



FEATURE

Recipe for food innovation success: Blending experts and technology

Digital prototypes, consumer feedback and trends focused on health and transparency are driving product development and improvement

By Sandy Skrovan • June 19, 2017

***Editor's Note:** This article is part of a series focused on innovation in the food industry. To view other posts in the series, check out the spotlight page.*

Food companies have been innovating since the industry got its start. Against staggering odds of failure – where only 15% of the more than 3,000 new CPG products succeed in the market, according to Nielsen's U.S. Breakthrough Innovation Report – innovation has taken on new importance.

"If we fail to remake ourselves in line with emerging consumer tastes, technological realities and business models of the 21st century, we will see growth stall and margins erode, we will lose the battle for world-class talent, and our innovation capability, already fragile, will collapse," the report says.

Food innovation today is especially crucial as a growing roster of emerging brands and nimble food startups rise on the scene to satisfy consumer demand for the interesting, unique and healthy – as well as to steal shelf space away from long-time CPG brand stalwarts. According to the study "Is Big Food in Trouble?" by management consultancy A.T. Kearney and research firm The Hartman Group, the top 25 food manufacturers' share of U.S. food and beverage retail sales declined from 66% in 2012 to 63% in 2015.

The turn of the 20th century marked a monumental milestone for food innovation. More precisely, it was 1913 when refrigerators, previously available only for commercial purposes, were made available for at-home use. This forever changed food manufacturing and retailing.

With rising demand for shelf-stable goods and refrigerated and frozen foods, food innovation in past decades was radically different.

"The idea of innovation 20 or 30 years ago was 'How can we add this flavor to a line extension?' or 'How can we process this to give it longer shelf life?'" Joel Warady, chief sales and marketing officer for Enjoy Life Foods told Food Dive. "Today, innovation is so much more than that. It's all about how can we create a better product that will help balance an individual's overall well-being.

"Imagine the different types of people you need in innovation. It's not just food scientists, but also nutritionists and other medical professionals. All of these people need to come together as we look at food innovation over the next 10, 20, 30 years," Warady, who heads innovation for Enjoy Life, said.



 Credit: Enjoy Life Foods

“Healthy” drives new era of food innovation

The conveniences of modern America and the busy lifestyles that came with it — filled with work, school and extracurricular schedules, along with devices like personal computers, big screen TVs, gaming systems and mobile devices — made grabbing food on the run the norm. Meals often came from fast food joints, vending machines, c-stores and aisle-after-aisle of convenience-oriented packaged foods in the grocery store.

With the nation staring down the barrel of a health crisis, interest in healthy eating and clean living began to grow. Many big packaged goods companies were caught off guard, with sales stagnating and market share slipping away to emerging good-for-you and eco-friendly brands and entrepreneurial startups.

“If you look back over the last 20 years, where companies really have started to focus is on better quality ingredients and healthier ingredients,” Warady said. “Enjoy Life is 15 years old and when we started the company, all of our ingredients needed to be natural with no artificial colors. It was very much niche back then.

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Joel Warady

Chief sales and marketing officer, Enjoy Life Foods

“What’s happening now, and what continues to evolve is that mainstream manufacturers — the Krafts, Unilevers, Mondelez[es] — are all moving in this direction. Small, emerging brands were the trailblazers in the healthy and natural ingredients area. But now we’re seeing that become more mainstream and the emerging brands are moving onto ‘what’s next?’” said Warady.

George Young, a CPG innovation expert and founding partner of consulting firm Kalypso, named a few innovation examples — including Greek yogurt, dairy alternatives like nut milks, plant-based proteins and free-from foods. He struggled to pinpoint any breakthrough innovation among most of the big publicly traded CPG manufacturers.

"They don't do anything too adventurous. They stay pretty close to home with line extensions," he told Food Dive. "What they like to do is find companies that are coming up on \$10 [million] to \$15 million in revenue and then buy them."

Young said these larger companies are trying to diversify their portfolios and add more nutritious foods — which drive their innovation. "They're looking at natural ingredients, like stevia and açai — and want to come out with products that incorporate them and deliver the health benefits associated with them," he said.

Warady said that Enjoy Life Foods uses innovation to improve its products' health profile. Recently, he said, the company added shelf-stable probiotics and algae protein to some of its items.

"We wanted the probiotics to help with people's immune health, and the algae protein — not only because of the importance of protein — but because algae is the most sustainable protein available on Earth," he said. "So we married those into a line of baking mixes. We're still providing an indulgent dessert, but marrying functionality into this indulgence. It's been well-received by the consumer. We look at that as true innovation.



 Credit: [Eli Duke](#)

Experts and technology: Building blocks of innovation

Unlike how it was done decades ago, many big manufacturers now have their own innovation centers and teams of food scientists.

"This is fairly advanced already," said Young. "What we're beginning to see now is digital innovation."

Digital innovation is happening in two primary ways. One empirical, with always growing insights and analytics. The other is modeling and simulation.

"CPG companies have enormous stores of data around their products, regulatory and human health / safety information, sensory performance (what people like)," Young said. "Companies now are getting very sophisticated and investing in machine learning to create empirical algorithms that look for relationships between a sensory response and a certain factor or combination of factors."

Companies use modeling and simulation to create digital models of their products. They can test things like molecular structures of certain ingredients to see what kinds of responses they may bring — building an effective digital prototype before scientists invest in producing new ingredients.

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George Young
Founding partner, Kalypso

"This is different than food scientists who are in a lab creating prototypes, which then require sensory panels to see how it works or, in the case of food, tastes," Young said. "This whole area is just getting off the ground. So we'll start to see companies understand how to optimize their formularies a lot more quickly by using algorithms. There will be an acceleration of new (fad) ingredients."

Enjoy Life uses outside innovation groups, mostly because Warady said it's the best way to bring together all of the needed expertise.

"We work closely with nutritionists and medical professionals who understand the challenges that people have from a medical standpoint. We then bring in our innovation groups to help us develop products understanding the challenges that people have," he said.

But the company's innovation isn't just working with scientists and in the lab, Warady said.

"We talk with our consumers on a one-on-one basis," Warady said. "We care about what their daily challenges are. This helps us understand not only what they need today, but what they're looking for tomorrow in the foods that they eat."



 Credit: [USDA](#)

Areas ripe for innovation in the coming years

As consumers demand more transparency, healthier ingredients and cleaner labels, the way forward for more innovation is clear.

Christina Papale, vice president of strategy and director of innovation for branding agency CBX, said this was once considered a niche. Now, it is

not only a major portion of the food business, but consumers are willing to pay premium prices for these kinds of products.

"The key is preemptively identifying cultural trends and scooping them up early on ... to build and expand brands," Papale told Food Dive.

Warady said that he sees current trends in food going beyond healthier ingredients to the concept of food as medicine.

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Enjoy Life stays on the forefront of innovation by exploring, experimenting with, and testing different types of ingredients, Warady said. The company is pursuing plant-based proteins, fermented and sprouted ingredients, seeds like sacha inchi as nut replacements, and spices like saffron, which has been found to have medical benefits.

Other companies are jumping aboard this trend, and are looking at the growing nutraceutical market to find inspiration for innovations.

"Food companies are looking at this — where they can get some additional health benefit from a nutraceutical activity," Young said. "And nutraceutical companies are moving the other way — taking their knowledge of natural ingredients and trying to make food. So we're seeing some interesting competition where things are starting to overlap."



 Credit: [LisaRedfern](#)

Don't overestimate consumer acceptance

Regardless of category, there are some basic questions that manufacturers should ask before devoting much time and effort to new product innovation: Is there a market for the product? And will consumers want and accept it? Warady said he sees some new ideas pushing these limits.