

Innovation

FOOD & BEVERAGE

UPDATE 2013

PERSPECTIVE

For the food & beverage industry **innovation is essential** to keep up with the growing alignment between food and wellness.



Jeff Mengel, Plante Moran

How important will revenue-generating or cost-saving innovations be to the food & beverage industry in the next two years? Very important was the answer Plante Moran got when it recently surveyed industry leaders in its ongoing efforts to demystify innovation for the middle market.

In fact the food & beverage industry ranked innovation 8.45 on a one to 10 scale, just behind the beleaguered not-for-profit sector at 8.47

and well in front of manufacturing in general at 8.25.

With dramatic changes in demand and markets, as well as the most sweeping reform of food safety laws in more than 70 years, it's no wonder that industry leaders feel enormous pressure.

Among the biggest challenges is responding to the trend connecting food and health. With healthcare reform's focus on wellness the lines between food and drugs are blurring. In



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CONSUMERS ARE DEMANDING QUALITY, HORMONE-FREE INGREDIENTS AND EXOTIC, NATURAL FLAVORS

fact, some food products like flaxseed oil are being called nutraceuticals because of their ability to protect against chronic disease.

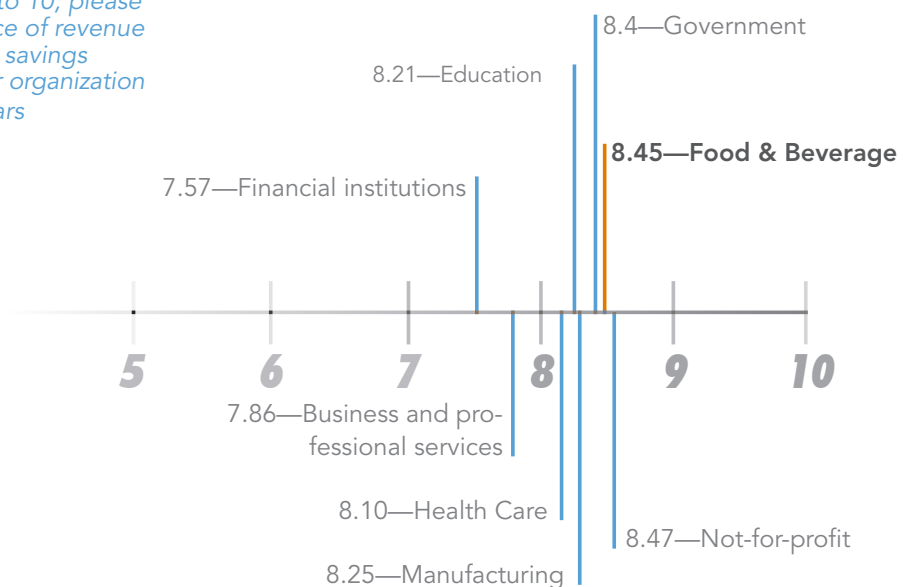
In keeping with this trend, the Center for Innovative Food Technology (CIFT) with the Ohio Department of Development recently honored Sensus (now Synergy US), a natural flavoring producer, for partnering with Wyandot Inc., a snack manufacturer, to develop a high-antioxidant/high-anthocyanin, nutritious-purple corn snack food.

With healthy choices in mind, customers are more often demanding quality, hormone-free ingredients, and exotic, natural flavors. And fast food groups are responding with unprocessed, balanced meals free from high-fructose corn syrup and artificial flavor.

In response to the eat-locally-produced-foods trend, a national company is now working with food brokers to integrate locally grown produce into their shipments. In Michigan where the company began testing its

THE QUESTION

Using a scale of 1 to 10, please rank the importance of revenue generating or cost savings innovations to your organization in the next two years



THE FDA IS A FULL YEAR BEHIND ON ITS EFFORTS TO IMPLEMENT THE FOOD SAFETY MODERNIZATION ACT

locavore program, business doubled between 2008 and 2010.

For ease of shopping, a New England supermarket recently introduced an app that allows smartphone users to scan, tally, and pay for their groceries on their phones.

Adding to the sea of change, the industry is grappling with the Food Safety Modernization Act (FSMA), passed by Congress in January 2011. It's been almost 80 years since the industry saw such sweeping changes.

Underfunded to implement the reforms, the Food and Drug Administration (FDA) is a full year behind schedule, and distraught consumer groups have taken the matter to court.

All of this is to say that it is understandable why the food & beverage industry has a keen interest in innovation. In this report we will share some insights into the best practices we've observed over the last two years studying innovation in all industries, and compare notes with best practices in the food & beverage industry.

We also will take a look at food safety, the issue that tops the list of industry concerns.

Regards,

Jeff Mengel
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THANK YOU

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FDA finds implementation of food safety reforms is not a piece of cake. Prospects of additional costs trouble the industry.

CONVERSATION LEADERS

Recently we polled leaders in the food & beverage industry on their innovation efforts as well as risk, operational, organizational, and financial issues.

SECTORS REPRESENTED WERE: meats/proteins; processed goods; ingredients; confectionery; snacks; frozen foods; baked goods; produce and fruit; beer, wine and spirits.

70% HELD C-SUITE POSITIONS, 10 percent were on innovation teams, and the remainder had a range of responsibilities.

31% HAD NET REVENUE OF \$51 MILLION TO \$100 MILLION; 24 percent had revenue from \$10 million to \$50 million; 21 percent had revenue from \$101 million to \$500 million; 14 percent had revenue of less than \$10 million; and 10 percent had revenue greater than \$500 million.

There is a growing concern about food safety in general and in particular what comes next in the Food and Drug Administration's (FDA) efforts to implement the Food Safety Modernization Act (FSMA).

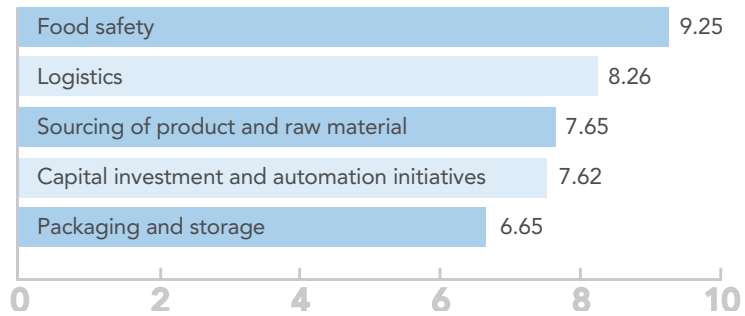
There are funding controversies and court cases surrounding the FDA's implementation of the sweeping reforms outlined in the FSMA. The old standards that were developed almost 80 years ago are being replaced by science-based rules designed to deal with the increasingly complex and global food supply.

There is little debate that something has to be done to ensure food safety. The FDA reports 48 million people in the United States suffer from foodborne

TOP 5

Operational Issues

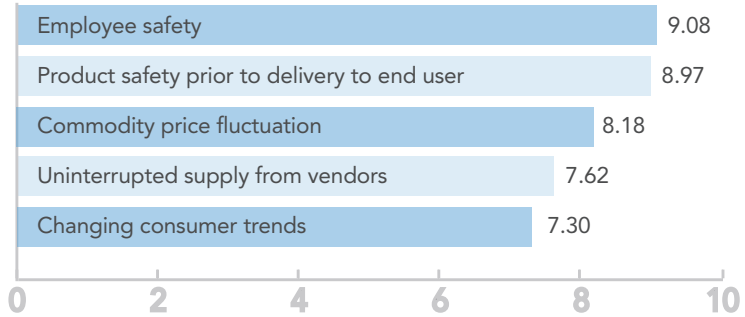
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TOP 5

Risk Management Issues

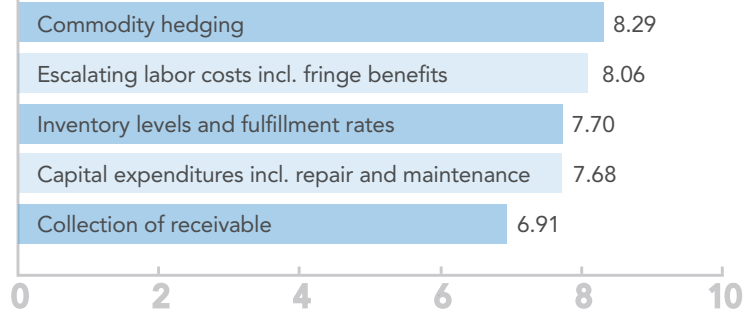
(rated on a scale of 1-10)



TOP 5

Financial Issues

(rated on a scale of 1-10)



illnesses, more than 100,000 are hospitalized, and thousands die every year. Food safety was also the No. 1 operational issue for Plante Moran survey participants; they gave it a 9.25 on a 10.0 scale.

[See chart above.](#)

Industry leaders could feel caught in the middle. While the FDA tries to figure out how to implement FSMA rules, big customers like Walmart are moving ahead on industry developed standards like the PTI (Produce Traceability Initiative), a project of the Produce Marketing Association.

The FDA offers many reasons for the lagging implementation of FSMA, two of the major ones:

- It needs more funding
- Good rule making means giving the industry adequate time to comment

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THE FDA HAS
PUBLISHED TWO
PROPOSED RULES
WITH ESTIMATED
COMPLIANCE
COSTS EXCEEDING
\$1 BILLION A YEAR.

On the funding issue, the FDA recently reported that it could not implement the FSMA without \$400 to \$450 million in additional funding. In response, the White House is proposing a \$295 million increase for food safety in its 2014 budget with most of the funding to come from:

- Food import fees
- Food facility registration and inspection fees

The import fee is expected to provide approximately \$166 million and the registration and inspection fee approximately \$59 million with Congress making up the difference.

Statistics on the number of inspections of imported foods provide a dramatic example of the FDA's struggles to meet the standards of the FSMA.

Because 10 to 15 percent of all food consumed in U.S. households comes from abroad, the FSMA set a goal for the FDA to do 19,200 foreign inspections a year. In fiscal 2011, the agency covered 1,000 foreign facilities; in fiscal 2012 that went up to 1,200.

It's not just inspections that are lagging. The FDA failed to meet the congressional

deadline (July 4, 2012) for issuing regulations in seven different areas, from production and harvesting of fruits and vegetables to sanitary transportation practices.

A month after the FDA missed the deadline, two consumer advocacy groups, the Center for Food Safety and the Center for Environmental Health, filed suit in the U.S. District Court for the Northern District of California. Fueled by concern over outbreaks of salmonella in cantaloupe and E.coli in spinach, the groups asked for an injunction "ordering the FDA to promulgate all FSMA regulations as soon as reasonably practicable, according to the court-ordered timeline."

When the judge ruled eight months later (April 22, 2013), she found that the FDA has violated the FSMA and the Administrative Procedure Act by missing the deadlines and called on the FDA to propose a new schedule. As of print date, the Center for Food Safety and the FDA have filed separate proposals to implement the court order.

The length of comment periods seems to be at the center of the controversy. In January of this year, the FDA published two

proposed rules with estimated compliance costs exceeding \$1 billion per year.

By the end of the comment period on May 16, more than 750 groups had responded and the FDA extended the comment period to Sept. 16.

Now it is with the judge to evaluate the implementation timelines presented by the FDA and the Center for Food Safety. Part of that timeline will be how long the FDA can solicit public comments both on the pending proposals and the many more that will follow before formulating all the rules called for by the FSMA.

IN ADDITION

SUSTAINABILITY IS THE NEXT BIG ISSUE. ARE YOU READY?



DAVE BECK

The following are excerpts from a conversation with Dave Beck, president of the Center for Innovative Food Technology (CIFT). CIFT facilitates development of innovation technologies and solutions for the food processing, agribusiness, and agricultural sectors of the economy. It is funded by federal and state grants and membership fees.

In a recent survey, leaders in the food & beverage industry said their biggest concern was food safety and regulations. There seems to be a lot of talk about the Food Safety Modernization Act (FSMA) in the United States, but isn't there a global trend toward stronger food safety regulations?

Food safety is a big issue and there is a range of certification programs. Just like ISO certification in the manufacturing industry, the food industry has SAF (Safe Quality Food) which is designed to meet the needs of buyers and suppliers worldwide. It is part of the Global Food Safety Initiative (GFSI) and is described as a seamless field-to-fork solution.

The United States Department of Agriculture has mandatory Hazard Analysis and Critical Control Points (HACCP) programs for meat

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and juice. HACCP is a preventive approach. It is designed to identify problems during the process. FSMA has the same emphasis.

At CIFT we're moving ahead. We see that in addition to safety, the food & beverage industry is going to have to get involved in sustainability. More and more international companies like Kellogg's and Walmart are joining the movement to use science to develop a new generation of environmentally friendly, innovative products. We foresee when food producers are going to have to certify the carbon footprint as well as the safety of their products. CIFT is thinking about adding a lifecycle analyst to better serve our members.

Can you give us an example of a sustainability project?

Sure. For the last three years, the Innovation Center for U.S. Dairy has put out a sustainability report. The report includes information on energy audits that helps producers identify ways to lower energy costs and minimize environmental impacts. Likewise, it includes examples of processors optimizing their performance and developing new and innovative products; packaging companies developing lighter, more consumer and environmentally friendly packaging; and transporters improving fuel efficiency.

This is the kind of information that is going to be important when big companies like the charter members of the Sustainability Consortium begin asking for sustainability certification.

Innovation seems to be a big factor in the food & beverage industry and CIFT has a reputation as a very successful matchmaker between companies, bringing them together to collaborate on innovation. Can you share with us some of the factors that make a good match?

I appreciate your comment about our success. But to set the record straight, I need to tell you that a high percentage of the collaborations that I suggest go nowhere. This matchmaking is a long process. It's going out there and learning about the companies and what they do, what they might need, and what they can share. CIFT offers a forum for industry people to share ideas. That aside, I guess I would have to say that size is a big factor in matchmaking. The company has to have the resources to support innovation and take new products to market, yet be nimble enough to work well with a partner. Usually that means smaller, but there are big international companies that are also looking for innovation partners.

Successful innovators have a **strategy that creates opportunities and grows revenue.**

THE FOOD & BEVERAGE INDUSTRY SHOWS STRONG INNOVATION ACTIVITY

The survey respondents from food & beverage seemed to hear the pundits who say innovation will be the key growth driver for the industry in the next couple of years. On a scale of one to 10 they ranked innovation 8.45, just behind the beleaguered not-for-profit sector at 8.47 and well in front of manufacturing at 8.25 in general.

Their top three reasons for innovating were to:

- Improve quality of products, services, or processes
- Increase market share within existing geography
- Reduce cost per unit provided or produced

They also show strong innovative activity with 79 percent producing new or improved products last year. Other indicators of a strong innovation culture within the industry – roughly 50 percent of food &

beverage respondents registered a trademark or implemented major marketing changes in the last three years; while more than 40 percent made significant strategic changes or implemented changes to the organizational structure.

Like the top innovators across industries, the food & beverage respondents were driven by consumer demands. This is reactive, but within the industry there is significant interest in using digital, social, and mobile technologies to gain consumer insights, signaling efforts to get in front of trends.

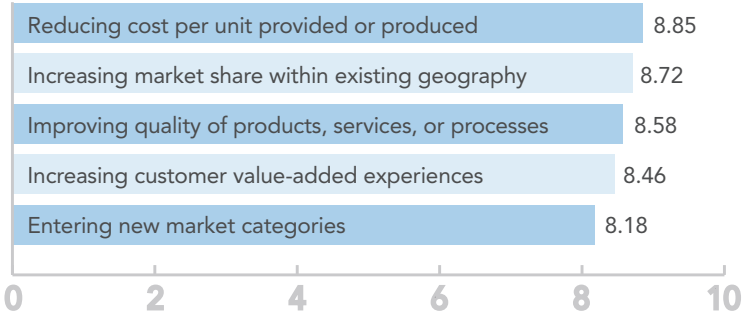
Looking at hurdles to innovation, the food & beverage industry, along with top innovators across industries, considers lack of talent its biggest hurdle to innovation. Admittedly, new talent can create dramatic change in a firm, but it should be remembered that

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TOP 5

Innovation Objectives

(rated on a scale of 1-10)



without structural change the new employees could be stifled quickly. To create an environment where new and experienced employees can thrive, it is important to incorporate innovation into the firm's strategy, to have metrics to measure performance, and to reward success.

analysis. For the other food & beverage respondents leadership is more important with strategy coming in second. This can indicate that innovation is dependent on individuals rather than woven into the fabric of the organization. Top innovators, it is said, have innovation in their DNA.

LIKE THE TOP INNOVATORS ACROSS INDUSTRIES, THE FOOD & BEVERAGE RESPONDENTS ARE DRIVEN BY CONSUMER DEMANDS.

Also decision makers might consider listening to a researcher at the Wharton School who suggests that what employers describe as talent shortages are often failures to agree on salary or unwillingness to fund on-the-job training.

Perhaps collaboration also is in their genes because there appears to be a move toward partnering for innovation among top innovators in all industries.

This could be the case in the food & beverage industry. Survey results indicate that the majority of companies in the industry budget less than 1 percent of revenue for innovation efforts. This lack of financial support could also indicate that innovation is not integral to company strategy.

Data collected in our innovation surveys proves that innovation is a growth driver. The top innovators, those that see it as a strategic focus, had a 100 percent improvement in revenue growth from new product introductions compared to the accidental innovators that took an entrepreneurial approach and seized opportunities rather than creating them. *(For further discussion on the different categories of innovators, please see the next page: Are you a top innovator or a harvester?)*

Strategy is the main driver for top innovators according to our

ARE YOU A TOP INNOVATOR OR A HARVESTER?

Based on data collected from 550 respondents across industries in 2012, Plante Moran analysts uncovered four categories of innovators: harvesters, accidental innovators, disciplined innovators, and top innovators. In comparison to other industries, the food & beverage industry had fewer harvesters and more top innovators, suggesting introduction of new products, processes, and services is critical to the viability of the industry.

Harvesters are defined as companies that “harvest” rewards from past efforts and are not actively involved in research to improve and introduce new products, processes, or services.

The largest segment of innovators in the food & beverage industry is accidental innovators. Frequently, accidental innovators are part of the management/ownership team and run a skunk-works-like process for innovation on top of their day jobs. They often lack performance expectations or a clear path toward commercialization.

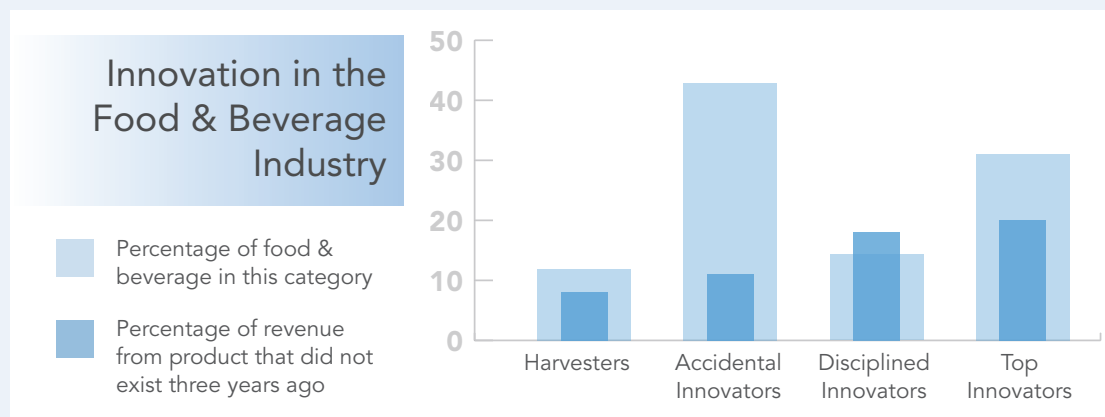
On the other hand, the disciplined innovators and the top innovators have processes in place to support innovation. The differences between the two are that top innovators have a strategy that focuses on innovation and they budget for it.

More importantly, top innovators saw double the revenue generated from new product introduction within the last three years when compared to harvesters and accidental innovators.

These classifications can serve as a self-improvement guide for firms that want to see more

benefits from their innovation efforts. Moving forward you might want to think about some of the following characteristics of successful innovators:

- Entering new markets or expanding in existing markets is a major motivator for top innovators. And they put their money where their mouths are. All of the firms categorized as top innovators funded research to gain knowledge. None of the harvesters funded research. There is also a 100 percent likelihood that the top innovators will introduce a new product. Interestingly, even 60 percent of the harvesters will introduce a new product, but with much lower revenue generated.
- Perhaps more importantly, the top innovator is much more likely to implement a significant new strategy, organizational change, or management technique, while the harvester and accidental innovator appear to be more content with changes to marketing strategies and concepts. In other words, the package may change, but the content remains the same.
- Lastly, the top innovator is two to three times more likely to have a full array of metrics to monitor and measure innovation performance. As a result, they are also almost twice as likely to abandon a project. Failure to follow through on innovative ideas is the most expensive failure, but failure to recognize when a project should be abandoned is also painful. When you don't have clear expectations for a project, it may continue or stall without any clear rationale.



Middle market companies need to consider **separating their manufacturing and R&D activities.**

When and why should a middle market company separate its research and development efforts from its operations?

Among large firms, there is a consensus that separating R&D and manufacturing is the best way to maximize financial performance. This separation means that the organizations maintain distinct reporting structures, metrics, and incentives for manufacturing and research and development.

Research on small, entrepreneurial firms indicates just the opposite. For them structural separation is not necessary and may even be detrimental.

Where does this leave the middle market?

Recent research at The Ohio State University commissioned by the National Center for the Middle Market (NCMM) looked at this question of whether, how, and when middle market firms should make the transition.

In their summary, the authors write: "We believe that it is important for managers of middle market firms, as they grow, to understand that at some point they should begin to structurally separate manufacturing and R&D.

OUTSIDE EVENTS TRIGGERED SEPARATION

The results of their research indicate that middle market firms often need a trigger to

make them realize that using the same teams for R&D and manufacturing is hurting performance. Common triggers may be:

- Diversification into multiple product categories
- A notable decrease in performance
- An ownership change (often precipitated by a decrease in performance)

Based on case studies, the research team found that middle market firms with a narrow product focus can effectively use the same teams for R&D and manufacturing activities; in fact, they can find valuable synergies.

When firms expand their product categories, however, evidence indicates that using the same people for R&D and manufacturing starts to diminish performance.

Also when they grow into businesses that are not central to their operations, middle market firms are better off outsourcing both R&D and manufacturing.

USING METRICS TO MEASURE INNOVATION

Maintaining distinct reporting structures, metrics, and incentives for R&D seems to offer a good solution to firms serious about innovation. Plante Moran in its ongoing

THE MOST INNOVATIVE COMPANIES ARE DISTINGUISHED BY THE LEVEL OF ACCOUNTABILITY THEY DEMAND OF THEIR INNOVATION TEAMS.

innovation studies finds that the most innovative companies are distinguished by the level of accountability they demand of their innovation teams.

The authors of the NCMM paper and Plante Moran consultants will be offering a webinar this fall that will go into the research findings in more detail. Please check the NCMM and Plante Moran websites in late summer for more information.

WEIGHING THE PROS AND CONS OF OPEN INNOVATION

The following are excerpts from a conversation with a scientist in the research and development department of a large food company investigating open innovation. He wishes to remain anonymous.

There is a lot of talk about partnering or collaborating for innovation. Where does your company stand on this topic?

We are accustomed to working with our suppliers on innovation, but now we're trying to understand opportunities outside of our suppliers. We're investigating open innovation. We're looking at its pros and cons. We've worked with the Center for Innovative Food Technology (CIFT) to access technologies available but there are also many innovation intermediaries out there that we are exploring.

In addition, we've looked into academia and industry experts, seeking opportunities to work or collaborate together.

Where do you find academic researchers who fit with your research needs?

We see their work referenced in publications or news articles. It's important to reach out and develop a network and we've begun developing one. The challenge is to find the researcher best suited for a particular project.

Actually this seems like a lot of work to manage research from so many different people. Is that a problem?

Keeping track of the people and the vast amounts of information they produce is a challenge. A bigger challenge is setting up a system so that you can access the information you need when you need it.

Does this mean that you integrate outside research into your ongoing internal research projects?

Depending on the type of project, there might be aspects of it that do require such parallel involvement. But for closed-end executions, using outside research might not be in line with project objectives.

Is intellectual property a concern? Who owns the findings?

Intellectual property is of importance to us. But ownership would depend on the project aspect and scope. We make our expectations clear at the outset.

Generally we want to make sure that project disclosures are not released through the use of non-disclosure agreements or joint-development agreements.

Are you doing much research tying your products to the wellness trend?

I'd say yes and no. We're always sensitive to trends and how we approach them is based on company strategy, but we don't make any health-related claims. However, we do make sure that we provide our customers with products containing wholesome ingredients.

ABOUT THE AUTHORS



The National Center for the Middle Market is the leading source of knowledge, leadership, and innovative research focused on the U.S. middle market economy. The Center provides critical data, analysis, insights, and perspectives to help accelerate growth, increase competitiveness, and create jobs for companies, policy-makers, and other key stakeholders in this sector. Stay connected to The Center by contacting middlemarketcenter@fisher.osu.edu.



Plante Moran is among the nation's largest accounting, tax, and consulting firms and provides a full line of services for all sectors of the food & beverage industry. Plante Moran has a staff of more than 2,000 professionals in 21 offices throughout Michigan, Ohio, and Illinois with international offices in Shanghai, China; Monterrey, Mexico; and Mumbai, India. The firm has been recognized by a number of organizations, including FORTUNE magazine, as one of the country's best places to work. This allows Plante Moran to recruit the best and brightest and guarantee service satisfaction. For more information, visit plantemoran.com.

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Weighing the pros and cons of open innovation

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