

DIGITAL CUISINE AND INNOVATIONS IN GASTRONOMIC TOURISM

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INTRODUCTION

"Digital food" seems contradictory. Digital tools are not edible, and electronic components have no nutritional value. However, we are addressing the digitization of food tourism and food services more and more (Lewis, 2018). Culinary services and gourmet tourism are the terms used to describe the environment in which food is produced, consumed, and promoted along the supply and consumption chain, as well as any virtual footprints that are handled in connection with the materiality of food. Consumers must also consider the ramifications for gastronomy and tourism service delivery, which include the addition of service components that either replace or enhance conventional food delivery methods as well as improvements in service speed and transparency. One example of the new opportunities for entrepreneurial endeavours brought about by the digital era is platform solutions that can enable resources that were not earlier directly tied to food and tourism.

This paper examines cutting-edge digital solutions in tourism related to food and gastronomy. Examples are given to help understand the potential and limitations of innovation as well as the traits of digitalization. Instead, the goal is to identify areas where research currently lacks depth and perspective and to spark an intellectual discussion for the future. Many people are tech enthusiasts, both researchers and tourists. However, the time has come for the research of digital food and tourism to encompass more aspects. The COVID-19 epidemic has led to the development of new mental models in the culinary tourism industry that are unlikely to completely return to normal. In that respect, the digitization progression of culinary tourism has already changed. In that regard, culinary tourism has already seen a change in the digitalization trajectory. In an effort to alter how digitalization impacts scholarly discourse, critical theory can be useful. Since it is not intended to offer the research disciplines novel theoretical avenues or elaborate conceptualizations, it is a relatively modest study.

REVIEW OF LITERATURE

Study on the technological integration of tourism is increasing and frequently delves into particular technologies. Osei et al. (2020) gave a thorough review of the Internet of Things (IoT), cyber-physical systems, cloud computing, big data, artificial intelligence (AI), and robotics under the heading "Hospitality Revolution 4.0." Tussyadiah (2020) examined the fundamentals of AI and robotics as well as their possible effects on travel. Many scholars studying tourism are interested in virtual and augmented reality (Loureiro et al., 2020; Yung & Khoo-Lattimore, 2019). One of the main principles of SMART travel and SMART destination research is connectivity, as travelers are constantly moving through different spatial contexts. For instance, while discussing the Internet of

Things, tangible items are designed to sense and communicate on digital platforms automatically (Dyhr Ulrich et al., 2022). Food's materiality might be waiting for new digitalization techniques. Literature about digitalization and tourism rarely discusses food and gastronomy as components of tourism, and gastronomy is frequently just briefly touched upon in the broad overviews. But according to Blöcher and Alt (2021), digital solutions are becoming more and more prevalent in high-contact sectors like dining establishments. Martin-Martin et al. (2022) made a distinction between the forward digitalization that results in the marketing use of platforms and social media and the backward digitalization of the operation, which connects tourism production with its supply chains. With respect to envisioning the trade-offs between human-based services against the benefit of tech solutions around transparency, speed, and accuracy, Vo-Thanh et al. (2021) address the huge contrast between fast food and fine dining in the restaurant industry.

Since resource-based inquiries, dynamic capacities, transition views, transaction cost theory, and platform theory aid in comprehending a range of business and organizational characteristics, digitalization is viewed through a multitude of alternative lenses and theoretical frameworks (Parida et al., 2019). Some businesses, organizations, and regions are leaders and first movers in the continuous process of digitalization, while others are followers or late movers. Using the web as a constituting facility, Dredge et al. (2019) described the logics of digital tourism development, where the first phase was defined by the deployment of digital tools in the operations of the well-known firm, leading to greater productivity and market access.

According to Dredge et al. (2019), the next stage is a more integrated business ecosystem where DMOs and other players guarantee spatial connectivity and the possibility that clients will obtain personalized information, which will result in reservations and, ultimately, financial effects on businesses linked to the infrastructure. This development could improve market access and visibility for businesses of all sizes. The last stage, which has been more active over the previous ten years, is distinguished by an even greater level of integration and connectedness, both across digital platforms and industries. This stage introduces "smart tourism," which is defined as interconnected and maybe more sustainable tourism networks. In the process, the lines separating conventional businesses are becoming less distinct, and public institutions, non-governmental groups, and travelers themselves all subtly integrate into the tourism industry.

RESEARCH APPROACH

The research methodology for this paper draws inspiration from recent advances in ethnography and the social sciences (Leer & Krogager, 2021), where digital articulation of food provision and consumption is producing narratives and data streams that are readable and interpretable. According to Jones et al. (2015), digital discourse studies offer insights on how to relate to social practice, or how travelers seize new opportunities and incorporate them into their interactions with service providers and one another. Business managers must identify signs of clients' attitudes and receptive energies, not to mention their communication willingness, in order to advance the inventive attempt in firms. The research conducted in this area follows the patterns of many studies of innovativeness in tourism (Pencarelli, 2020; Rachão et al., 2019). Considering the blending of social and business dimensions, digital food becomes quite an intriguing area for co-creativity engaged in the analysis of innovative projects.

The document under consideration is itself an exploration of literature and a compilation of illustrations on digital food from academic literature, trade and trend sites, and industrial sources. Google Scholar and a systematic review of the reference lists provided by recent research in the

area were used to trace the scholarly sources. Every search phrase was utilized, including "tourism," "food," "gastronomy," and "culinary," but they were also used in combination with both general and specialized technological terms (e.g., "robotics," "AR," etc.). Google searches were used to access the trade literature, with a focus on trend reports, coverage of exhibitions, policy studies, etc. Blöcher et al. (2021) and Law et al. (2022) have discovered seventeen examples that span the major digital fields. It was essential to discuss several technological and societal conditions in this work.

Stories concerning digital transformation are the focus of this piece, which invites both curiosity and skepticism. Because of these factors, the various scenarios selected are discussed in relation to certain food suppliers or software developers. The selection is by no means representative or an attempt to cover the entire field. The primary objective of the data collection is to advance knowledge of the more fundamental aspects of the digital environment that connect travel agencies and travelers; in this regard, this article offers a different perspective than the majority of other research on the digital transformation of the hospitality food industry.

Digital Food—or Not

Below are 12 instructive vignettes that describe examples of digital food.

Handheld Waiter Pads and Digital Menus

"We apologize, but we have run out of Bacalao." It would be rather defeating to have this information relayed to customers as soon as their orders are taken at the table since the waiter has it on his smart pad. Not only does this save steps, but it also saves time between the kitchen and the table. Time and footsteps will be cut short, but if customers saw the item on the paper menu on the table or on the internet, they are being considered for alternative offerings. Restaurants have been using screens to show their menus in the space for a number of years, taking advantage of instantaneous menu updates and complete digital integration. This makes it more likely that the client won't be let down. Digital integration in waiter and menu systems is ever-present for continuous improvement lean systems with critical information. For instance, if the pad contains information relating to gluten or nonvegan ingredients, restrictions associated with food allergies or dietary preference can be dealt with early in the ordering process. Lean processes work inside the kitchen, allowing the chef to schedule and coordinate order processing using the swiftly transfer data. For restaurants, where employees and chefs might not be ready to change their working methods, it presents an opportunity but also poses lots of challenges. For instance, using technology to make food ingredients, the company's carbon footprint, and other issues more transparent to consumers may be feasible, but it will necessitate a major shift in the organization's data discipline (Khan, 2020).

Loyalty Programs in Chain Restaurants

The goal of loyalty programs is to show repeat consumers that the business values their loyalty by offering tiny tokens of appreciation, such discounts, bonuses, upgrades, etc. These methods of fostering loyalty are extensively used. According to Sørensen and Hjalager (2020), loyalty might encourage conspicuous expenditure, whereby verbal and visual communication about the consumption boosts one's ego and peer reputation. Businesses with complex loyalty programs rely on a substantial increase in marketing and promotional value as a result of customers telling their friends and followers about the goods and services. The scope of the conversation is expanding due to digital tools (Manko, 2022). Chipotle, a US-based company, has made the most of allowing its patrons to earn food products, and the digital systems enable the tokens to be used at any

location. Because loyal customers can win big prizes, the company has incorporated gaming aspects that encourage competition and communication. Chipotle's charity links are another way for loyalty program members to use their points. Some of the organizations that get donations are food-based, including the Farmlink Project, which fights hunger and food waste. In addition to setting Chipotle apart from other restaurant chains, the latter also enables its patrons to stand out if they wish to show their peers that they have moral and social qualities.

3D Printed Food

The London eatery Food INK came up with the concept of 3D printing everything in 2016. The furnishings, the silverware, and—above all—the cuisine. The processes of 3D printing the food were visible to the patrons of the restaurant, where many robots and printers are installed as part of the restaurant's decor. Further adding to the full experience of this innovative eatery. The food's original design may be significantly altered: broccoli may be made to resemble the Eiffel Tower. Lee et al. (2021) shown that while visitors value inventiveness and enjoyment, some may become suspicious of novel forms of familiar foods. The food's flavor, which tends to fade into the background, receives very few remarks.

Foodstagramming

The practice of travelers taking and sharing food images while on the road is known as "foodstagramming" (Wong et al., 2019). Many restaurant patrons post pictures of their culinary adventures on social media for a variety of reasons, such as community involvement, social interaction, and self-expression. Foodstagramming could be a means for restaurants and travel places to gain access to larger online consumer networks. Businesses in the hospitality industry can improve the location's image and level of knowledge by embracing foodstagrammers. Many food providers have adopted social media marketing in recent years, and it is gradually displacing conventional forms of advertising and promotion.

Businesses must have a thorough understanding of why tourists decide to let their images speak for themselves and the advantages the activity might provide, as recommended by Wong et al. (2019). Even small businesses can gain from having a presence on social media sites like Facebook, Instagram, Twitter, and others. They can also expand their reach by collaborating with their followers and consumers through "micro marketing" techniques. Following the epidemic, Lombardia in Italy was able to enlist the most popular fashion influencers and celebrities to launch a campaign that used food as a primary lure for tourists (Ingrassia et al., 2022). A new sector of the economy helps eateries, which are food destinations, take full advantage of digital prospects.

eWine Tourism

Wine tourism serves as an example of how tourism is consumed and experienced not only in wineries but also in homes prior to and following visits. Additionally, the promotion of the image of individual wines, wineries, and wine districts depends on time and space connectivity (Haller et al., 2020). Wine as a product and experience is becoming increasingly "footloose," and the digital component may even almost completely replace in-person wine tasting and enjoyment. Tastings can take place at home, in the virtual presence of other people who have bought the same wines, or with the entire group synchronized in video conferencing platforms like Zoom. Wine is a product with esteemed implications as compared to other beverages, and digitization can give wine consumers new methods to showcase their better taste and understanding of wine history and wine districts.

Virtual Reality (VR) and Augmented Reality (AR)

VR and AR are making their way into the restaurant industry, where they may help customers learn more about the ingredients, textures, flavors, and other details listed on menus. The ultimate AR experience, however, occurs when patrons of restaurants are presented with immersive settings that let them experience life in the kitchen or the locations where food was produced or cultivated, among other things. AR can enhance dining experiences by including layers of culture and tradition. By using cutting-edge augmented reality (AR) technologies to show creative and amusing cooking animations in front of patrons, Batat (2021) provided insights into "Le Petit Chef," discovering that AR improves patrons' connection to the restaurant and their wellbeing while they are dining. They have more things to talk about, play with, and laugh about, and their social interaction with other visitors grows. In essence, the goal is to allow stories to go viral by connecting the restaurant's electronics to the mobile devices of its patrons. According to Batat (2021), medialization methods will most likely have a bigger impact on future food service scape design.

DISCUSSION

This article and the 6 examples above show creative approaches to digitalization in the tourism-related fields of food and gastronomy. The digital ingredient is (becoming) ubiquitous in the industry, despite the fact that certain food providers and visitors wish to preserve a considerable amount of human touch and that some parts cannot be eaten. When examined in the context of the 6 aforementioned cases, digitization is multifaceted.

The vignettes have a number of distinguishable characteristics with Hanelt et al.'s (2021) framework of digital assets. The practical customizability of services with technologies that can satisfy customer needs (such as in restaurants) including unique, personalized requirements is a major focus of the digital approach. Additionally, managers can work more effectively with suppliers and employees by using ubiquitous data to plan culinary activities. The result could have an impact on profitability and enhance customer satisfaction. Additionally, there are instances in the vignettes chosen above that point to the rise of data use and mediatization, which may ultimately tip the scales of power and/or relationships in the food industry in favor of consumers, though monopolizing tendencies in platform solutions may mitigate this effect. As a result, the studies suggest that large corporations and multi-locational organizations in the food systems are often the first to choose such digital transformational approaches to enhance the internal business processes devoted to e-innovation and their plans for the future. The "liberation" of food tourism customers may be hampered by heavily integrated control; the major players' loyalty programs consistently encourage customers to stick with their previous suppliers and predefined behaviors. These characteristics point to trends toward more monopolistic tendencies that haven't been thoroughly examined or discussed in the literature on digitization in food and gastronomy tourism.

In the course of time, new social customs for food tourists—whether they are foodies (food fanatics) or simply regular vacationers—have been developed. In addition to highlighting the vital and growing significance of social connection, the innovations shown in the vignettes also demonstrate how eating experiences serve as obvious catalysts for reorienting and activating the type and direction of interpersonal connections.

CONCLUSION

As demonstrated by the 6 vignettes, it is simple to become enthralled with the creative potential of technological and digital advancements. Even though this description is succinct, they bear witness

to the inventiveness and executional skills of players much beyond the purview of the culinary and catering industries. Upon deeper inspection, the digital edge—rather than food positions—provides the creative strength, social power, and economic push in this case, restaurants and other touristy food suppliers. In conclusion, the goal of digital food is to improve the experience aspects rather than to offer tourists and customers more or better food. The commercial component also involves setting up food provisioning systems for increased efficiency and for potential tech buyouts at some point. According to this viewpoint, the business strategies and attitudes of tech companies are far more similar to those of the most digitally advanced food industry segments than they are to the typical family-owned restaurant chain (Aissa, 2019). To put it another way, there is a significant tech convergence.

This study looked for innovative discourses, which are defined as novel performative and social practices in the interactions between food enterprises and their clientele. Since food is clearly crucial to tourism, the creation of new interpretations of food through digital layers is hardly a process that has ended yet. Food serves as a justification for the construction of intricate space and location, adding to the stories of tourist destinations like cities. Food-related experience designs can be successfully incorporated with the goal of economic accumulation, and innovative mediation is a solution to maximize advantages for all parties.

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