

The Eurasia Proceedings of Health, Environment and Life Sciences (EPHELs), 2021

Volume 2, Pages 5-11

ICGaFoN 2021: International Conference on Gastronomy, Food and Nutrition

Gastronomy and Covid-19: Turkey's Technology Usage after the Outbreak

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Abstract: Covid-19 pandemic specifically affects the entertainment industry, tourism and education sectors. Although some relaxation policies are temporarily practiced from time to time, travel restrictions and social distance rules have been introduced in our daily life since March 2020. In the culinary world, in addition to extreme changes in our traditional eating out habitual, the necessity of social distancing complicates face to face activities such as practical-based-educations, festivals, workshops, gastronomy tourisms. During the Covid-19 outbreak, in order to deliver information, services, and products to customers; technological applications and tools became super popular and important (Garibaldi & Pozzi, 2020). Drones and robots have been used for food deliveries. Many gastronomy festivals were carried out online. Restaurants have adapted themselves by using augmented reality applications, and by transforming into cloud kitchens. Moreover, culinary education and workshops have been materialized by online lessons thanks to the pre-prepared kits for being involved in similar experiences with other participants. Technological approaches like podcasts and different kinds of food/beverage order applications have emerged in culinary. In this article, different examples of technological applications in the field of gastronomy were investigated by literature review to understand how Turkey's gastronomy activities adapt themselves according to Covid-19 pandemic situations. The results indicate that Turkey have managed to reach foods by without breaking the supply-demand balance; new delivery practices have been evolved in order to prevent spread of the virus; new ways have been found in gastronomy educations and; new products have been emerged to ease people's life; and new methods have been developed in gastronomy tourism for maintaining rituals

Keywords: Gastronomy, Technology, Innovation, Covid-19, Online Application

Introduction

Food and Culture

Gastronomy, as a word, comes from ancient Greek: gastro is "the stomach" and nomy is "the law". Gastronomy is not just about preparing or consumption; it is also "the study of the relationship between food and culture, the art of preparing and serving rich or delicate and appetizing food, the cooking styles of particular regions, and the science of good eating", as described in the Oxford Dictionary.

It is easy to understand the relationship between gastronomy and culture. Gastronomy demonstrates cultural commons (Barrère et al., 2012), which are explained as follows:

- i. Identity- Natural sources vary from one country to another. Thus eatable and non-eatable preferences give an idea about building an identity;

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- Selection and peer-review under responsibility of the Organizing Committee of the Conference

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- ii. Transforming- Harvesting, selecting and breeding are transforming over the generation in order to develop new sources;
- iii. Manner- The ways which we benefit from foods and use of them such as preparing, preserving, cooking and eating show cultural manners;
- iv. Changeable over time- Gastronomy used to be very conservative. However, it has changed over time due to the understanding that food is not only a nutrition but also pleasure. This development has been initiated in some countries such as France, Japan, and China;
- v. Heritage- Gastronomy culture has been transmitted by the help of the maintenance of guild tradition, and family recipes from generation to a generation.

Food starts its journey in the farms and ends in human bodies in the forms of nutrients and knowledge or experiences. Farming, transporting, preparing, cooking, ordering, delivering, consuming, and; learning, understanding, transmitting, sharing and enjoying are related fields of gastronomy activities (Smith & Xiao, 2008). Every technological, scientific, artistic, social, cultural, historical, and geographical change in the world affects gastronomy (Güneş et al., 2018). In addition to conservative methods; 3D printers, robots, drones, nanotech sensors, gastronomy 4.0, laboratory meat etc. are other technological tools in the gastronomy world.

Covid-19 Outbreak

The virus has caused negation in industries, especially restaurants, tourism and travel. In the gastronomy world, in addition to extreme changes in our traditional eating out habitual, the necessity of social distancing complicates face to face activities such as practical-based-educations, festivals, workshops, gastronomy tourisms. The balance between supply and demand has partly been broken and it might take years to recover the shortages in the food supply chain (Athwal, 2020). Due to the long ongoing pandemic period and uncertainty of the future, new temporary formulas about the gastronomy world seem to be our new permanent style about eating, drinking, cooking, distributing and progressing (Bucak & Yiğit, 2021).

Overview

During the Covid-19 outbreak, the use of existing and new technologies, innovative methods have thus become widespread and many gastronomic products have emerged. The implementation of technology in gastronomy provides us to preserve food supply and distribution systems; to have sanitized delivery; to stay social with some limitations; to be familiar with new practices; to enjoy; and to learn. Some examples regarding the recent involvement of the innovations in gastronomy are given below.

- Some approaches were developed to get meal by safe delivery, to make sure that being in a place under the appropriate social distance, and to have clean kitchen objects under the sustainable ways: i) In Sweden an application called BYEVID enables customers to check if the pub that they want to go to is under the limitation of its declared safe capacities (Fulton, 2020); ii) The application of HOI provides contactless food delivery in the air pods. There is an eating restriction in planes due to maintaining masks on. Therefore, HOI provides its customers to deliver their contactless food ahead of their flight (The Times of India, 2020); iii) Restaurants try to use disposable plates and cutleries in order to reduce virus contamination. San Francisco based The Dishcraft Robotics prevents restaurants from these usages by cleaning the reusable dishes with the capacity of the 10.000 pieces (Anon, 2020e).
- There are some new products in order to ease people's life, and to turn existing materials into new materials for preventing spread of the virus: iv) In the USA, pre-treated kits start to be used. The company is called Sun Basket provides not only accessible ingredients but also advanced vision of food culture. This refreshing box helps people who are fed up with cooking but still want to practice their daily needing (Anon, 2020f); v) In Guatemala cooperation with Pepsi, a reuse mechanism takes place in order to make face masks from Pepsi bottles to people who cannot buy them (Basden, 2020); vi) In the beginning of the outbreak an American company-Marble Distilling, in Illinois which is a vodka producer, began to produce hand sanitizers by turning its existing technology (Phippen, 2020); vii) In May 2020, because of the low demand of beer kegs to pubs, they expired in Chicago's Revolution Brewing. So this situation created a quick solution: Malort liquor made out of old beer instead of throwing them out (Selvam, 2020).

- People want to maintain their social interactions even under today's extraordinary conditions; accordingly, companies offer new solutions: viii) In Germany, Burger King provides a DIY giant paper crown to maintain social distance in an enjoyable way (Taylor, 2020); ix) In the UK, a breakfast cafe Panera offers its users to have a "wake up" with AR technology via Facebook and SnapChat filters. Customers can enjoy their breakfast as if it was served in the café (Pittman, 2020); x) Sydney-based Five Dock Dining restaurant fills empty tables with cardboard cutouts to recreate a 'full-house' atmosphere with aims of keeping social distance, and making a full-house atmosphere to feel the times before the pandemic (Tupas, 2020); xi) In Berlin, the chocolate brand of Theyo launched its virtual chocolate tasting in May, 2020. These chocolates are rarely found products which require travels. Their fair-trade products are sent to customers who want to try them at home with instructions (Anon, 2020b).
- Learning and discovering new things has always been important for people. Gastronomy education and tourism were tried to be kept alive after the outbreak: xii) Chefs Manifesto #TogetherAtHome, which has been held on InstagramLive since March with nearly 40 chefs to support staying at home and presenting their own recipes met with thousands of spectators with hashtag. It is a virtual series launched by Global Citizen that helps raise awareness and action to support the great work of the World Health Organization and the fight against Covid-19 (The SDG2 Advocacy Hub, 2020); xiii) An online bar in Scotland-BrewDog, launched where people from all over the world can join for beer tastings, home brew masterclasses, virtual pub quizzes, live music and comedy (Anon, 2020c).

Method

Recent literatures on understanding new applications and emerging technologies in gastronomy after Covid-19 outbreak in Turkey were studied. Since Turkey put pandemic restrictions into effect later than most of the countries, the new applications were mostly the imitation of the ones previously experienced in other countries. Because of the limited published works in literature, recent qualitative improvements in gastronomy were mostly investigated by web search of companies' web pages. Document review method was used for data collection. Different topics were analyzed due to the interdisciplinary properties of gastronomy. Many resources regarding emerging technologies and applications from Italy, Spain, the USA, and China were found. The research was conducted under two languages: Turkish and English. Covid-19 related information was taken from documents published in 2020, whereas resources on the cultural and technological improvement were obtained from previous years' records. After clarifying the general framework, the four codes (order/delivery, gastronomy tourism, education, and new offers) were selected for content analysis for data analyzing.

Findings

After the Covid-19 outbreak, the government has tried to realize the basic needs such as reaching enough food and getting them in safe ways due to their vital importance. The rest of the needs have been mostly provided by organizations, social groups, schools, owners of the factories or of the restaurants/cafes, and individuals. These attempts, in other word innovations, have been conducted by the help of the applying existing technology into overcoming the effects of the outbreak. Some examples according to the recent innovations and technological applications in Turkish gastronomy are given below under the four sub-topics.

Order and Delivery

Food order and delivery is as important as food production in urban life practices. Robots, drones, sanitized bags, and online applications have been used for order and delivery in appropriate ways.

- In the beginning of Covid-19 pandemic, in the Hospital of Istanbul University a robot was started to be used for food delivery to patients in terms of protection of related personals and preventing cross-contamination (Cumhuriyet, 2020). Robots usage is limited even if they can really protect hospitals' service personals from coronavirus. However, in June 2020 another robot attempt was carried out in the Hospital of Erzurum Atatürk University with a difference: It has a name, Nurse Atacan (Anadolu ajansı, 2020). Atacan is responsible for food and drug delivery for patients. Since more time has passed from the initial robot trial, we can easily interpret that we begin to see robots as a part of our daily life by giving a name.

- Drone technology has been a part of our life more than a decade. Drones are used for various applications such as security, delivery, military, photography and videos. Food delivery was started in some rural regions or in some climate conditions before the pandemic. Drone usage has increased in all over the world and has initiated in Turkey after Covid-19 due to maintaining social distance. A luxury restaurant in Beşiktaş started to use drones for transporting their food from the kitchen to yachts in Bosphorus (Anon, 2020g). Another delivery attempt was done in Izmir for giving away kurban meats. Drones are not utilized in our country as much as Far East countries but still these individual attempts indicate that the gastronomy in Turkey tries to follow new technologies or methodologies.
- Most of the restaurants except for the local ones have quickly used QR code for their menu instead of regular, hard copy ones in order to protect from the virus spread. Take away restaurants have already been very common even before the pandemic situation but after the pandemic, online order has become one of our indispensable. Luxury restaurants did not use to be part of take-away delivery, they were preferring to serve in their places. However, after Covid-19, a lot of luxury or upper class restaurants have found a way to deliver their meals by adding different offers such as special transport containing heat insulated baggage. Some restaurants have merged under the name of “fuudy” application (Anon, 2020h). Fuudy consists of more than 20 restaurants. It is indicated that couriers drive hybrid cars or motors, moreover their packaging and carrying bags are recyclable.

Gastronomy Tourisms and Festivals

Some cities in Turkey are known to be famous for its foods and it is important to maintain gastronomical activities in these cities for tourism. Gastronomy tourism is one of the important parts of the total tourism activities. Moreover, there are lots of gastronomy festivals which are nationally and internationally continued over years. After the pandemic, most of the festivals were cancelled. However, a few of them were conducted in order to maintain their tradition by the help of the online applications such as Adana, Izmir, and Antep tasting festivals.

- The Fourth International Adana Festival of Taste (October, 2020) is the first online gastronomy festival in Turkey due to the Covid-19 outbreak. The original theme of the festival is “İlham veren tüm renkleri ile” which indicates that even in the starting point the festival serves directly to the visual sense. The festival lasted three days and the full record of the festival is achievable on its own website and YouTube channel. The majority of talks and panels were about sustainability and the importance of food localization (Anon, 2020m).
- The Third International GastroAntep- Hasat Günleri (September, 2020) is a bit different from Adana’s Festival in terms of the type of digitalization used. The GastroAntep festival was semi-digital. The organization was more amateur than the Adana Festival. In Gaziantep the whole festival was carried out with its real audience but at the same time the program was achievable online. The online recording lasts four hours and includes opening and closing talks, lots of panels and workshops from different chefs from all over the country and the world (Anon, 2020i).
- Izmir GastroFest (October, 2020) is one of the pre-prepared, professional types of culinary festivals. In addition to early announcement of sessions like all other online festivals, Izmir GastroFest also gave the chance to audiences to get ready beforehand for the recipes that chefs have prepared. The theme of the festival is “Food & Communication”. Different from Gaziantep and Adana’s local and folkloric topics at panels or in the recipes, this festival differentiated itself with its more secular way of tasting including wine tasting (Anon, 2020n).

Culinary Education/Workshops

The culinary education has gained popularity in Turkey and in the world. Seeking new information, being a part of a society, enjoying and achieving something are important for humans; even under the quarantine conditions. People who want to take professional education on culinary art or to take amateur gastronomy classes have tried to find a way to continue.

- Almost none of the private courses in Turkey have managed to apply online education for their professional long term certificate programs due to necessities of the kitchen tools and of tasting. There is an exception about it: Kitchen of Hope Project (Anon, 2020a). The United Nation and Turkish Ministry of Education have been associated with this project for more than two years. The courses have run for Syrian refugees or disadvantaged people in order to gain a profession and hope. After Covid-19 outbreak the association has adapted its technology to give online courses. The courses are online with a chatbox that students can ask questions to the chefs or to the other students. Most of the students are part of technical high

schools. After they have finished daily classes, the organization releases them to YouTube for other people's service.

- In workshops, online programs are tried by some of the private courses. The Culinary Arts Academy (Mutfak Sanatları Akademisi) offers online workshops for users with a check-list which contains detailed ingredients for recipes and special tools (oven, mixer, peeler. etc.). Online lessons start in a certain time and are run for a specific time simultaneously (Anon, 2020l).
- Some universities such as Hacı Bayram Veli University give online workshops or panels about the culinary world without any profit. Instead of YouTube or zoom applications, they prefer to use their webpages to show their videos.
- Apart from food, there are also winery workshops. Somelyer, Degustasyon and Tadım Atölyesi are three of the popular online wine courses in Turkey. In Somelyer, in addition to online certificated winery courses, it also offers online games which are related to wines or winery processes (Anon, 2021b). In Degustasyon, most of the instructions are better defined than Somelyer. The course provides all vines which will be examined during the lesson with different tasting glasses and a book about the introduction to wine. The course is carried out by zoom (Anon, 2021a). Tadım Atölyesi is not a professional online wine course; actually they are setting up a kind of a conversation club. Topics of the talk are pre-set and there is no requirement for getting ready. Chats are done by zoom (Anon, 2020j).
- In culinary, most of the things could be about cooking; however theoretical information and knowledge are also very important for the gastronomy culture. Therefore, The Culinary Arts Academy has initiated podcasts which are recorded by different chefs or professionals from their fields and these are available via their web page or Spotify (Anon, 2020l).

New Offers

- In addition to workshops, different types of boxes which are not fully completed but have been pretreated are designed. Half cooked, fermented or portioned kits are sent to the people who have ordered in order to have finishing experience. The design itself is very simple and each ingredient is well packed (Anon, 2020l).
- There is a new serving method called "Ghost/Dark Kitchen" which has emerged from the Far East countries and the USA. In the ghost kitchen there is no place to eat or sit. The kitchen is designed just for cooking. A hangar is used for this production. After the owners of the restaurants have designed what kind or size of the kitchen they want and what type of the electrical tools they need, all of the details are carried out by the main administration of the hangar. There are mutual expenses like internet, cleaning, security and delivery. Since it is assumed that most of the countries will follow the new normal rules, ghost kitchen implementation has been initiated in Turkey as well. The XKitchen has announced that they are starting to practice ghost kitchens in Turkey (Anon, 2020k).
- VR and AR technologies are used in some fields in Turkey even if it is not as much as Europe and America have used. These technologies generally work with pre-shows of buildings, medicine education, shopping and interior design etc. These technologies offer the opportunity to view the images of the products in the menus of the businesses in a three-dimensional way by reading the image / QR codes on the plate / menu with the help of a smartphone or tablet. Customers can evaluate the dishes on the menu, which they have not tasted before and have not even heard of them, by looking directly at their images, they can see the final form without ordering the food and thus make a quick decision. In addition, various operations such as ordering from the smart tables, monitoring the order completion process, and being aware of the comments can be made. After Covid-19 outbreak, few gastronomy occasions have been carried out by AR such as vineyard online trips. In our country nextAR application has offered this technology (Anon, 2020d).

Conclusion

Gastronomy culture seems like it is overcoming to Covid-19 outbreak and people from the field have been developing new opportunities for future restrictions and our new normal. The use of the technology in the gastronomy related practices provide new possibilities to avoid the deterioration of the supply-demand balance in the food and beverage markets, to maintain social distancing and to continue gastronomy culture with different and new attempts. When we examine innovations in Turkey, it seems that steps are mostly taken in order to reach out to foods in healthy ways. In addition to these basic needs, efforts have been made to continue culinary education, to enjoy eating, to learn new information, to continue the traditional festivals and to revive

food tourism. Innovations that were made in a short time are in the form of adapting existing technologies to gastronomy which has been already used for different areas. However, since the protracted pandemic signals that the "new normal" will continue it is thought that new technological approaches such as Gastronomy 4.0, individual foods, AR training, 4-D printed products will enter our lives.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPHELS journal belongs to the authors.

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To cite this article:

Akdag-Caglar, B. & Demirbas, O.O. (2021). Gastronomy and Covid-19: Turkey’s technology usage after the outbreak. *The Eurasia Proceedings of Health, Environment and Life Sciences (EPHELs)*, 2, 5-11.