based, animal-based, cell-cultured, fermented, or even a hybrid, new and emerging ingredients are catering to consumer demands for variety and discovery while also promising a more sustainable future.



Most Impacted Market Growth Drivers

Balanced Wellness

Proactive Personalization

Expanded Protein Choices

“The positives [of technology] are that our eating habits will change for the better and dietary choices will be better. Reducing food waste, conserving biodiversity, reducing food related diseases, and balance the distribution of food worldwide.”

- U.S. Consumer, Age 25

Definitely/probably would try...



Roughly 6 in 10 global consumers are interested in trying alternative proteins developed using newer technologies¹

1: ADM Outside Voice™, Global Lifestyles Proprietary Research conducted in 22 countries, 2023



3

What's for Dinner? Data.

Growing interest in hyper-personalization, for both consumers and their pets, is being facilitated by smarter and more accurate technologies that involve listening to all aspects of the body – physical, mental and emotional.

These technologies are enabling customized food, beverage and wellness solutions that align with specific wellness goals, taste and dietary preferences, and other unique needs, such as those based on genetic profiles.



Most Impacted Market Growth Drivers

- Balanced Wellness
- Proactive Personalization
- Expanded Protein Choices
- Modern Pet Parenting

"I think health and wellness is now a total misnomer for consumers. It's about personalized wellness. It's what is good for me, what's personalized for me. And that's where we come back to DNA, genomics and genetic analysis."

- Global Industry Expert, APAC

71%

of global consumers believe that everyone is different and therefore we really need a mix of foods customized to our needs.¹

51% are open to DNA testing to get personalized nutrition plans.¹

1: ADM Outside Voice™, Global Lifestyles Proprietary Research conducted in 22 countries, 2023



4

The Next Big Tech Boom? It's on the Farm.

Today's new generation of farmers is adopting innovative, technology-driven solutions that help restore and rebuild the environment, improve employee and animal welfare, and increase efficiency and profitability.

New farming technologies can improve traceability and directly benefit the consumer across various aspects of sustainability – personal, environmental, and social.



Most Impacted Market Growth Drivers

- Trust & Traceability
- Earth-Friendly Production
- Social Impact

“Younger generations are really buying local, from brands that care about the environment, that care about making the information of their supply chain transparent and traceable.”

- CEO, Food Tech Consultancy, EMEA

64%

of global consumers say that they look for products from companies that support farmers and local communities¹ –

55% of consumers in US believe that modern industrial systems for farming, raising animals are the best ways we have of feeding a growing population (+10pp from 2019)²

1: ADM Outside Voice™, Global Lifestyles Proprietary Research conducted in 22 countries, 2023
 2: The Hartman Group, Food & Technology 2023.

Only ADM can help turn rapid technological advancements into growth opportunities for your business

How trends come to life globally is quickly evolving thanks to new and innovative technologies.

Our breadth, depth, insights, facilities and logistical expertise give us unparalleled capabilities to meet the rapidly shifting needs for food, beverages, health and wellness and more. From the seed of the idea to the outcome of the solution, we enrich quality of life the world over.

This is a Byte-Sized Revolution you won't want to miss!
 Learn more @ADM.com/trends



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