



FOOD TECHNOLOGY FACT SHEET

Adding Value to OKLAHOMA

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Crowdsourcing in the Food Industry

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The Merriam-Webster dictionary defines the term “crowdsourcing” as: “the practice of obtaining needed services, ideas or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers.” Some refer to crowdsourcing as the “new outsourcing.”

The process starts with presenting an open challenge. Then, volunteers (crowd) brainstorm and submit their solutions, and finally, the organization picks the best idea and usually compensates the selected inventor. The premise of the crowdsourcing concept is that “crowd,” a group of people who participate in a crowdsourcing activity, can come up with better answers to a problem than the smartest individual.” The crowd can be anyone with a computer, smartphone and Internet access. Although crowdsourcing has been used for centuries, the Internet has enabled organizations to crowdsource from people they may not have been able to reach before. Five principal features of the crowd are diversity, anonymity, large size, randomness and suitability.

The “**crowdsourced task**” is an activity that is outsourced to a crowd. Companies create sets of questions, referred to as “community briefs” or “call-for-entries,” which people can respond.

The “**crowdsourcer**” is the organization or individual that seeks the problem-solving help from the crowd. The leading user of crowdsourcing is the customer goods industry, which includes many of the large brands in the food and beverage industry such as Nestle, Coca-Cola, Danone and Unilever. Fair incentive, open call, ethical

behavior and privacy provisions are the pillars of the practice.

Outsourcing can be done internally or externally. The internal crowdsourcing can be a reasonable alternative to leverage the expertise and knowledge of employees working at a large industrial firm. Employees may have better knowledge of the products, processes, operational parameters and services involved. Some companies can resort to their own networks and contacts that include experts in various fields.

Crowdsourcing has a number of benefits: 1) Receiving fresh and original content and easing the reliance on specified experts or consultants, 2) Expanding your brand, 3) Outsourcing some of the tasks that cannot be undertaken by computers and need to be completed by humans, 4) Potentially lowering research and development costs and 5) Speeding up the innovation process.

One of the limitations of crowdsourcing is in general, companies do not build long-term relationships with participants or customers during this process. Since crowdsourcing is a voluntary pursuit where the possibility of payback for work is low (in most cases the idea must be selected to receive a compensation), the participants are likely to be specialized, knowledgeable and/or very interested in your company/brand. The data generated during crowdsourcing may overwhelm the food industry due to lack of internal resources i.e., time and technical experts to process the information. There is also risk of lack of crowd participation and loss of control. The crowd may not always have the organization’s best interests and make unpredictable moves. The

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The Oklahoma Cooperative Extension Service Bringing the University to You!

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; home economics; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of Cooperative Extension are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and based on factual information.

- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

organization may lose control over the crowd behavior resulting in a project outcome that may not benefit, even hurt the organization.

The “**crowdsourcing platform**” is where the crowd and the crowdsourcer meet and the actual activity takes place. Technology must be employed to reach a large number of individuals and make the challenge truly open to a crowd with enough diversity of opinion, experience, and expertise and generate novel ideas. Organizations have used “Social Collaboration Tools” like chat apps and social media to put out open calls for ideas and usually keep further communication on that app or platform. On these platforms, users can be encouraged to submit ideas, or “like” the ones they support. However, there are usually no means available to encourage the crowd to keep coming back. Data processing tools for effectively aggregate, score and rank submitted ideas are not available on these platforms either.

Idea Management Tools go a step further from Social Collaboration Tools by initiating idea contests and then keeping the crowd engaged towards implementation. These platforms usually have more specialized workflows for ongoing evaluation and collaboration, even after the initial call for ideas has closed. They help companies with aggregating, sorting and identifying feasible ideas. However, the crowd do not become an engaged community throughout the process.

Crowdsourcing Marketplaces connect parties to fulfill tasks, usually one with an idea, with a service or skill, to fulfill the idea to another. Crowdsourcing marketplaces connect people from one crowd with another crowd i.e., outsourcing a task or a call for ideas from a skilled labor pool, but one in which the personal identities of crowd participants are usually hidden and long-term bonds among the brand and crowd do not develop.

Market Research VoC (Voice of the Customer) platforms focus on customer experience and engage crowds to join the platform to create a community. They facilitate research through activities such as surveys, which can then be used by organizations to improve their products and services. These platforms also can be referred to as customer intelligence platforms. They are customer-centric, encourage loyalty between the brand and the consumer. Platforms like these aim to move beyond crowds and form communities, where organizations can develop ongoing relationships with members who are known to them. However, these platforms tend to have limited communications tools among its members, hindering the formation of actual communities where

members feel like they are working together for a common goal and shared values.

Co-creative Community Innovation Platforms are the highest level of the crowdsourcing technology spectrum. On these platforms, participants take part in a range of gamified and collaborative activities, including creative challenges, interactive tasks, discussions and other creative exercises to collect deeper customer insights, such as storytelling and photo associations and more. Co-creative community members are able to form social interactions within the platform and contribute to an organization they are already interested and invested. They feel valued while they are engaged throughout the innovation processes. Co-creative community platforms give organizations the ability to incorporate the latest digital trends to always stay connected with their community via mobile alerts to direct messaging and keep them engaged and involved for the long-term.

eYeka (<https://en.eyeka.com/>), Amazon Mechanical Turk (<https://www.mturk.com/>) and Tongal (<https://tongal.com/>) are frequently used online intermediary crowdsourcing and co-creation platforms that allow companies to announce and conduct campaigns through the Internet.

In a majority of the crowdsourcing campaigns, the winners are chosen by a jury. The platforms help screen the suggestions and provide information to the jury. In some cases, the crowd and public may comment and vote for a winner.

Three different approaches are frequently used in the food and beverage industry: crowdsourcing as ideation, customer engagement and for creation/production. The ideation campaigns ask for inspirational ideas and designs. Most common ideation campaigns are about marketing, but it also can be about sustainability issues or even brand image. For example, an open call can be posted online for ideas such as new products, formulation, flavor, color or packaging.

The **customer engagement** campaigns aim at activating the market to be part of the campaign itself. An example is when Budweiser, during the 2014 FIFA World Cup in Brazil, encouraged fans to create videos of their best football cheers and sharing it on Twitter using the hashtag #KingOfCheers.

The **creation/production** crowdsourcing campaigns are similar to the ideation with the important difference in the purpose and end product. In this case, crowdsourcing works like traditional outsourcing, and the goal is the crowd will deliver content rather than just an idea. For

example, a marketing poster ready to be printed or a TV commercial that is ready to be aired. However, it is not necessary the crowd creates the whole finished product but they produce something that can be used and not only an idea for a product.

Food industry utilizes crowdsourcing for fundraising as well. **Crowdfunding**, as the name implies, is used to raise capital for investment. The entrepreneurs, small business owners and start-up companies sell limited amounts of equity to investors via social networks and websites by publishing an appeal for funds and offer an incentive. For example, a precision cooker for sous vide cooking raised about \$2 million by using a smartphone. Some other successful crowdfunding examples include a pocket-size gluten tester and another portable device that helps consumers to select fruits and vegetables, verify product authenticity and nutritional needs.

There are a number of very successful food-related crowdsourcing projects launched and completed by large companies. For example, Danone utilized “crowdvoting” for identifying popular flavors for cream deserts and received 900,000 responses. Lay’s used “crowd wisdom” to receive about a quarter million chip flavor proposals and then determined the winner by crowdvoting.

Crowdsourcing approach also can be used to harness food safety solutions, predict foodborne disease outbreaks, identify contaminated food products and improve hygiene, food safety and allergen management of food businesses. Relevant data can be gathered and monitored in real time to take corrective or preventive actions as needed. There is also potential for crowdsourcing to be applied to complex food safety projects by engaging the crowd to develop algorithms to improve big data analytics (see FAPC Fact Sheet 209) and identify models that can be applied to safety and risk assessment.

Here are a few tips for successful crowdsourcing:

- 1) **Select a Crowd-Worthy Challenge.** The most successful challenges are based on questions that are:
 - a. Realistic - the effort, skill level required match the available time and audience expertise.
 - b. Objective - the challenge clearly aligns with a business objective, is a real problem and solving it will be of value to the organization.
 - c. Specific - an audience is much more likely to participate when they are very clear on the expectations and when the request is tangible.
 - d. Engaging - healthy innovation communities are built on interesting programming, regularly updated content, and hearty, facilitated discussions.

- 2) **Clearly define the challenge** by starting with a statement that provides parameters to encourage ideation. The statement should not be too broad and must provide constraints.

- 3) **Define challenge phases.** A challenge must have a beginning and an end. The beginning of a challenge can be where you set the stage for people to collaborate. In the middle of the challenge, the community can be encouraged to vet the ideas submitted thus far, and with the guidance of moderators, help identify or rank the ideas. At the end, organizations can collaborate with the communities as to what comes next after ideas have been selected.

- 4) **Add complementary activities.** Engage the community and keep them involved in the process. Quizzes, polls, short surveys and related discussion topics are good activities.

- 5) **Promote the challenge and recruit the crowd.** Keep in mind, although the crowd may already be comprised of stakeholders or fans, you may have to recruit a subset of this crowd for the challenge you are running, as the audience might differ depending on your needs. Incentivizing the crowd is also essential.

- 6) **Manage, review and score ideas.** Evaluate the process by asking the following questions: Are you getting quality ideas? Do you need to extend the challenge? Or should you end it earlier? Are any of the ideas ready for the next phase of development?

- 7) **Implement ideas and crowdsourced products.** Here are some questions to ask during the implementation stage: What is needed for your company to act on the ideas presented? Who, within the organization, needs to champion these ideas to move them forward? What do you need to implement the best idea, and do you have the resources to do so?

- 8) **Reviewing performance.** Some questions to ask at this stage: Did the challenge meet expectations? What could you have done differently? Were there any unexpected results, and can you follow that lead?