



Design Thinking and food innovation

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This viewpoint paper aims to discuss and exemplify how Design Thinking can contribute to innovation in the food industry. After introducing Design Thinking, I present three specific aspects capturing the core of Design Thinking: (1) Consumer Empathy, (2) Visualization and Rapid Prototyping, and (3) Collaboration. I describe how Design Thinking differs from the traditional way of thinking within the food industry and discuss the likely outcome of a Design Thinking process.

Introduction

During the last 10–15 years, Design Thinking has evolved from a way of thinking among engineers when designing technical products to become a very popular innovation technique among business people. A simple Google search on the term “Design Thinking” gives more than 300 million hits. When including “food” into the search, the hits reveal that Design Thinking is slowly making its way into the food value chain too. Consultancy firms and non-profit organizations offer Design Thinking help to individual firms, branch organizations and public food and health organizations (Ifooddesign.org, thinkingfooddesign.com, ideo.com/expertise/food-beverage to mention a few). However, while Design Thinking recently has moved from the field of business practice to attract business scholars’ attention ([Liedtka, 2014](#); [Norman & Verganti, 2014](#); [Seidel & Fixson, 2013](#); [Verganti, 2008](#); [Verganti, 2011](#)), the same is not the case within the food science and technology field. Still, few scholarly articles exist on Design Thinking and food, and little is known about how Design Thinking differs from what is perceived as best food innovation practices today. By discussing how Design Thinking can add to the conventional way of conducting food innovation management, this article aims to bring the Design Thinking approach to the food science and technology community.

Design Thinking, a term first mentioned in “Wicked Problems in Design Thinking” ([Buchanan, 1992](#)), is a discipline that uses the designer’s methods to match people’s

needs with what is technically feasible and commercially viable ([Brown, 2008](#)), and has been defined as “a human-centered innovation process that emphasizes observation, collaboration, fast learning, visualization of ideas, rapid prototyping, and concurrent business analysis” ([Lockwood, 2010](#)). The philosophical roots of Design Thinking can be traced back to John Dewey (1934) “Art of Experience” where Dewey proposes that there is a continuum between the refined experience of works of art and everyday activities and events. Dewey’s idea that an inquiry begins with a problematic situation ([Argyris & Schön, 1996](#)) is strongly present in Design Thinking today, where the formulation of a collectively acceptable problem is the starting point for the development process ([Beckman & Barry, 2007](#)). By observing everyday activities and reflecting upon surprising findings, the designer spots problems that need to be solved. Design Thinking (influenced by Schöns “The Reflective Practitioner: How Professionals Think in Action”) opposes the common view of the practitioner as the one stating the problem and the researcher as the one with the solution ([Schön, 1984](#)). Design Thinking relies less on experts and engages instead a broad range of players to find both the problem and provide the solution. Design Thinking bridges theory and practice by converting the insights gained from practice into abstract ideas/theories and then translating those theories back into practice ([Beckman & Barry, 2007](#)).

In this paper, I will discuss three specific aspects of Design Thinking: (1) Consumer Empathy, (2) Visualization and Rapid Prototyping, and (3) Collaboration. [Liedtka \(2014\)](#) compared the Design Thinking process of five practitioners (IDEO, Continuum, D-School at Stanford University, Rotman Business School at University of Toronto, and Darden Business School at University of Virginia) and found three core development stages present among all of them. These stages, although labeled differently, correspond to the three aspects discussed here. Since the aim of this paper is to discuss how Design Thinking can contribute to the traditional way of thinking within the food industry, I will in addition to describing the process also discuss the likely outcome.

Consumer empathy

Design Thinking advocates the importance of consumer empathy. To be able to develop good solutions, innovation teams need to understand their users; how they think and

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what they feel in relation to the problem the team aims to solve. Design Thinking offers a set of techniques for how to become empathic with the users. Innovation teams are advised to immerse themselves into the life of their users and observe how the users interact with the products the teams want to improve. By watching, listening, and collecting stories, they may capture unexpected insights and inspirations. According to the Design Thinking approach, innovation teams need to know their users and care about their lives to create meaningful innovations (see dschool.stanford.edu/use-our-methods or dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf for an overview of the Design Thinking methods). As an example: In a Norwegian “Seafood on the go” Design Thinking project, all the team members had to observe relevant users in different “on the go” surroundings; while commuting, while feeding their kids in the car, while street walking. All the partners got a small notebook for collecting information and were told to go out into the field and observe, talk with people, call up people that might know something about the topic, search on the internet, and to report all insights and learning points into their own notebook. They were instructed to write down their most important observations and all their learning points. The purpose was for all the participants to become empathic with the users, to immerse themselves into the different situations and to learn as much as possible as fast as possible.

Including the voice of the consumer into the development process has become more and more important within food science and technology. Researchers like Moskowitz, Grünert and van Trijp have the last 20 years proclaimed the importance of a food development process where consumers test and express their opinions of new concepts at an early stage (Grünert, 1997; Grünert, Baadsgaard, Larsen & Larsen, 1997; Moskowitz, 1983, 1985, 1994, 2000; Steenkamp & Van Trijp, 1996). However, food innovators have in general relied more on experts than on consumers. Influenced by wine producers and breweries that use experts to evaluate their products, many food scientists and food innovators claim that experts possess superior abilities compared to untrained consumers’ (Moskowitz, 2000). Although the movement heads in the direction of making consumers evaluate new food products, many consumer food scientists still perceive trained sensory panelists’ expert evaluation to be more important than consumers’ evaluation for prediction of a consumer’s over all acceptance of a new product (e.g. Menichelli, Olsen, Meyer, & Næs, 2011). The contemporary way of thinking about consumers within food science and technology differ from the Design Thinking view. While Design Thinking perceives consumer insight as the point of departure for the whole development process, the contemporary food science view perceives consumer’s voice as a validation of the expert’s voice, something to add at the last part of the development process to secure acceptance. While Design Thinking asks for an ethnographic deep dive into consumers’ life to finding needs and unsolved problems,

the traditional food science view asks for consumers’ product acceptance. Van Kleef, Van Trijp, and Luning (2005) mention need finding activities, as emphatic design, when categorizing different consumer food research methods, but these techniques are far from as common and wide spread as focus groups, conjoint analysis, Kelly repertory grid and other product driven tests (e.g. questionnaires where consumers rank multiple products) (Van Kleef *et al.*, 2005).

In their annual reports, many Western food companies state that including the voice of the customer at an early stage is one of the most important success factors for innovation and that improving their customers experience is a top priority. Unfortunately, being aware of the importance of including the voice of the consumer into the innovation process does not automatically lead to good market oriented systems and routines (Brandt, 2008). Studies from Journal of Marketing show that firms struggle with linking customer insights data to organizational performance (Morgan, 2012; Morgan, Anderson, & Mittal, 2005). To be able to close the gap between the complexity in the market and the organizations ability to respond, they need to become more adaptive and to enhance deeper market insights (Day, 2011). Few food companies manage to integrate customer information properly into their innovation management and operations, and according to Costa and Jongen (2006), a significant change in the mindset of the European food organizations must take place for the innovation process to become consumer-led. They perceive the lack of concrete guidelines for the effective implementation of consumer-led food product-development in everyday practices to be an obstacle for further improvement. Design Thinking can bridge this gap between knowing and doing. Design Thinking can help food companies improve their market-learning capabilities, by offering procedures and techniques that improves “*a firms ability to actively and purposefully learn about customers, competitors, channel members, and the broader business environment in ways that not only allow a deep understanding of the current marketplace condition but also permit future marketplaces changes to be predicted* (Morgan, 2012, p.109).

Visualization and rapid prototyping

Design Thinking promotes action and fast learning, and creates an expectation of rapid experimentation. Large problems are divided into smaller parts and resolved by step-wise practical procedures (Brown, 2008; Kelly & Litterman, 2001). Prototyping moves the Design Thinking project forward. By building simple models or drawings sketches before knowing the answer, prototyping helps the innovators to think. The goal of rapid prototyping is to make mistakes as fast as possible. By making multiple simple models of unsolved problems, the idea is that surprising discoveries will be encountered.

Making a simple model or a sketch is a very expressive way of showing an idea, as internal thoughts becomes externalized and easily accessible for the team members

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