



The Sustainable Plate: Boosting Sales & Margins Through Food Innovation

**Discover the untapped potential of
sustainable food processing with
leading food architect
Prof. Dr. Tilo Hühn.**

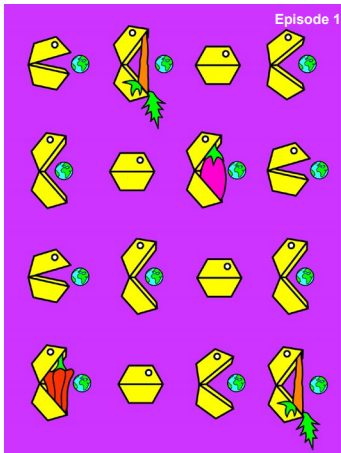


FoodArchitecture
the structure of complex systems

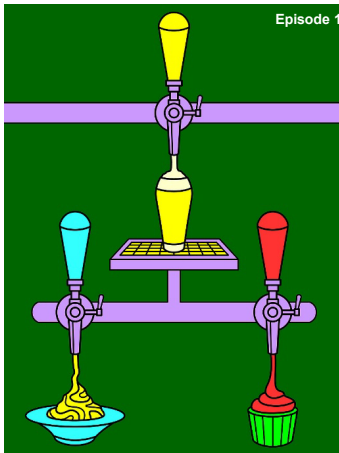
- Beyond sustainability - it's about regeneration, within planetary limits and social thresholds.
- From value chain to a transparent value network with shared responsibility.
- Holistic User Experience (Consumption, Sensory, Regeneration) by interconnection.
- Mainstream all streams, upcycle molecules and regenerate the system.



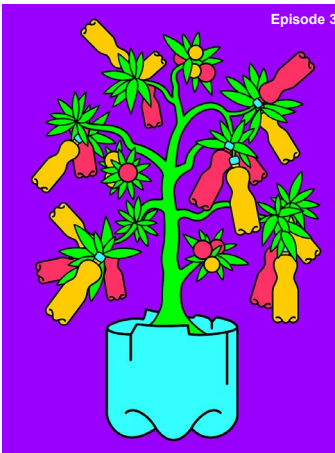
Why food chains have to become food networks



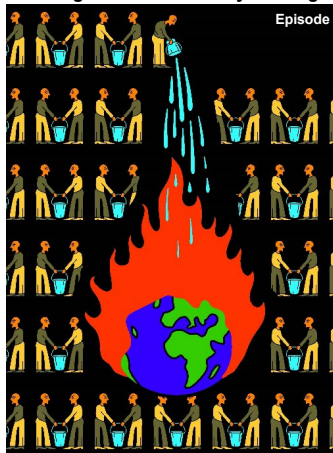
New thinking for new food



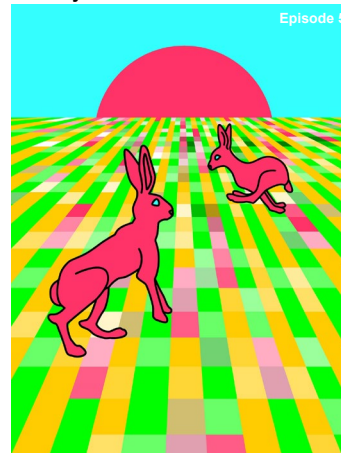
The planet's general terms and conditions



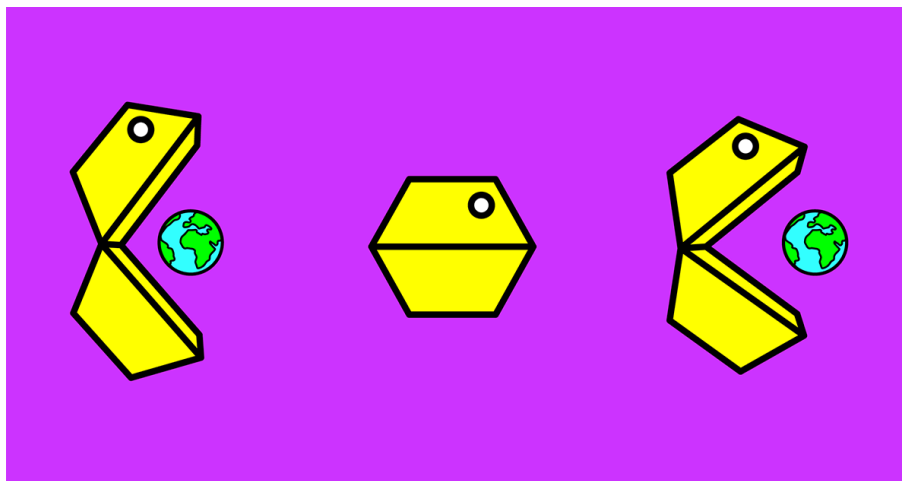
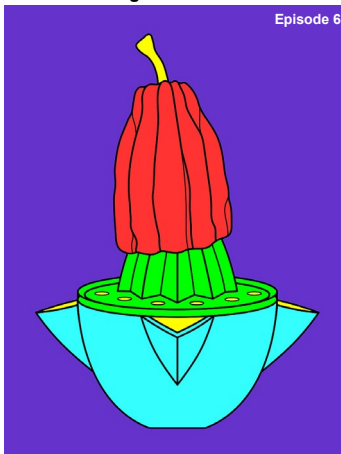
Shaping our communities – learning from the voluntary fire brigade



Pixels, plants and processes – how food systems become more resilient



Exponential food technology - revolutionising edibles



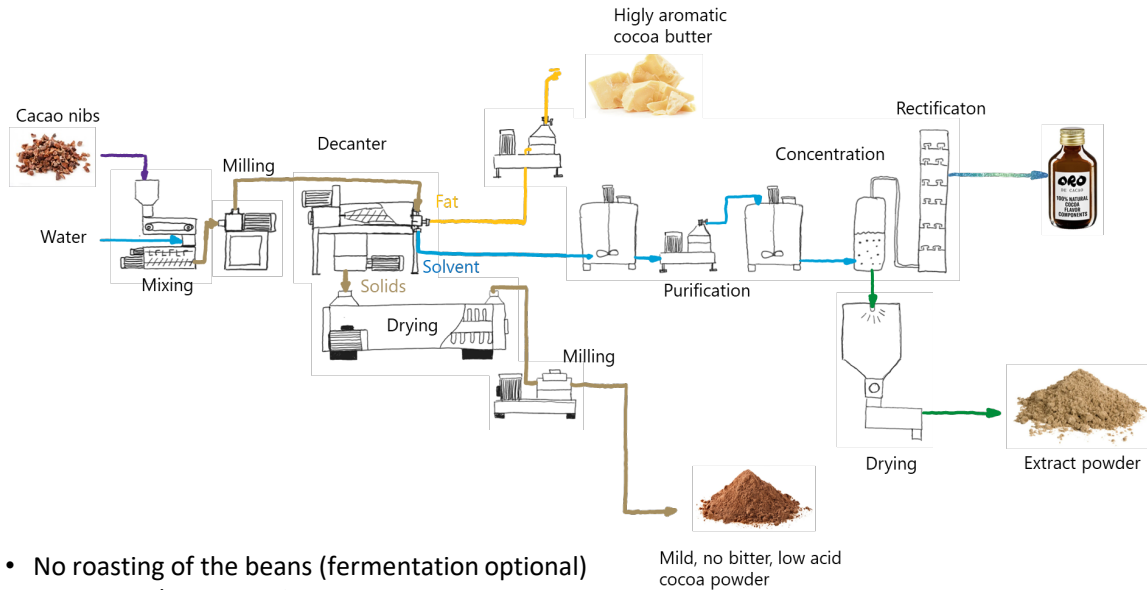
Planetary Health Blog



Gisela & Tilo Hühn

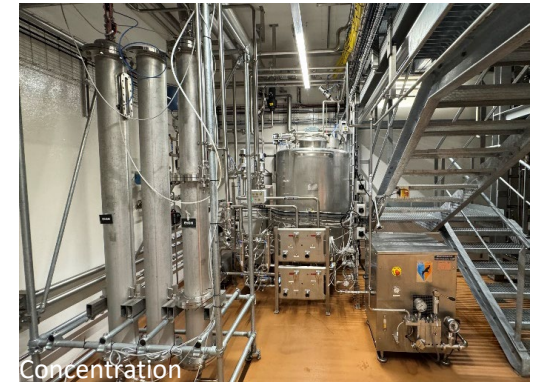
XOCOATL

Advantages of the cold extraction

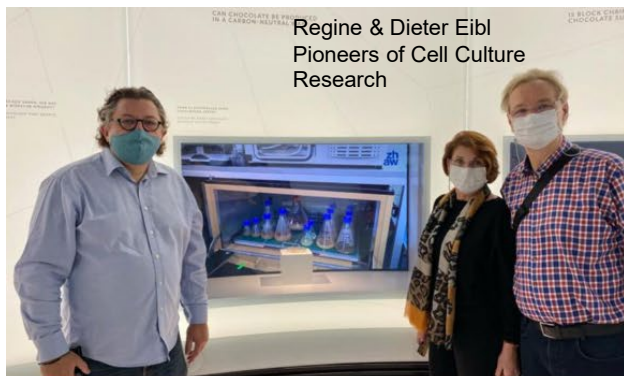


- No roasting of the beans (fermentation optional)
- Water used as extraction agent
- Gentle separation at <65°C
- Continuous process from bean to product
- Valorization of cacao components

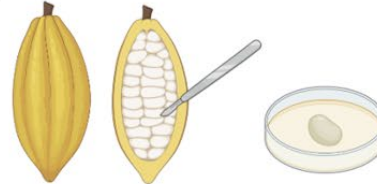
© Oro de Cacao AG, 2025



Cellular Agriculture: Chocolate from the tank



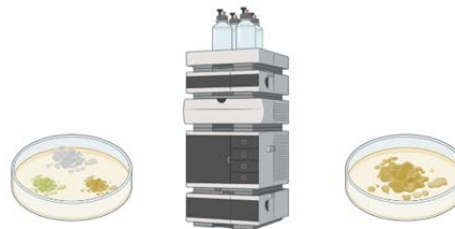
(A) Surface sterilization of the cacao bean



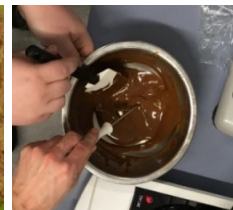
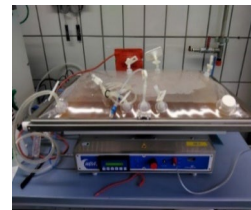
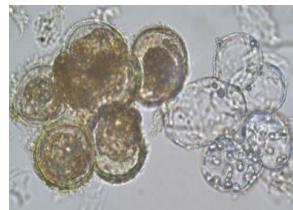
(B) Induction and mass propagation of callus culture



(C) Selection of callus production cell line



(D) Initiation and mass propagation of cell suspension culture



Unleashing the full potential of culinary nuts

The RE-NUT® method co-invented at ZHAW LSFM processes the nuts «**in-shell**», which means without shelling them. This doubles the yield of nut flour, paste and drinks.

Moreover, this leaves in all the nutshells' valuable fiber and antioxidants. This patent-protected technology is now ready to be licensed by nut processors and food companies.

Making **fibers** available for human nutrition from a natural source.



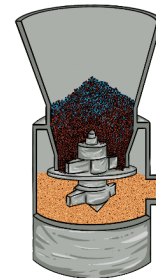
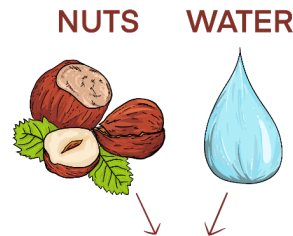
RE-NUT®
Solids



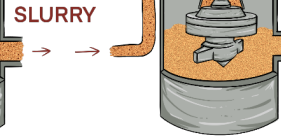
RE-NUT®
Drink



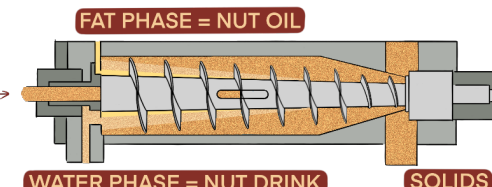
RE-NUT®
Oil
(optional)



PRE-MILLING



FINE GRINDING



PHASE SEPARATION



55 000 000 t Nuts / Year



Inshell
Inside



We crack the toughest nuts

The introduction of GLP-1 receptor agonists like Ozempic and Wegovy is impacting grocery retail by causing a reduction in overall consumer spending on food, particularly in categories like snacks, sweets, and less healthy options.

Mechanism of Action:

These drugs work by suppressing appetite and altering food preferences, leading to reduced overall caloric intake and a decreased desire for foods high in sugar, fat, and processed ingredients. Some users also report an aversion to previously enjoyed items.



GLP-1 drug use **cuts grocery and fast food spending in the U.S. by 5-9%**, study finds- Snacking is getting hit the hardest.

Spending on products such as chips, baked goods, sides and cookies showed some of the largest reductions.

We also find an 8.6% decline in spending at fast-food chains, coffee shops, and limited-service restaurants.



AN INITIATIVE FROM

THE RETAIL MARKETEERS



Shift Towards Healthier Options:

Some studies suggest a slight increase or less significant decrease in the purchase of healthier food items such as:

Yogurt, Fresh produce, Lean meats, Eggs, Nuts

As more data becomes available on how weight-loss drugs are impacting food consumption, it's not a surprise that CPG companies are positioning themselves to benefit or minimize the impact:

Nestlé, which makes Hot Pockets and DiGiorno pizza, launched a pre-meal drink under its Boost brand last month to help consumers suppress their hunger and create a feeling of being full. Earlier in 2024, Nestlé launched its first major U.S. brand in nearly three decades called Vital Pursuit for consumers taking GLP-1 medications and other individuals focusing on weight management.

Slim Jim manufacturer Conagra Brands is debuting this month more than two dozen of the company's Healthy Choice offerings will feature a label indicating the meals are "GLP-1 friendly," making it the first major food brand to call out popular weight-loss medication on its packaging.

In conclusion, the available studies suggest that Ozempic and similar medications are influencing grocery retail by **reducing overall spending and shifting demand away from less healthy, calorie-dense options towards potentially more nutritious choices**. The long-term impact and the extent of these changes are still being studied as the use of these drugs becomes more widespread.

These changes in consumer behavior have significant implications for food manufacturers, grocery retailers, and the foodservice industry.

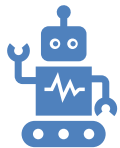
Companies may need to adapt by offering smaller portion sizes, healthier alternatives, and products catering to the nutritional needs of GLP-1 users.



The Dual Forces of Pharmaceuticals and Economic Pressure on Food Consumption

- In specific markets, fermented, non-traditional food production could contribute to this trading down effect if these foods are perceived as affordable, nutritious alternatives to more expensive conventional options.
- Examples might include increased consumption of tempeh over meat in economically stressed Southeast Asian countries or greater reliance on traditional fermented vegetables in Eastern Europe.
- However, the extent of this effect is highly context-dependent, influenced by regional economics, cultural perceptions, the specific fermented foods available, and their relative cost and perceived value.
- While the Ozempic effect provides a unique case of altered food consumption, economic downturns can similarly drive consumers towards more budget-conscious food choices, where locally produced, affordable fermented foods might play a role in certain regions.

Brief overview of the importance of sustainability in food processing and its potential impact on sales and margins.



[Sustainability in Food Process
Development: A
Comprehensive Carbon
Footprint Analysis Tool]

(https://link.springer.com/chapter/10.1007/978-3-031-47122-3_4)

Re-engineering food processing for sustainability can offer significant opportunities for grocery retailers and quick service restaurants (QSRs) to improve their sales and margins in several interconnected ways:



By adopting sustainable practices, retailers and QSRs can tap into this growing market segment and build a loyal customer base that values their commitment to the planet.

Enhanced Brand Image and Consumer Loyalty

In a competitive market, sustainability can be a key differentiator, setting a business apart from competitors who are not prioritizing environmental responsibility.

Differentiation

Meeting Consumer Demand

Positive Public Perception

Today's consumers, particularly younger generations, are increasingly conscious of environmental and social issues. They actively seek out and are willing to pay more for sustainable products and services

A strong sustainability record enhances brand reputation and can lead to positive media coverage and word-of-mouth marketing, attracting more customers.

Cost Reduction and Operational Efficiency



WASTE REDUCTION



ENERGY AND WATER EFFICIENCY



OPTIMIZED SUPPLY CHAINS



REDUCED PACKAGING COSTS

Innovation in Products and Services



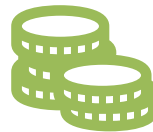
e.g., plant-based
alternatives, upcycled
ingredients

New Product
Development



Menu
Optimization

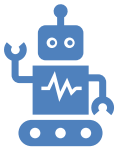
e.g. locally sourced,
seasonal ingredients



Circular Economy
Approaches

Implementing circular economy principles, such as using food waste for compost or energy generation, can create new revenue streams and reduce disposal costs.

Risk Mitigation and Regulatory Compliance



[Food Processing
Role to Achieve
Sustainable
Development
Goals]



https://link.springer.com/chapter/10.1007/978-981-96-0763-1_18)

Future- Proofing the Business

As environmental regulations become stricter and resource scarcity increases, businesses with sustainable practices are better positioned to adapt and avoid potential penalties or disruptions.

Investor Interest

Environmentally and socially responsible businesses are increasingly attractive to investors, which can provide access to capital for further growth and innovation.

Fermented, Non-Traditional Foods and Trading Down

Potential for Affordability: In some markets, fermented, non-traditional food production might offer more affordable protein sources or meal components compared to conventional options. For example:

Fermented Soy Products: Tempeh (Indonesia) or Natto (Japan) can be relatively inexpensive sources of protein. If economic pressures increase, consumers might shift towards these options as alternatives to pricier meats.

Fermented Grains or Vegetables: In some cultures, fermented grains or vegetables might form the base of affordable and nutritious meals. Increased reliance on these during economic hardship could be seen as a form of trading down if they replace more costly items.

Traditional Fermented Beverages: Cheaper, locally produced fermented drinks might become more popular than expensive imported beverages during economic downturns.

Regional Specificity: The "trading down" effect related to fermented, non-traditional foods would likely be highly specific to regions where these foods are already a significant part of the local diet and are perceived as affordable alternatives.

Perception and Cultural Context: The perception of these foods plays a crucial role. If they are seen as "poor man's food" or less desirable, an economic downturn might lead to increased consumption out of necessity, representing a clear trading down effect. Conversely, if some fermented foods are considered delicacies or have premium status, this effect might not be observed.

Nutritional Value: If fermented, non-traditional foods offer good nutritional value at a lower cost, they can become an attractive option for budget-conscious consumers seeking to maintain a healthy diet during economic stress.

Market Development: The extent to which fermented, non-traditional foods contribute to trading down also depends on their market availability and development. If production is localized and supply chains are short, they might be more resilient to economic shocks affecting imported or industrially produced foods.

The Sober Surge: The UK is witnessing a significant uptake in no and low-alcohol options. Sales of non-alcoholic beer jumped by an impressive 20% in 2024, with similar growth seen in non-alcoholic spirits and wine.

The winds of change are blowing through the global beverage industry, and the latest data paints a clear picture: traditional alcohol sales are facing headwinds in major markets like the USA, the UK, and Germany. While the occasional celebratory clink of glasses isn't going anywhere, a noticeable shift is underway, driven by evolving consumer preferences and a growing appetite for alternatives. Let's dive into the sobering truth revealed by the recent sales figures:

- Wine sales reportedly falling by a notable 8% in 2024 in the U.S.*
- The iconic UK whisky industry experienced a substantial 36% fall in exports during the first nine months of 2024**
- Germans also purchased less wine in 2024, with a 4% decrease in volume and a 5% drop in sales value***

While the traditional drinks market is adapting, the rise of the "sober curious" movement and the burgeoning non-alcoholic beverage sector are undeniable forces reshaping the industry. The numbers don't lie – the way we consume and perceive alcohol is evolving, and the beverage landscape is changing along with it.

<https://www.vinetur.com/de/2025020584423/us-wine-sales-fall-8-in-2024.html> *

<https://www.thespiritsbusiness.com/2024/12/uk-whisky-exports-drop-36/> **

<https://www.just-drinks.com/news/wine-consumption-germany-2024/> ***

In summary, by re-engineering their food processing with a focus on sustainability, convenience retailers can create a virtuous cycle:



they can attract more customers,

Quality Prepared Meals:

Expanding offerings of fresh, high-quality ready-to-eat meals, snacks, and beverages that cater to diverse dietary needs and preferences, including healthier and plant-based options. Think gourmet sandwiches, fresh salads, and locally sourced snacks.



improve their operational efficiency and

Smart Store Solutions:

Implementing IoT devices for efficient inventory management, energy optimization, and enhanced security. Sensors could automatically reorder low-stock items or adjust lighting based on occupancy.



reduce costs,

Eco-Friendly Practices:

Implementing sustainable practices such as energy-efficient lighting and refrigeration, reducing plastic waste through reusable packaging options, and promoting recycling programs. Offering discounts for customers who bring their own cups or bags could incentivize this.



foster innovation,

Community Hub

Initiatives: Creating a welcoming in-store environment that fosters a sense of community, potentially including seating areas, Wi-Fi, and hosting local events or promotions. A convenience store could partner with a local charity for a fundraising drive.



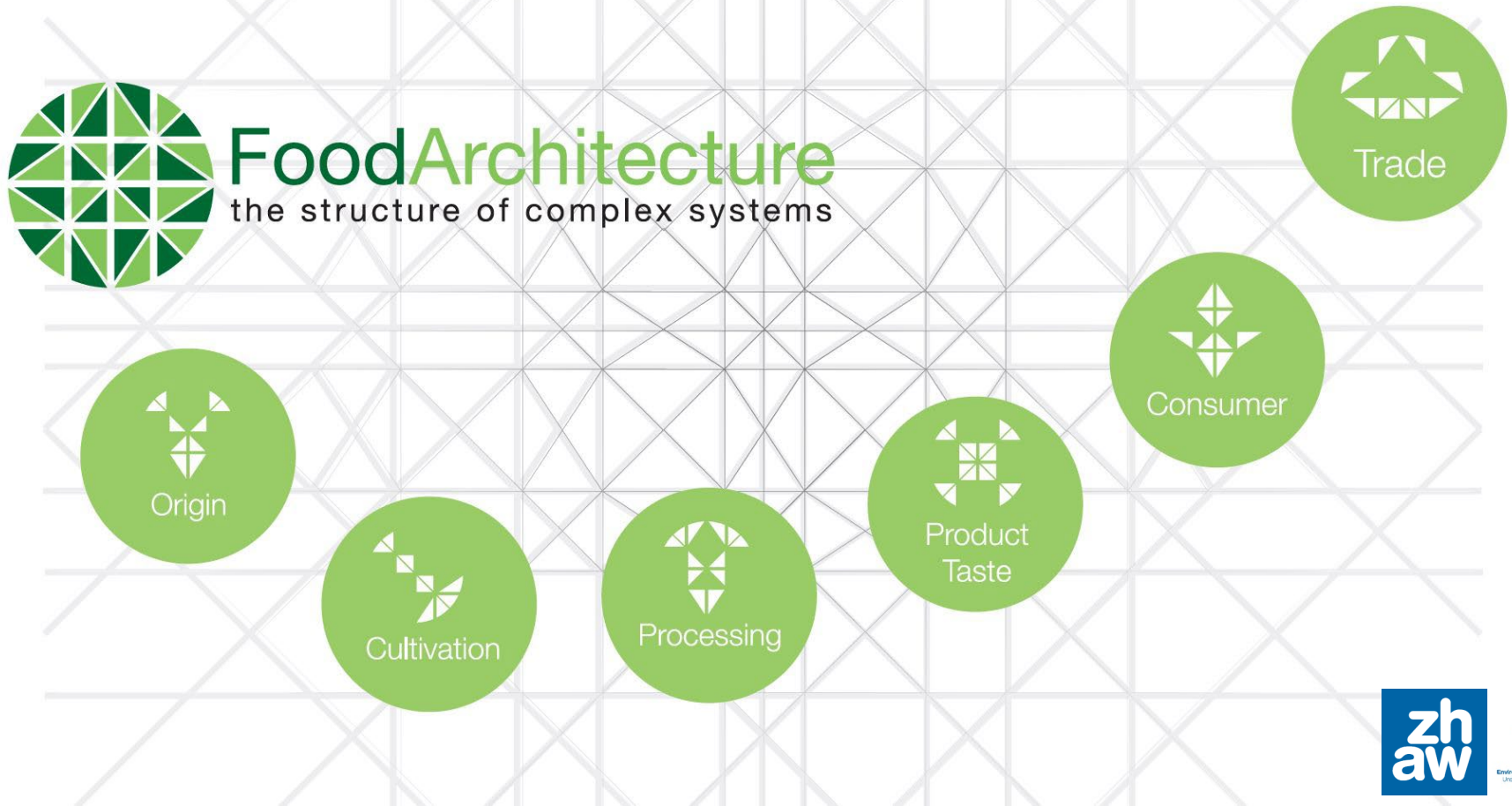
and build a more resilient and future-proof business model, ultimately leading to improved sales and higher profit margins.

The key is to effectively communicate their sustainability efforts to consumers and integrate these practices authentically into their overall business strategy.

While the Ozempic effect highlights a specific instance of changing food consumption driven by a pharmaceutical product, broader economic factors can indeed lead to "trading down" in both away-from-home and at-home food consumption.

Fermented, non-traditional food production can contribute to this effect in specific markets where these foods are affordable, culturally accepted as staple alternatives, and offer nutritional value.

The extent of this trading down is highly dependent on regional economic conditions, cultural perceptions, the specific types of fermented foods available, and their relative cost compared to conventional options.



Questions & Answers

