

**Designing food experiences for well-being: A framework advancing design thinking
research from a customer experience perspective**

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Abstract

Purpose. Literature from across design studies and innovation management as well as food marketing research evidence are examined to highlight interdisciplinary and experiential research approaches to food consumption and well-being. The conceptual article addresses the need to expand the food industry's goals by considering its contributions to the consumer's overall food well-being. Food experience design (FED) seeks to understand how food professionals can design healthy and pleasurable food experiences aimed at enhancing people's food well-being. FED does so by proposing a holistic and integrative framework.

Design/methodology/approach. Our approach examines design thinking by conducting an analysis of the multidisciplinary literature. We address the gap in the literature by advancing the theoretical and empirical understanding of food design thinking through the lenses of experiential theory and consumer well-being.

Findings. This review article clarifies the scope of food experience design (FED) scholarship and offers a call for collective efforts to establish a focused body of knowledge that leads food marketing professionals and scholars to adopt an experiential perspective to food consumption and production focused on experiential pleasure of food as a driving force for consumer's well-being.

Originality/value. This research highlights the imperative to take multidisciplinary, transformative, and experiential approaches to researching food innovation strategies from a consumer's well-being perspective.

Type. Review article

Keywords

Food experience design (FED), design thinking, customer experience, food well-being, experiential pleasure of food.

1. Introduction

Several academic research projects and business reports have been published on design thinking (e.g., Faste, 2001; Brown, 2008; Carroll et al., 2008; Cross, 2011; Fernhaber et al., 2018; Porcini, 2018). The projects and reports have explored how design thinking can be used as a tool for innovation in several industries (Brown and Katz, 2009; Brown and Wyatt, 2010), including the food industry (e.g., Olsen, 2015; Zampollo, 2016; Zampollo and Peacock, 2016). The deep-rooted concept of design thinking is a valuable support in terms of designing innovative and pleasurable food consumption experiences worth examining (Batat, 2020). Although design thinking is a relevant tool to create innovative solutions related to food issues, its use has been limited to a producer/company perspective through a good-centric approach by designing products instead of experiences (consumer perspective) to improve the collective and individual well-being of consumers (Batat, 2020). While food consumption is defined as a multisensory, social, cultural, and emotional experience that goes beyond the functional dimension of individuals' eating behaviors (Batat et al., 2019), a design thinking approach that integrates the experiential perspective allows researchers to understand the importance of designing innovative and pleasurable food experiences, which enhance consumers' food well-being. Yet little is known about the design of food experiences centered on both pleasure and well-being.

Design thinking composes a major component of food innovation when it comes to designing sustainable food products and services that respond to the needs of consumers (Olsen, 2015). However, design thinking applied to food innovation has been traditionally examined from the perspective of a product's attributes. In contrast, recent research in the marketing field points out the need to integrate an experiential perspective that focuses on the consumer's food well-being in terms of both the food product presented and its consumption. Indeed, increasingly it is being acknowledged that food consumption experiences, in general,

play a critical role in enhancing the individual and collective well-being of consumers (Addis and Holbrook, 2019; Batat, 2019, Batat et al., 2019). Thus, enlarging the design thinking perspective to include the experiences of customers is a priority for anyone interested in designing healthy and pleasurable food experiences that positively contribute to people's well-being (Batat, 2020).

This conceptual piece advances the food marketing literature by incorporating both the consumer and producer perspective and building on three main research streams: design thinking and food innovation, food consumption experience, and food well-being. As a result, we propose food experience design (FED) that presents the findings of an analysis of the multidisciplinary literature, which encompasses consumer behavior, food research, and design studies. All of them shed some light on the study of food experience design as it relates to the consumer's well-being. Essentially, FED advances the marketing literature by enhancing the theoretical and empirical understanding of food design thinking through the lenses of experiential theory and consumer well-being. The goal is to elucidate how the well-being of individuals can be improved by designing better food experiences rather than just new food products. By expanding the view of food—from products to experiences—innovation generates higher levels of well-being.

Therefore, FED, as a new framework contributes to the literature in three ways. First, by incorporating food experience and food well-being, FED extends the conceptualization of design thinking applied to food innovation (e.g., Olsen, 2015; Zampollo & Peacock, 2016), which is traditionally focused on product attributes. Second, considering both a producer and consumer perspectives in designing innovative food experience, FED proposes an integrative framework that starts with the consumer perspective of his/her own food experiences and then the producer's/ company's implementation of food innovation to offer suitable and pleasurable food experiences leading to a higher satisfaction. FED does so via a design

thinking approach that incorporates both producer and consumer perspectives related to food innovation strategies, which, in turn, affects the optimal production and consumption of food products. Third, the FED framework allows policy makers and food designers to rethink their practices by considering food well-being as both a driver and an outcome in the design of innovative food experiences.

This review article starts by clarifying the scope of food experience design (FED). FED strongly leverages on three key aspects—namely, innovation, food experiences, and food well-being. Three specific sections of this article address each aspect by providing a synthesis of findings of the multidisciplinary literature (consumer behavior, food studies, and design studies). First, we analyze the contributions design thinking has made to food innovation; second, we present the shift from food as a product to food as an experience, with its comprehensive view of culture, social norms, and codes; third, we discuss the extent to which integrating the pleasure generated by food experiences can be a driving force in terms of improving people's food well-being, which is the ultimate outcome. Finally, this overview proposes some avenues for future research and a call for collective efforts to establish a focused body of knowledge that persuades food marketing professionals and scholars to adopt an experiential perspective to food consumption and production so as to integrate the goal of optimizing individual and collective food well-being into the core of their innovation strategies.

2. Defining the scope of FED framework for well-being

FED is a holistic framework that addresses how design thinking should consider the recent shift in food consumption and production and the rise of the new consumer's behaviors and needs related to well-being to create new food products. FED offers a comprehensive perspective that encompass two fundamental components—namely, food experiences and

design thinking—to create pleasurable and healthy food experiences that enhance the collective and individual well-being of consumers. Different concepts related to food design have been examined by scholars from different perspectives and within several disciplines. Table 1 compares design thinking, food design, and food experience design thinking across seven dimensions (i.e., orientation, focus, actors involved in the process, type of innovation, outcomes, creativity level, and competitive advantage).

[Insert Table 1 about here]

In FED, the design process should follow an iterative process aimed to improve the quality and functionality of the food experience. Several iterations, where the results of the former iterations improve the results of subsequent iterations, enable learning and refine the design. The food experience design process must be continuously improved (Hollins, 1993), aim for a holistic outcome, and, therefore, should take into account the interactions among different actors and activities throughout the experience where the meanings and values emerge and change constantly.

Although scholars have often used design thinking as a methodology applied to food innovation strategies (e.g., Zampollo, 2016; Zampollo and Peacock, 2016), they have yet to propose a clear definition of FED. Terms such as *food design thinking*, *food experience design*, and *restaurant service design* (Olsen, 2015) fail to capture the experiential aspects of food consumption. The terms also neglect to integrate the consumer's well-being as a pillar to designing innovative and suitable food experiences following various stages of the consumer's food journey (Batat et al., 2019). Moreover, designing innovative food experiences should not only be limited to creating healthy experiences. Instead, the design process should also take into account the epicurean pleasure generated by food. Why? Because the experiential pleasure of food is a major driver of the overall food well-being of consumers, which is the ultimate outcome of the FED framework. Consequently, when the

FED approach is taken, customers become the main actors. They replace the key roles that experts and designers play in terms of design thinking and food design. Thanks to the deep involvement of customers, transformative innovations are made possible—ones that surpass the incremental innovations of more traditional processes. While the main goal of design thinking is to achieve higher levels of sales, FED focuses on making customers more satisfied and increasing their food well-being. The ultimate outcome results from higher levels of food design creativity, which leads to stronger competitive advantages.

By analyzing the multidisciplinary literature food marketing, design studies, and food research, we propose a framework illustrating the scope of FED. We do so by highlighting its differences with the two main previously developed concepts, namely, design thinking and food design. When it comes to orientation, food experience design adopts a consumer-oriented approach. Food experience design does so by focusing on the cognitive and emotional side of every individual, thus advancing the approaches previously adopted by design thinking. As a result, understanding the foundational principals of FED involves defining the links between five interrelated components, which are presented in Figure 1.

[Insert Figure 1 about here]

As shown in Figure 1, FED describes the dynamics between different facets and concepts related to design thinking, food well-being, and the food pleasure and consumption experience by adopting two perspectives: provider and consumer. Considering the food experience design process from both perspectives (provider and consumer) allows us to enrich the design thinking related to food innovation strategies, which have mostly been top down. In contrast, FED focuses not only on the implementation of design thinking processes via a bottom-up approach centered on the tangible features of food (its design, color, texture, packaging, and so forth); FED also focuses on the intangible dimensions related to food experiences (sensory aspects, sharing, culture, meaning, and storytelling) perceived from the

perspective of the consumer. As a consequence, design thinking that encompasses five stages (empathize, define, ideate, prototype, and test) can then benefit from an iterative top-down process (the producer's perspective) as well as a bottom-up perspective (the consumer's perspective).

3. Food design thinking: Innovation from a producer perspective

Design thinking suggests a human-centered approach to problem-solving (Kolko, 2015) and provides consumers with real value (Kolko, 2015; Brown and Wyatt, 2010). With the rise of the participation-centered logic in 1970s, design thinkers have adopted a consumer-centric approach. In other words, design thinking became inherently democratic: Everyone is encouraged to participate in designing solutions to respond to consumers' requirements (Brown, 2008; Brown and Katz, 2009). From an innovation perspective, design thinking uses systems or integrative thinking processes that combine both intuitive and analytical thinking to solve complex problems. Brown (2008) underlines that an innovative idea must meet three main criteria: viability (it must be part of a profitable business model); feasibility (technological or technical); and desirability (it must create value for the customer).

Companies that are capable of managing and balancing these three dimensions obtain a lasting competitive advantage in their markets and help renew their industries (Brown, 2008).

Therefore, innovation through design is based less on the object than on design as a way of thinking to solve the most complex problems. The goal is to create innovations that are simple, disruptive, easily usable, and accessible (e.g., Pitsis et al., 2020; Brown, 2008).

According to studies on innovation that take a design thinking approach, three major alternative processes emerge: Brown's three steps, namely inspiration, ideation, and implementation (Brown, 2008), Faste's seven steps including definition, research, brainstorming, prototyping, selection, and implementation (Faste, 2001), and d.school's five

steps— empathize, define, ideate, prototype, and test—design thinking process (Carroll et al., 2008). Although these design thinking processes are easy to implement and provide a methodology to guide innovation, they mostly take a managerial perspective where the starting point is food innovation. Indeed, design thinking has received the attention of innovation management scholars (e.g., Pitsis et al., 2020; Liedtka, 2015; Norman and Verganti, 2014; Seidel and Fixson, 2013), marketing scholars have lagged behind.

Despite its applications, design thinking applied to food consumption and production has focused narrowly on tangible attributes (Batat, 2020), thus ignoring the intangible aspects of food consumption—namely, its experiential aspects (Batat, 2019; Addis and Holbrook, 2019). Due to a neglected, or, at best, limited emphasis on the experiential aspect of food consumption and practices, food design thinking in the marketing field has led to limited innovative food solutions—ones that do not adopt holistic and comprehensive problem-solving approaches centered on the consumer’s experiential pleasure of food consumption and food well-being. Yet d.school proposed a recent version that integrates empathy, which is a more human centered approach to innovation. Thus, drawing on the design thinking developed by the d.school, FED integrates at its start the empathy stage, which is centered on the consumer’s perspective and takes a subjective view of food innovation strategies.

From a food marketing perspective, design thinking is even more limited. Current research shows that the food innovation approaches remain minimally focused on the design of new food solutions. Instead, the approaches concentrate on the attributes and tangible features of food products, such as its design, colors, texture, and packaging (Olsen, 2015). Furthermore, food innovation strategies are mostly limited to health and nutrition (e.g., obesity) and sustainability (e.g., food waste) (Batat, 2020). Why is this so? Because understanding people is not easy. As Von Hippel writes, “user needs and the user environment are very complex, and full of sticky, costly-to-transfer information. Details and

subtle interactions cannot be fully captured in a specification — or even in the minds of user or manufacturer experts” (2001, p. 248). Second, profit margins are usually thin in the food industry. This is especially true for restaurants. Thin profit margins have led vendors to search for ways to consistently increase their profits while reducing their operating expenses. Typically, this is done by economizing on the ingredients, labor, and production processes used (Magnusson et al., 2015). Third, there are myriad legal requirements pertaining to “sanitation, storage, protection, and preparation regulations” that producers must understand and follow in order to commercially prepare and serve food, which leads to conservative decision making.

Nonetheless, over time professional food designers have started to understand the value of taking a human-centered market orientation to the process of developing new food products. Food designers do pay close attention to market-oriented food trends related to nutritional values (e.g., reducing carbohydrate and fat levels and increasing vitamin and fiber levels) and aesthetic trends (e.g., creating recipes that incorporate new flavors and variations on ethnic foods). Using this approach, designers can find alternative ways of thinking to create foods that promote the well-being of consumers (Batat, 2020). In common use, food design is a term that is apparently understood to mean the creation of value-added food products for use across both private and commercial contexts. Zampollo (2016) has created the following holistic, nested taxonomy of food design subcategories. The subcategories are food service design, food space design, eating design, design for food, design with food, food product design, food system design, and sustainable food design. Although food design thinking is an increasing trend in food studies, there are few concrete applications of the concept (Shimek, 2018). Nonetheless, as Table 2 illustrates, food design thinking has made many contributions in terms of improving the nutritional quality of food and its environmental impacts (Porcini, 2018).

[Insert Table 2 about here]

4. The food consumption experience: Innovation from the consumer's perspective

Today, no one doubts that food consumption is a subjective and emotional experience based on personal interaction. However, this wasn't always the case. Food as an experience has been recently defined by Batat (2019, p. 3) as a sensory and subjective experience, which enhances and improves food well-being. Food experiences encompass a complex interweaving of biological needs, sensory, social, storytelling, and cultural meaning structures, and corporal arrangements. Hence, food nourishes not only the body but also the soul and mind. Furthermore, the food consumption experience is shaped by the interaction among people, places, and foods given the influence of a consumer's environment, culture, and society (Björk and Kauppinen-Räsänen, 2019). Hence, the creation of any food consumption experience should start with the diner in mind.

The theoretical stream of research focusing on the consumer's perspective dates to 1982 when the experiential view of consumer behavior was developed (Holbrook and Hirschman, 1982; Hirschman and Holbrook, 1982). Before then, consumer research "tended to view the buyer as a computer-like machine for processing information according to various formal rules that embody economic rationality to form a preference for one or another option in order to arrive at a purchase decision" (Malter et al., 2020, p. 139). However, the dark side of consumer irrationality embedded in every hedonic consumption experience—such as the consumption of music, arts, culture, food, and so on—indicated that the mainstream interpreting framework was unsuitable to understand consumers. As a consequence, it was unable to support companies in terms of driving value for consumers. Whenever the "consumer's fantasy, feelings, and fun" are involved, the experiential view of consumer behavior is much more useful when it comes understanding and managing the drivers of

customer value, even the less rational drivers. If emotions play a key role in consumption—regardless of whether they are driven by the entire economy (Pine and Gilmore, 1999), product categories (Crowley et al., 1992; Hopkinson and Pujari, 1999), brand strategies (Schmitt, 1999), retailing (Mehrabian and Russell, 1974), or even other consumers (Ekström, 2003)—then customer experiences are the key construct for both consumer researchers and marketing managers.

Customer experiences are “a multidimensional construct focusing on a customer’s cognitive, emotional, behavioral, sensorial, and social responses to a firm’s offerings during the entire purchase journey” (Lemon and Verhoef, 2016, p. 71). The experiential view of consumer behavior and its evolutions still provide the most comprehensive framework to look at the food experiences. Food experiences are highly symbolic (Addis and Holbrook, 2019) in that they serve people’s nutritional, natural, cultural, social, political, economic, spiritual, aesthetic, and/or ecological needs (Kaplan, 2012; Klein and Watson, 2016; Paddock, 2016). Food experiences are also a way to forge one’s self-identity (Zwart, 2000) and communicate with others (Barthes, 2013). Food experiences are based on any direct or indirect interactions between consumers and food (Addis and Holbrook, 2019). These interactions take place in and are affected by the following:

Physical environment. The physical environment of interactions between consumers and food constitutes a privileged place to build food experiences. A rich amount of literature on the psychological effects of environmental stimuli exists (Holahan, 1986; Stokols, 1978). For example, experiential shopping studies have shown that it’s possible to improve sales by stimulating people’s emotions (Chebat and Dubè, 2000; Groppe, 1993; Kotler, 1973; Kumar and Karande, 2000). When it comes to food, much of the literature and its applications relate to food retailers and to the design, construction, and management of restaurants.

Social environment. The social influences on food consumption processes have long been recognized (Counihan and Van Esterick, 2013; Kniazeva and Venkatesh, 2007). The diner fits into a community and, as such, is subject to the power of others. Consumption communicates to others the nature of those who consume (Belk et al., 1982; Belk et al., 1984). The social environment in which a person is inserted defines the individual's self-image and their role in society, which, in terms of research studies, can be either a real society or a virtual society.

Technological environment. Technology allows researchers to create environments that are flexible, adaptable, and even customizable. This offers rich possibilities when it comes to immersing the consumer and creating opportunities for people to interact with food. Technologies provide new interactive touchpoints that are able to enrich and enlarge food experiences (Becker and Jaakkola, 2020; Hoyer et al., 2010; Lemon and Verhoef, 2016).

An entire set of interactive touchpoints contribute to creating the food experience, with the individual actively participating. Such a participative contribution drives the co-creative experience and promises high levels of return (Carù and Cova, 2007; Chronis and Hampton, 2008; Gottdiener, 1998; Hollenbeck et al., 2008; Kozinets et al., 2002). As a result, competitive companies tend to adopt a participative approach (i.e., consumer-led strategies) to leverage the knowledge of different people so as to create new products and meanings (Bogers et al., 2010; Ind and Coates, 2013; Prahalad and Ramaswamy, 2004; Ramaswamy and Ozcan, 2018; Vallaster and von Wallpach, 2013; Zaborek and Mazur, 2019). Through interaction, multiple players act in “joint spheres” in which each of them carries out his or her own duties to achieve a final and shared goal (Ramaswamy and Ozcan, 2018). This co-creation enriches the role people play both as innovators and consumers (Cossío-Silva et al., 2016; Cova and Dalli, 2009; Cowan and Ketron, 2018). Co-creative experiences might refer either to value co-production (e.g., consumer–firm interaction based on the mutual exchange

of physical and mental resources) or value in use (e.g., a post-purchase consumer evaluation of products based on the consumer's aptitude and knowledge of a product) as proposed by Ranjan and Read (2016).

When it comes to food, value in use co-production includes the consumers' contribution to the development of new products and the design of new canteens or restaurants. Value in use might also refer to user-generated content—that is, the creation of content and messages by consumers that they disseminate and shared online (Christodoulides et al., 2011). Co-creation is a very interesting trend when it comes to food experiences. In both cases, the co-creation of food experiences enhances the probability of a product being accepted by customers and achieving market success (Rosen et al., 1998). Co-creation also reduces a producer's risks (Liedtka, 2015; Olsen, 2015) and generates higher levels of food well-being (Batat, 2019). Those benefits have long been recognized by marketing and service researchers (Alves et al., 2016; Hoyer et al., 2010; Kelleher et al., 2020; Melton and Hartline, 2010; Trischler et al., 2018; Vargo and Lusch, 2004).

However, although scholars have explored the concept of people's food experiences from different perspectives, studies focusing on food experience design and its relationship to the consumer's well-being are very limited. A multidisciplinary analysis of articles published in service research literature, marketing and consumer research, and hospitality literatures during the last 20 years reveals a lack of studies focusing on how innovative food experience design can enhance the individual and collective well-being of consumers. Table 3 provides a summary of the literature on food experience design and its relationship to consumer well-being.

[Insert Table 3 about here]

5. Experiential pleasure of food (EPF), a driving force for well-being

Food consumption is a highly symbolic experience. This is true even when people are shopping for, preparing, and consuming food alone. All of these activities are embedded into the sociocultural context (Delormier et al., 2009). Food can also demarcate, define, redefine, and negotiate corporeal and cultural boundaries (Mkono, 2011, p. 254). It is a medium used to construct and negotiate boundaries between selves and others (Klein and Watson, 2016). Taking an experiential approach to food and pleasure leads to the appreciation of symbolic meaning to decipher different consumer paths and outcomes. Despite the relevance of food's symbolism, the traditional food design approach typically neglects the experiential aspect of food that leads to consumer well-being.

According to Batat (2019), taking a food experience approach enhances the well-being and pleasure of consumers. The pleasurable nature of food should therefore be incorporated into the food experience design by focusing on seven key determinants of food well-being and pleasure: food aestheticism, food socialization, food sharing, food storytelling, food symbolism, food memory and nostalgia, and food tasting and sensation (physical sensory aspects of food). The food experience design framework should also integrate the experiential pleasure of food (EPF), which is a key driver of a consumer's food well-being goals. Batat et al. define the concept of EPF as “the enduring cognitive (satisfaction) and emotional (delight) value consumers gain from savoring the multisensory, communal, and cultural meaning in food experiences” (2019, p. 393). In other words, EPF integrates both epicurean eating pleasure (Cornil and Chandon, 2016) and the food well-being of consumers (Block et al., 2011). EPF defines food pleasure as a positive pathway that encompasses three stages: contemplation, connection, and creation to help consumers achieve their well-being (Batat et al., 2019).

By integrating EPF as a driving force in the food experience design, food designers and

marketers should consider two fundamental approaches to design: iterative designing process and the holistic experience concept as an outcome of the design (Tussyadiah, 2014). Thus, food experiences are influenced by multiple complex factors that reflect the way individuals react to their surroundings. It is the perception of the user rather than the material quality of the design that determines the experience quality. Findings from psychology, marketing, and computer science inform our understanding of the motivations and experiences of users, which, in turn, help us design human-centered experiences. The findings provide insight with regard to the language and communication symbols used by consumers and their motivations, characteristics, practices, rituals, and values. For example, Lavelle et al. (2016) found that the facilitators and barriers to cooking with basic ingredients revealed what motivated consumers (e.g., with regard to their convenience, desire save money, and maintain a healthy diet) to engage in pleasurable and healthy food experiences.

6. Food well-being, an outcome of food experience design

Recognizing that food is not simply an energy source but is a platform to create superior experiences implies a complete revolution regarding its returns. The utilitarian view of food focuses its attention on two key antecedents of consumer preferences—namely, price and availability. These two factors drive commercial measures, such as sales, market share, brand attitude, brand loyalty, and so forth. However, such an approach might neglect the role quality plays in terms of affecting people's lives (Fraser, 2012). By highlighting food well-being, the experiential view of food consumption adopts a more comprehensive view of the returns experienced by individuals, companies, and society as a whole (Batat, 2019).

In the last decade, the United Nations and the European Union have come to regard well-being as a key concept to examine when designing strategies and policies. Well-being can be defined as the “good mental states, including all of the various evaluations, positive and

negative, that people make of their lives and the affective reactions of people to their experiences” (OECD, 2013, p. 10). Well-being is now the ultimate goal of collective and individual strategies. Thus, it needs to be defined and measured properly. In other words, the traditional ways of measuring a society’s performance need to be revised (Stiglitz et al., 2009). Although the conceptual and operational boundaries of well-being have remained somewhat obscure (Schmutte and Ryff, 1997), well-being refers to individuals’ evaluations of a plethora of objects related to their lives, such as events, identities, contexts, and so on (Diener, 1984). Specifically, well-being encompasses three main aspects (Dolan and White, 2007; Stiglitz et al., 2009; OECD, 2013):

Satisfaction with Life. This component reflects the cognitive assessment of a person’s life or specific more-focused aspects of it, such as the person’s job, finances, housing, health, leisure, and environment. Thus, life evaluation results from the cognitive evaluation of one’s personal life, which is typically captured in memories (Kahneman et al., 1999). In 2007, Bhutan developed the concept of gross national happiness. Since then, happiness, or satisfaction with one’s life, has rapidly emerged as the ultimate outcome of every human activity.

Affect. This component captures a person’s feelings or emotional states in a given point in time (Diener, 1984; Kahneman et al., 1999). Thus, affect refers to the emotions one experiences at specific points in time—not to memories later on. Furthermore, because emotions are a complex construct, affect is articulated along two main dimensions: via positive emotions or negative emotions. The former comprises happiness, joy and contentment; the latter includes sadness, anger, fear, and anxiety.

Eudaimonia. The last component, eudaimonia, reflects the individual sense of purpose and meaning in one’s life. In other words, it is the extent to which individuals realize their full potential (Huppert and So, 2009; Michaelson et al., 2009; Clark and Senik, 2011; Deci and

Ryan, 2008). Thus, this component is related to an individual's abilities and the way the person functions to generate his or her desired outcomes, such as autonomy, competence, interest in learning, goal orientation, sense of purpose, resilience, social engagement, caring, and altruism.

Despite such a framework, many still regard well-being as an abstract and confusing concept (Diener and Seligman, 2004; Kahneman et al., 2004). Marketing scholars are getting a better understanding of how consumption activities lead to well-being and happiness (Mogilner, 2010; Mogilner et al., 2011; Shah and Alter, 2014). In fact, understanding and enhancing the well-being of consumers has become the highest priority for scholars (Ostrom et al., 2010) and are becoming the ultimate goal of many industries (e.g., Berry and Bendapudi, 2007; Martin and Hill, 2015). This is especially true with regard to food experiences, with food well-being being clearly identified as the ultimate goal of any food experience (Bublitz et al., 2019; Scott and Vallen, 2019). Block et al. (2011) explore food-related well-being at both the individual and collective levels. The researchers describe it as a very complex construct—one that is emotional, psychological, physical, and social. According to Block et al., food well-being is a holistic consequence that incorporates connections between diverse actors and actions throughout one's food experiences.

7. Summary and research agenda

To sum up our framework, we argue that food well-being is a holistic outcome that takes into account interactions between multiple actors and activities throughout the food experience. In these interactions the meanings and values of contemporary societies emerge and constantly change. FED generates higher levels of food well-being mainly because of two reasons. First, by adopting an all-inclusive perspective on the customer's experiences, FED is able to shed light on the full range of the several dimensions that characterize food well-being. Indeed,

during every step of the design thinking process, innovators are invited to pay great attention to each and every antecedent and consequence of a consumer's food experiences. FED integrates the emotional, psychological, physical, or social dimension of food experiences. As a consequence, every aspect of the complex relationship with food is comprehensively investigated, which results in a fuller picture. Indeed, FED completes the picture by considering every interaction with food, including the analysis and the design of every reaction. Second, by definition, FED requires a participatory approach that involves all possible stakeholders, who in various ways contribute to the food experience. Indeed, since the initial empathize step, FED invites designers to listen to all relevant stakeholders' voices when it comes to creating superior food experiences. By taking into account all the actors and their interests, food experience designers explore the entire food ecosystem. According to FED, the interests of each and every stakeholder should be taken into consideration in the innovation process. Thus, FED adopts a wider perspective on who the relevant stakeholders are—including the direct and the indirect ones—and a deeper perspective on their interactions with food.

Furthermore, as consumers plays a key role when comes to creating new, successful products (Hamilton, 2016; McColl-Kennedy et al., 2019). Consequently, innovative and comprehensive research techniques are needed to gain the insights consumers. Food experiences and, in general, customer experiences can be explored by adopting interpretive approaches to qualitative research that can now be tested, thanks to the impressive high volume of data gathered via innovative technologies. If traditional research techniques, such as in-depth interviews, for example, appear to have key limitations (Elliott and Jankel-Elliott, 2003), netnography, ethnography, Z-met, introspection, and so on can shed light on a consumer's food experiences (Malter et al., 2020). Likewise, new neuro-marketing techniques can help researchers investigate a consumer's unconscious physiological and

emotional reactions towards food well-being (Verhulst et al., 2020).

8. Avenues for future research in marketing

FED promises interesting advancements in the innovation process in a key industry: the food, industry. Its future applications ask new questions that deserve future attention.

The first one refers to the relationship between FED and ethics. FED is a conceptual framework to innovate, and thus to change, addressing potential conflicting interests. Indeed, innovation is a special case of decision-making in which designers try to solve problems and issues related to food. Solving these problems poses challenging ethical issues both for individuals and societies. Indeed, making food-related decisions is a complex process that always involves risks and uncertainties (Kaplan, 2012; Mephram, 2000). Every decision involves change to a certain degree. Business practices, including innovation processes, are intrinsically embedded with change (Kennett-Hensel and Payne, 2018). And when change is involved, stakeholders might have conflicting interests. These kinds of issues arise typically with regard to the relationship between producers and consumers or between companies and public policymakers. In addition, issues emerge commonly in the case of current and future generations, food value chains, and the entire global ecosystem. Or, the issues arise either on the individual level or along collective dimensions. Regardless of the actors involved, as a conceptual framework FED reveals the levels of conflict for which ethics need to play a role. Conflicting interests require decision makers to set priorities and boundary conditions that are not the subject of FED. In order to solve them, FED might be extended to apply to ethics and find valuable solutions. Being inspired by ethics, FED can contribute in solving issues and conflicts, combining the latter to find a new equilibrium in which every stakeholder becomes satisfied.

Second, the boundary conditions of FED emerge as an interesting topic. FED proposes an experiential approach to service innovation specifically developed for food. However, many other industries need a customer experience view to innovation (Helkkula, Kowalkowski, and Tronvoll 2018). Would FED need to be specified differently in this case? Or are its general precepts, such as innovation, design thinking, customer experiences, people's well-being, and so on be sufficient to interpret the complexity of actual innovative processes? One of the most illuminating examples in this regard is well-being. Previous studies have clearly defined well-being in general terms, without limiting its application to specific industries or contexts. Despite these efforts, food scholars have further developed the notion of well-being by focusing on food experiences. However, such a limited focus has resulted in a specific definition of food well-being, which is a slightly different concept than the general well-being of people. If such a situation arises with regard to food, one could easily ask whether it could happen in other industries or with other consumption experiences. Thus, what are the specificities of food experiences asking to revise their ultimate goal? Do other industries and consumption experiences share similar needs to revise the key concepts? These are only a few of the potential questions that could arise when expanding the view to other industries, investigating the boundary conditions that need to be satisfied.

Finally, when applying FED other innovative tools for creating customer experiences might be used effectively. FED might benefit from the application of other customer experience tools such as the customer's journey map and experiential marketing. Indeed, when applying FED designers might use them as operative tools that have been developed to generate superior food experiences. Do they need to be revised to capture the complexity and specificities of food experiences? To what extent should the customer's journey map present food particularities? To what extent should experiential marketing—that is, the field of designing, creating, and delivering superior customer experiences—include specificities

related to the kinds of consumption experiences investigated? Further studies should therefore address this issue. There needs to be a balance between the generalizability of concepts related to the theoretical advancement and the reliability of perspectives related to the empirical reality.

Future research should address these issues by applying FED, which puts customers at the center of innovation in the development and delivery of consumption experiences they value. The issue would then become whether a single stakeholder—the innovating company, policymakers, or others—would be competent enough to enlarge its perspective to include multiple stakeholders with conflicting interests and expand their activities to other industries. Although, competencies are a weakness for every single stakeholder acting in isolation, they greatly grow when stakeholders collaborate. Our research provides designers with the conceptual framework to create innovative food experiences and increase the food well-being of consumers. Towards that end, designers need to extend their skills and evolve their language and competencies in order to create valuable dialogues with other stakeholders involved. Collaboration requires many other premises. This paper contributes to the discussion by identifying and clarifying them.

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Table 1. Comparison of design thinking, food design, and food experience design

Approaches	Design thinking	Food design	Food experience design
Orientation	Product-orientation	Market-orientation	Consumer-orientation
Focus	New-product development	Food innovation strategies and tools	Food experiences integrating both emotions and functionality
Actors involved in the process	Experts	Designers	Consumers, involving multiple decision-making units
Type of innovation	Incremental	Radical	Transformative
Outcomes	Sales	Consumer satisfaction	Food well-being
Creativity level	Low	Medium	High
Competitive advantage	Weak	Average	Strong

Figure 1. Food Experience Design (FED) Framework

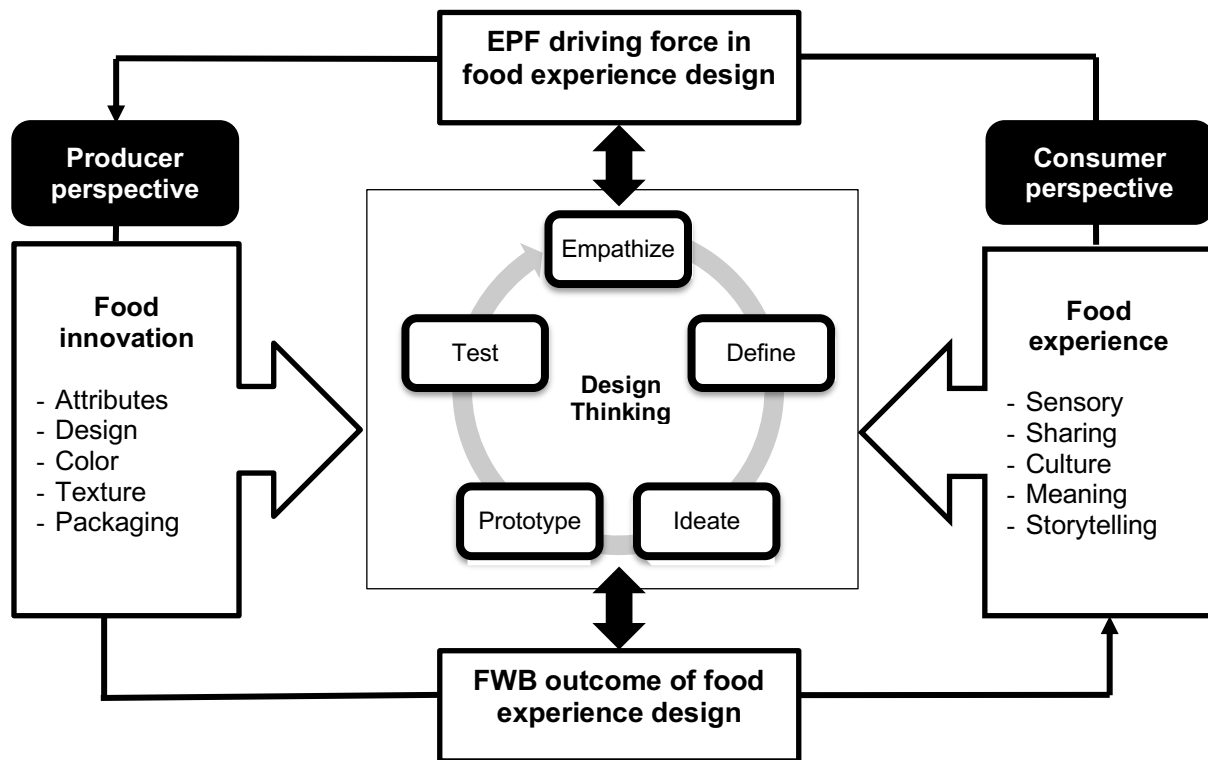


Table 2. Applying design thinking to food

Stakeholders	Level of application of design thinking	Example	Specific goals of design thinking	Reference
Institutional and governmental policymakers, and nonprofit organizations	The entire food industry	Australian agri-food sector	To develop a long-term strategy for the entire industry	Peppou et al. (2016)
Institutional and governmental policymakers, and nonprofit organizations	The entire food industry	Indianapolis community	To solve the complex social issue of limited access to healthy and affordable food	Fernhaber et al. (2018)
Institutional and governmental policymakers, and nonprofit organizations	The entire food industry	Denmark	To improve the performance of government-sponsored meals; achieved a 500% increase in meal orders in the first week	Liedtka et al. (2013)
Institutional and governmental policymakers, and nonprofit organizations	The entire food industry	Save the Children and partners	To better understand the eating habits of poor Vietnamese communities	Brown and Wyatt (2010)
Institutional and governmental policymakers, and nonprofit organizations	Specific market segments: fruit, vegetables, fish, and so on	United States	To help “tweens” eat more fruits and vegetables	Shimek (2010)
Institutional and governmental policymakers, and nonprofit organizations	Specific market segments: fruit, vegetables, fish, and so on	Victoria, Australia	To improve vegetable and fruit supply and access	Mintrom and Luetjens (2016)
Institutional and governmental policymakers, and nonprofit organizations	Specific market segments: fruit, vegetables, fish, and so on	Norway	To consume fish as “on the go” solutions	Olsen (2015)
Companies and brands	Single company	PepsiCo	To reinvent the business model	Porcini (2018)
Companies and brands	Single company	Kraft Foods	To revolutionize supply-chain management	Brown and Katz (2009)
Companies and brands	Single company	Absolut, Iskar, Heinz, and other fast-moving consumer goods companies	To innovate their brand positioning and create more favorable consumer attitudes towards their brands	Lovett (2008)

Table 3. Food experience design and well-being

Discipline	Authors	Outcomes
Marketing and consumer research	Biswas and Szocs (2019)	This study contributes to the literature related to sensory sensitivity by showing that maintaining a standing posture for a short period of time decreases sensory sensitivity. It also shows that factors such as ambient lighting, scent, plate size, and tablecloth color can influence food perceptions and consumption decisions.
	Spence (2012)	The results of this study demonstrate the existence of a variety of robust cross-modal correspondences between both sounds (phonetic speech sounds, tones, and other parameters of musical expression) and shapes; additionally, the sensory attributes (specifically the taste, flavor, aroma, and oral-somatosensory attributes) of various foods and beverages is reviewed.
	Crolic and Janiszewski (2016)	The authors underscore the idea that hedonic escalation is enabled by the opportunity to identify an additional source of hedonic experience with each successive taste of a food.
	Shen et al. (2016)	The study shows that a touch interface, such as that provided by an iPad, compared with a nontouch interface, such as that of a desktop computer with a mouse, facilitates the choice of an affect-laden alternative over a cognitively superior one—what the authors call the “direct-touch effect.”
	Schlosser (2015)	The author shows that because gratitude involves acknowledging benefits received from the kind (or metaphorically sweet) actions of another, individuals may infer that they must be deserving of sweetness. As a result, they prefer foods with congruent—or sweet rather than nonsweet—tastes.
	Bublitz et al. (2010)	The authors show that due to the complexity of food decision making, consumers are susceptible to a wide range of social, cognitive, affective, and environmental forces with the potential to interrupt their intentions to restrict their dietary intake.
	Khare and Chowdhury (2015)	The results show that while marketers of hedonic foods may improve their sales by promoting more food-situation associations, the health of consumers will be better served if they develop fewer beneficial food-situation associations.
	Hildebrand et al. (2019)	The authors argue that when an indulgent food is advertised with a cue that sets the occasion for consumption (i.e., an occasion-setting cue), holistic (vs. analytic) thinking increases the cravings for and subsequent purchase likelihood of the featured product.
	Gomez and Torelli (2015)	For these authors, French (and not American) consumers with a salient cultural identity are more sensitive (i.e., perceive as riskier for their health) and evaluate more negatively foods that display nutrition information (versus foods that do not).
	Lee (2018)	The results show that when faced with a failure incident occurring in one service dimension (e.g., rude employees), consumers in a low social class, relative to those in a high social class, carry over to influence their evaluations of the other service dimensions (e.g., food quality) that are unrelated to the failure incident.
	Cornil et al. (2014)	The authors state that attitude ambivalence (simultaneously desiring a food and perceiving it as unhealthy) enhances visual sensitivity to increasing portion sizes. Framing foods as vices improves the estimation of portion size among health-conscious people.
	Haws et al. (2017)	The results show that price increases satiation by making the experience seem like less of a relaxing break and something to financially monitor.
Service, restaurant, and hospitality research	Keh and Pang (2010)	The results of this study indicate that service separation increases customers’ perceptions of not only access convenience and benefit convenience, but also performance risk and psychological risk.
	Viglia et al. (2019)	The study shows that paying after consumption increases average consumers’ PWYW (Pay-What-You-Want) payments compared with paying before consumption.
	Baron et al. (2018)	This research makes a contribution at the intersection of service innovation, transformative service research, and service design by exploring service innovation and the food waste ecosystem.

	Jerger and Wirtz (2017)	The authors show that employees in a weak service climate expressed more anger and were less likely to offer restitution to low-status customers than to high-status customers. In contrast, in a strong service climate, employee responses were less dependent on customer status and converged at a low level of anger and a high probability of restitution offered.
	Du et al. (2014)	The study shows that the effect of group emotional contagion is stronger in a large/familiar group than in a small/unfamiliar group.
	Liu et al. (2018)	The results show that consumers with a prevention (versus promotion) focus react more favorably to hedonic framing that emphasizes pleasure, whereas consumers with a promotion (versus prevention) focus react more positively to hedonic framing that emphasizes pain due to differences in processing discomfort.
	Zomerdijk and Voss (2010)	The study shows that strong support was found for the design of “customer journeys” and “touchpoints” in sensory design, and in the design of a dramatic structure of events that combines the engagement of employees, the management of fellow customers, and the close coupling of backstage employees and frontstage activities in experience design.
	Colm et al. (2017)	The authors introduced the integrative concept of customer copresence influence modes (CCIMs) and investigated their potential consequences for service perceptions and evaluations.
	Collier and Kimes (2013)	The results of this study show that convenience had a strong positive effect on the perceived accuracy, speed, and exploration intentions of self-service technologies (SSTs).
	Thomas et al. (2010)	The authors underscore the idea that consumers are more likely to buy unhealthy food products when they pay by credit card than when they pay in cash.
	Biswas et al. (2017)	The authors indicate that consumers tend to choose less healthy food options when ambient lighting is dim (versus bright). Process evidence suggests that this phenomenon occurs because ambient light luminance influences people’s mental alertness, which, in turn, affects their food choices. Health-conscious consumers should opt for dining environments with bright ambient lighting.