

Art, Culture and New Technologies
in Latin America and the Caribbean
Creative Economy

Gastronomy

Trends and Digital Strategies



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Authors: Isabel Gil Gómez and Oswaldo Hernández Trujillo

General coordination: Aura

Aura is a creative economy consultancy based in Mexico City

Series editors: Isabel Gil Gómez, Alejandra Luzardo and Trinidad Zaldívar

Editors of the book: Xavier Ruiz, Eduardo Saravia and Simone Sasso

Quantitative study: Sistemas de Inteligencia en Mercados y Opinión (SIMO)

Qualitative study: Angélica Martínez

Data analysis: Jerome Rozat

Research assistants: Lourdes Goldez, Maricarmen Martínez and Mónica Sandoval

Editing: Elsa Gil

Translation: Oswaldo Hernández Trujillo

Editorial design: Periferia Taller Gráfico

Graphic design: S Consultores en Diseño



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Introduction

To what extent is technology transforming the way we eat? Are dark kitchens, delivery apps and smart menus just a fad or are they here to stay? Who should assume leadership in the transition towards models of innovation and ecological and social responsibility in gastronomy in Latin American and Caribbean countries, and how must it be done? What are the most promising investment opportunities in the region?

These questions echo the report *Vision 2025. Reinvesting in the Americas: A Decade of Opportunity*, published by the Inter-American Development Bank (IDB). There it has been stated that during the coming years, digitization, rapid adoption of new technologies, as well as fostering innovation, entrepreneurship, and the growth of SMEs among the creative industries in Latin America and the Caribbean (LAC) —and gastronomic businesses for that matter—, will play an important role in achieving economic recovery.¹

One of the main challenges for recovery in the culinary field is generating information on how the sector is operating since the onset of the COVID-19 crisis. Unlike other regions in possession of specialized indicators, data, and information systems, in LAC few systematic and regular research has been conducted to sketch the behavior of the gastronomy sector, its main challenges, areas of opportunity, and needs as linked to other fields such as tourism, agriculture, retail and the hospitality industry.

The main contribution of this research is that it provides new evidence by organizing the available information, and by creating new references built on the basis of original and customized data. In doing so, it also suggests solutions tailored to the needs of the sector in our region.

The insights presented here serve as a framework to understand the current situation in LAC gastronomy and its possible future, in the light of world trends and, particularly, the needs and challenges of the region.

The health crisis² has highlighted the limitations and weaknesses in the food value chain. It has also served as a catalyst and a laboratory of ideas not only for SMEs but also for stakeholders searching to accelerate

1 Inter-American Development Bank, *Vision 2025, Reinvest in the Americas: A decade of opportunity*, (Washington DC: BID, 2021).

2 Ángeles Sánchez Díez, “Coronavirus en América Latina: las cifras que muestran el brutal impacto de la pandemia en las economías de la región”, *BBC News Mundo*, March 1, 2021, accessed April, 24 2021, <https://www.bbc.com/mundo/noticias-america-latina-56239544>.

the reinvention of the sector. Lockdown and the drastic constraints on mobility to prevent the spread of the virus have forced restaurants to reinvent themselves and the way they interact with suppliers. By searching for flexible delivery methods, and by implementing advertising, branding, and marketing campaigns tailored for the online market, they have been rewriting the rules of food ecommerce.³

Throughout the following pages we will track the COVID-19 disruption in the sector, while drawing a map of the ways in which the pandemic has jeopardized the culinary landscape since its onset. Focusing on the food value chain, we will analyze the long path that brings ingredients and supplies from production chains into restaurant kitchens and diners' tables, a process that goes beyond the barriers of the food sector, linking it to other industries such as tourism, agriculture, and transportation, creating interdependence among each other. In accordance with the major concerns of key actors that took part in this study, we will highlight the importance of food sustainability, and social importance of gastronomy, showcasing LAC cuisine's unique character, and its relevant investment potential today.

Using quantitative and qualitative data tailored for this research, we will review the main challenges the food industry is currently facing. We will discuss its growth and the ways in which LAC restaurants can be strengthened as a core center where other creative industries can converge. *Gastronomy: Trends and Digital Strategies* is part of the IDB editorial series, *Art, Culture and New Technologies in Latin America and the Caribbean*, intended to point out the impact of digitization and the adoption of technologies by cultural and creative industries from the region, and how this can catalyze innovation, social cohesion and change.

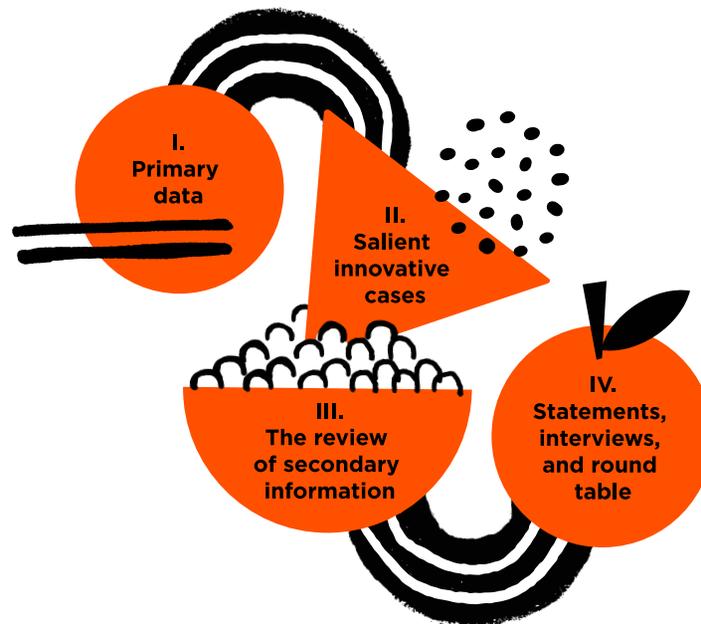
This volume has been divided into four sections in which we intend to convey the state of a unique and resilient industry that aims towards recovery. In the first section we review the traits that make gastronomy a creative discipline, key to economic development and cultural identity in our societies. In addition, relevant data on the impact of COVID-19 in the sector are discussed. In the second section we track down the effects of the crisis on the food value chain; and the way in which most of the iconic chefs in the region innovated: forced out of their uniforms and jackets and leaving their knives aside, they stepped into the world of apps and social networks to reinvent their businesses following the rules of ecommerce. The third chapter has been built around relevant

3 Agencia EFE, "El argentino Don Julio, mejor restaurante de América Latina en un año difícil por la COVID", December 4, 2020, accessed February, 19 2021, <https://www.efe.com/efe/america/economia/el-argentino-don-julio-mejor-restaurante-de-america-latina-en-un-ano-dificil-por-la-covid/20000011-4410909>.

cases of digital innovation, reflecting growth in food delivery services, the expansion of online sales, and even branding as a means of targeting clients and achieving customer loyalty. In the fourth and last section we provide specific remarks on market trends and innovation strategies, keeping in mind ways in which to contribute to the economic recovery of the food sector.

Methodology

This publication was created on the basis of **(i) primary data**, from a *qualitative research* conducted through in-depth interviews to different stakeholders in the region and a *quantitative research* surveying three hundred managers or directors of restaurants by telephone; **(ii) salient innovative cases** in the field in LAC, North America and Europe and Asia; **(iii) the review of secondary information** such as global, regional, national, and sectorial surveys; and **(iv) statements, interviews, and round tables** with food professionals, officials from the culture field, and creative economy experts. Throughout this volume, data from other studies is referenced in the critical apparatus. In the interest of not being repetitive, whenever no reference is assigned to support any information, it should be assumed that we are quoting our primary research.



1. The Footprints of COVID-19 in the Gastronomy Sector



COVID-19 has rocked the system, making it clear that value chains were excessively long, that most of our food depends on distant supply chains, and that we must consider seasonal biodiversity, as it is observed in the countryside by local agriculture.

—**Anaïs Iglesias**, Senior Lecturer in Management and Entrepreneurship at the Research Center of the Basque Culinary Center

For the first time, we are having a collective awareness of a sector that is much more dynamic and extended than we had ever thought. We have realized how transversal food is in our society. It's not just about restaurants closing down, it's about disrupted supply chains, changing consumption patterns, and different kinds of awareness and priorities that have changed.

—**Sasha Correa**, Project Manager at the Basque Culinary Center

Eating with the Mind: Between Tradition and Imagination

Gastronomy is a response to one of the most essential human activities: the preparation and consumption of food.⁴ At which point does such an activity become a form of art, and its products are considered intangible goods? As soon as we include creativity into the equation. Hand in hand with the imagination of cooks around the world, culinary techniques are constantly being updated and transformed by knives and cooking torches –when preparing either ancestral roots or lab-grown meat– with the only objective of presenting an original dish. Whether we are talking about anonymous recipes or signature cuisine, innovation inside a kitchen grants food the title of culinary art, putting gastronomy on the map of the creative economy, together with other artistic disciplines.⁵

The quest for beauty in a dish can go beyond taste and contemplation, if we realize that good food is experienced both with the body and the mind. By stimulating their guests' imagination, chefs seek to satisfy “their need for consuming specialized knowledge.”⁶ Virgilio Martínez, chef and founder of Central (Peru), explains the intellectual and emotional component of the gastronomic journey by envisioning dining “as going to a place that will change how you see the world.”⁷

As it happens with other creative industries, gastronomy reflects a broad and heterogeneous process subject to factors such as “globalization, the aestheticism of the offer and emerging new lifestyles and consumption patterns.”⁸

In the case of LAC, the effect of globalization is twofold. First, the heritage value contained in social traditions associated with local ingredients and gastronomic practices –for instance, the importance of an ancient

4 Chen, Yi-Su, y Li-Wei Liu, “Interaction and Integration of Cultural Inheritance, Ecotourism, and Industrial Development: Strategies, Mechanisms and Spatial Practice of The Amis Dietary Culture Transformed into Creativity Living Industry”, *International Review for Spatial Planning and Sustainable Development*, 2017, accessed May 9, 2021, https://doi.org/10.14246/irspsd.5.3_66.

5 UNESCO, “Las industrias creativas son aquellas en las que el producto o servicio contiene un elemento artístico o creativo”, Unesco, accessed July, 1, 2021, https://portal.unesco.org/culture/es/files/30850/11467401723cultural_stat_es.pdf/.

6 *Idem*.

7 Virgilio Martínez (chef at Central and Mater Iniciativa director), interview by Isabel Gil, May 2021.

8 Andrés López Ojeda et al., “Caracterización de las principales tendencias de la gastronomía mexicana en el marco de nuevos escenarios sociales”, *Teoría y Praxis*, no. 21, 2017, pp. 91-113, accessed June 11, 2021, <https://www.redalyc.org/articulo.oa?id=456150029006>.

crop like corn, the sense of community that arises from the collective memory contained in a *mole* or a *congrí*, or even the aesthetic composition of an *ajiacó* or a *ceviche*— has encouraged the revival of traditional cuisines in LAC. The result has been a growing and solid prestige gained throughout the world, thanks to the richness of LAC culinary wisdom.⁹

Every kitchen in LAC —whether it represents haute cuisine or street food— is today characterized by its historical and cultural diversity. Revisiting traditional and popular cuisines has become a revolution within LAC restaurants. But is this just an opportunistic fad or a mechanism for economic growth in the region? And, above all, how can we adapt this phenomenon to the needs of our societies within the context of the global and digital economy?

First, to transcend a conservative approach of LAC kitchens as museum objects, the importance of innovation at every part of the creative process must be emphasized. For Juliana Duque, food curator, writer and food studies professor, innovation implies taking advantage of the impact that food has on communities and people to develop sustainable consumption patterns: “Innovation means the informed and conscious use of our past, in order to create, to plan, to risk, and to dream; this is why I think that we must be critical with any static image of our past.”¹⁰

To avoid the risk of importing decontextualized definitions without previous critical consideration, Lázaro Rodríguez, consultant and founder of the Inter-American organization Transformatorio, suggests that: “Gastronomy is not only what we see reflected in hashtags and star chefs, especially male chefs... it is also about being able to hack historical devices of the gastronomic creative economy to create more diverse stories, broadening issues around rights [...] and connecting gastronomy and food with the 2030 agenda for sustainable development.”¹¹ In other words, creative gastronomy can be seen as a tool for economic and social integration in LAC as long as it echoes urgent issues like starvation among populations, food waste and the digital divide. In that sense Rodríguez thinks that: “Abundant natural resources in LAC are an opportunity to enhance regional cultural heritage, solve historical debts to its ecosystems and its communities, and to address inequalities in one of the most visible issues in the region: food rights.”¹²

9 *Ibid.*, p 103.

10 Juliana Duque (food curator, writer and food studies professor), interview by Isabel Gil, February 2021.

11 Lázaro Rodríguez (consultant and founder of Transformatorio), interview by Isabel Gil, February 2021.

12 *Idem.*

COVID-19: Statistical Chronicle of a Foreseen Crisis

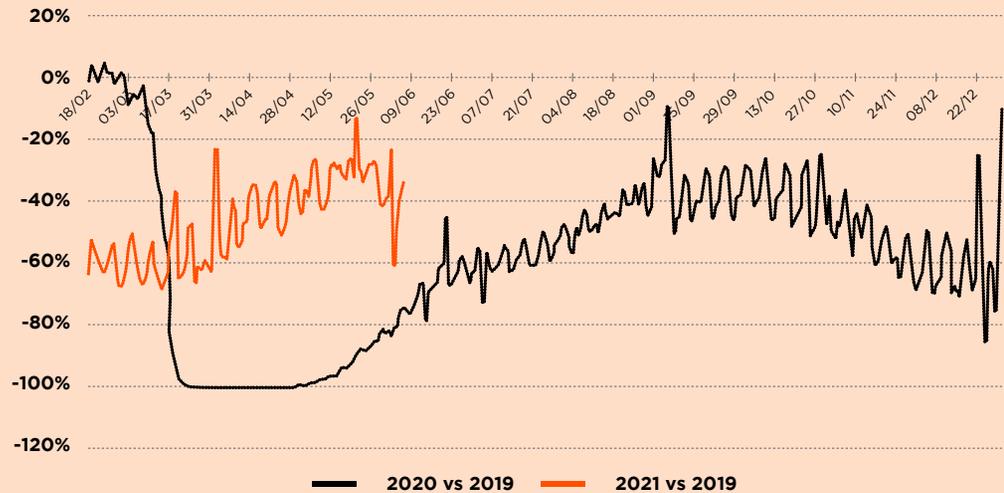
A decade ago, the situation of LAC gastronomy was promising. International media were enthusiastically celebrating the rise of Latin American cuisines in the world¹³, while the “regional cuisine boom” was being discussed in continental and global forums. At a regional level, the appreciation of local gastronomic traditions has been, since then, publicized and encouraged.¹⁴ Just in 2019, six Latin American restaurants (two Peruvian, two Mexican, one Colombian and one Chilean) successfully appeared in the World’s 50 Best Restaurants list, a global distinction awarded by the William Reed Business Company.¹⁵ According to some studies in 2016, the gastronomic sector in LAC reported a profit of 238 billion dollars, and the same studies forecasted a profit of up to 270 billion dollars annually, by the end of 2021. Such an increase represents a growth of almost 13.5% during this period in total (2016-2021), at a 2.7% annual growth.

Food and beverage industries in the region were in good financial health, and their future was encouraging. But the pandemic challenged and rocked that growing market. Opentable, the global online booking platform registering over 12 million seats per month, saw a decrease in reservations of 60% in 2020 compared to 2019, and a drop of up to 99% during the months of April and May 2020, globally. This decrease continued up to April 2021, with a 47% drop average.

¹³ Le Monde, “L’Amérique latine, bientôt au sommet de la gastronomie mondiale”, *Le Monde*, May 27, 2013, accessed February 6, 2021, https://www.lemonde.fr/m-styles/article/2013/05/27/l-amerique-latine-bientot-au-sommet-de-la-gastronomie-mondiale_3417841_4497319.html.

¹⁴ See below Chapter 1.

¹⁵ Cecilia Rodriguez, “The World’s 50 Best Restaurants: French ‘Mirazur’ At The Top”, *Forbes*, June 25, 2019, accessed March 10, 2021, <https://www.forbes.com/sites/ceciliarodriguez/2019/06/25/these-are-the-50-best-restaurants-in-the-world-french-mirazur-at-the-top/?sh=69fd760e5019>.

Figure 1. **Global Diners: Reservations and without prior reservation**¹⁶

Estimations show that, in the hospitality sector in LAC, around 100.000 jobs were lost, while 300.000 venues went out of business, only in 2020.¹⁷ Comparatively, in the United States, job losses in the sector during the same year amounted to 2.5 million people on average, and 110.000 restaurants shut down (see graph 2).

Graph 2. **Estimated job losses and out of business companies**

	Latin America ¹	United States ²	Spain ³	France ⁴
Estimated loss (US dollars)	N.D.	240 bln	63 bln	34 bln
Estimated job loss (#)	1.100.00	2.500.000	237.000	82.000
Closure of companies (#)	300.000	110.000	60.000	N.D

¹ CEPAL estimate for 2020

² National Restaurant Association, 2020

³ El Economista, hospitality sector data, 2020

⁴ Isa Consulting, employment data in restaurants and hospitality, June 2020

¹⁶ OpenTable, “The restaurant industry in recovery”, OpenTable, accessed March 21, 2021, <https://www.opentable.com/state-of-industry>.

¹⁷ Comisión Económica para América Latina y el Caribe (CEPAL), Informe: Sectores y empresas frente al COVID-19: emergencia y reactivación, July 2, 2020, accessed July, 3, 2021, https://repositorio.cepal.org/bitstream/handle/11362/45734/S2000438_es.pdf?sequence=4&isAllowed=y.

Faced with this drastic reduction, stakeholders in the sector have had to expand the operation of their gastronomic brands within the walls of their restaurants and beyond rethinking the importance of digital innovation. In Mexico, for example, food delivery was the digital sales segment that grew the most in 2020, with an increase of 66%.¹⁸

The COVID-19 crisis boosted delivery services in LAC. Amongst the reasons for this growth is the fact that five of the top 10 countries in the world with the highest smartphone penetration per household in 2020 were located in Latin America.¹⁹

Graph 3. **Sales by food delivery service 2016-2020**



Bridging the Data Gap

Regarding information systems on the food sector in LAC, among the countries that were part of the sample of the quantitative study (Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, and the Dominican Republic), only Mexico, Colombia and Brazil have databases maintained by local statistical agencies or governing boards. But they are generally not up-to-date, or their data is simply incomplete.

Countries in LAC are faced with an opportunity to develop comprehensive information systems that could measure economic growth in

¹⁸ Cristina Ochoa, “Dark kitchen, el modelo de negocio, que se mantendrá tras covid-19”, *Milenio*, June 20, 2021, accessed July 3, 2021. <https://amp.milenio.com/negocios/dark-kitchen-modelo-negocio-mantendra-covid-19>.

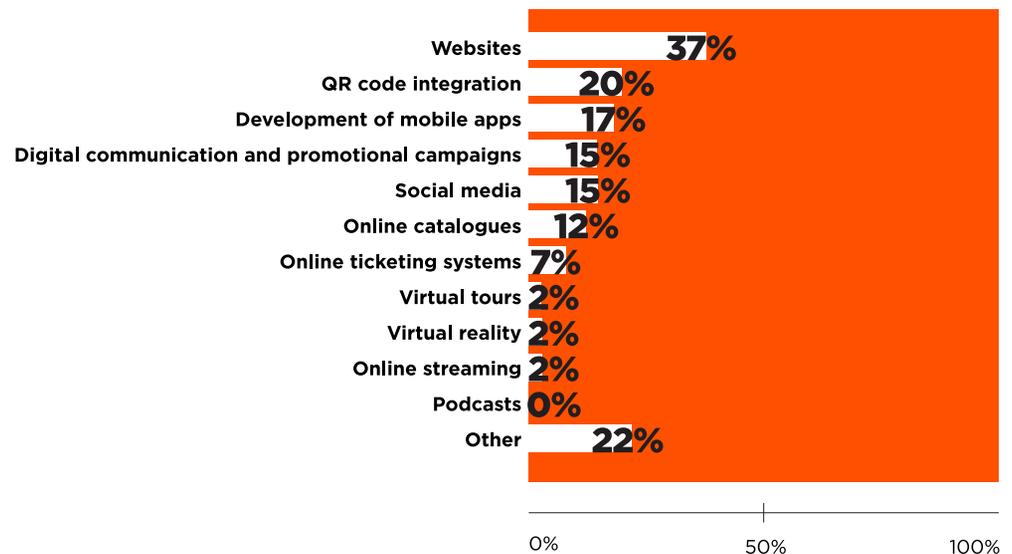
¹⁹ Rocío Guzmán, “Foodservice Delivery Trends Outlasting the Pandemic in Latin America and Asia Pacific”, *Market Research Blog, Euromonitor*, January 14, 2021, accessed July 3, 2021, <https://blog.euromonitor.com/foodservice-delivery-trends-outlasting-the-pandemic-in-latin-america-and-asia-pacific/>.

the field periodically and gradually, its contribution to economy and employment, as well as other inputs that could allow governments to build a more efficient and well-informed public policy.

What is the role of technology and innovation? Aiming at measuring trends in innovation and technological development during the pandemic, our quantitative research focuses on the main challenges and strategies developed as a response to the current crisis, and how the market responded to them.²⁰ The study shows the state of the industry and its strategies prior to the pandemic, mapping out those changes implemented subsequently.

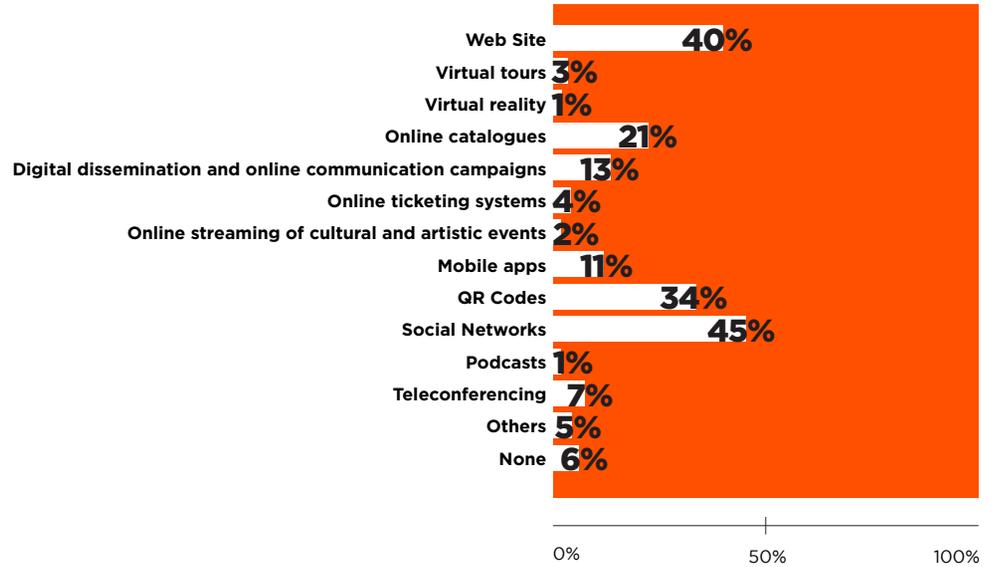
Before the health crisis, the foodservice sector increased technological development, focusing mainly on developing websites and building social network strategies. The most significant sign of digital innovation was the development of tools such as online catalogs, digital promotion campaigns and the use of QR codes.

Graph 4. **Technologies planned to be incorporated before the pandemic**



²⁰ The survey was conducted in Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Dominican Republic, to three hundred managers, owners, head chefs and chefs from restaurants or restaurant associations, from March to May 2021 by a telephone questionnaire. Aura / SIMO, "Quantitative study for the Series 'Art, Culture and New Technologies in Latin America and the Caribbean'" (Mexico City: 2021).

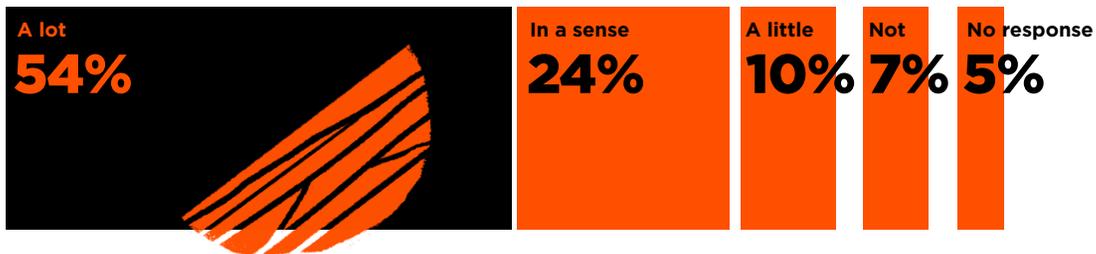
Graph 5. **Digital platforms used from the onset of the pandemic**



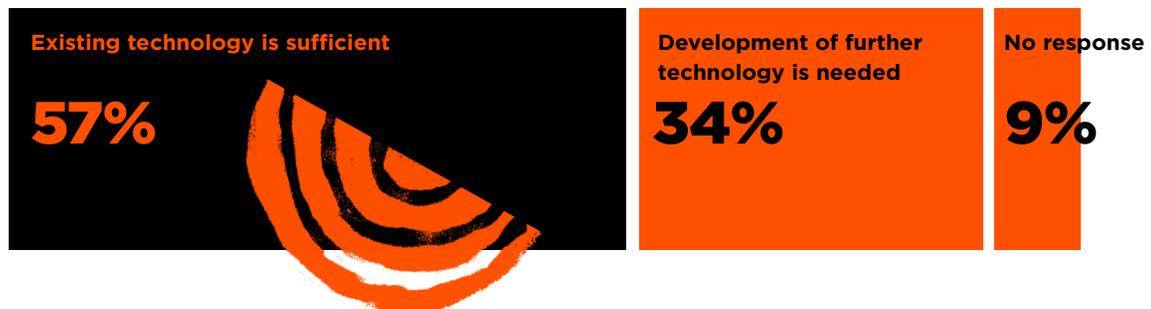
Not every business was prepared for the changing situation caused by the pandemic. Only in 36% of them technological development and innovation were planned ahead; while 57% of respondents said technological infrastructure was enough for their needs during the pandemic, and 31% admitted needing additional tools.

Graph 6. **Contribution of technological platforms and tools**

They have helped

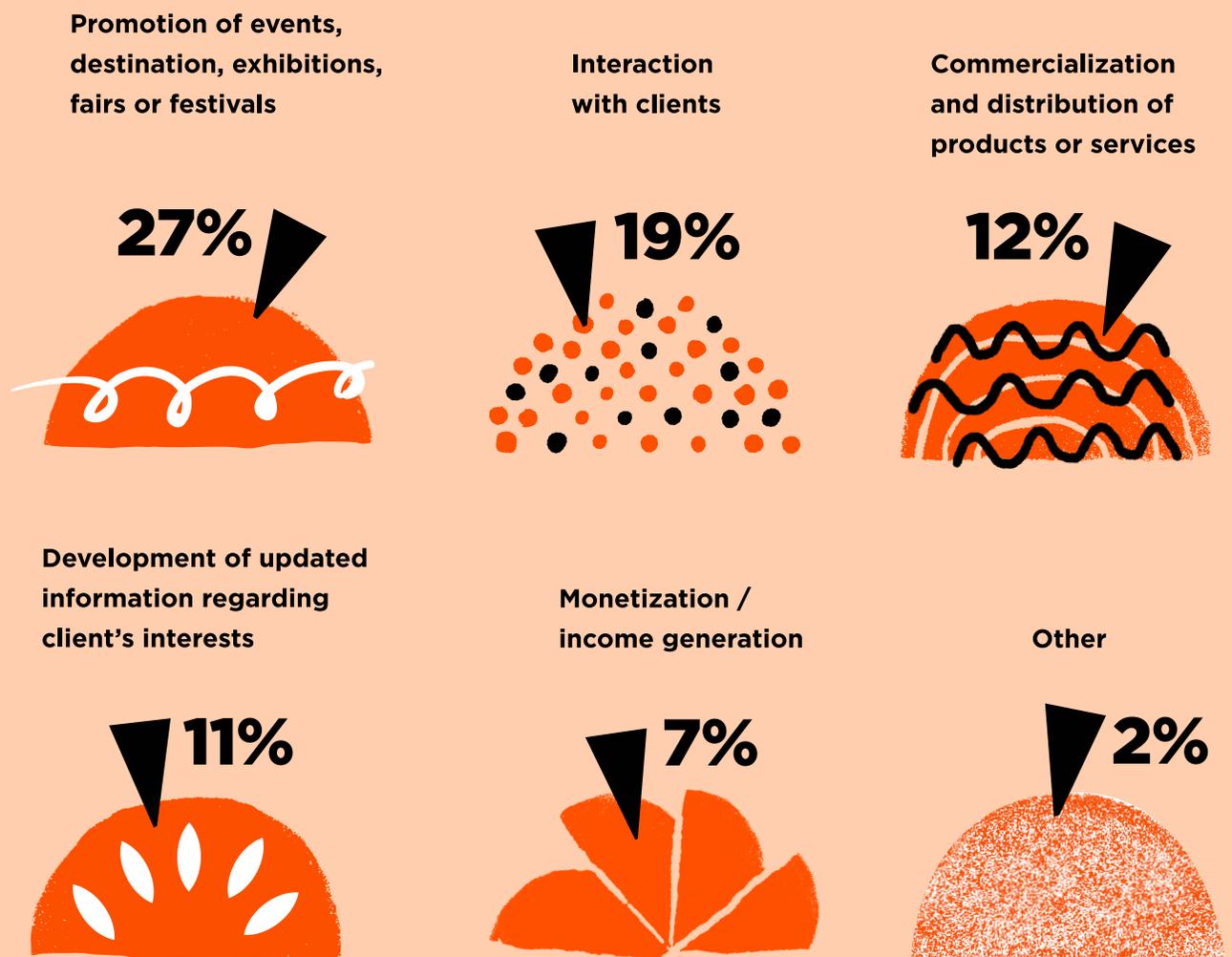


Graph 7. **Adequacy of existing technological platforms**



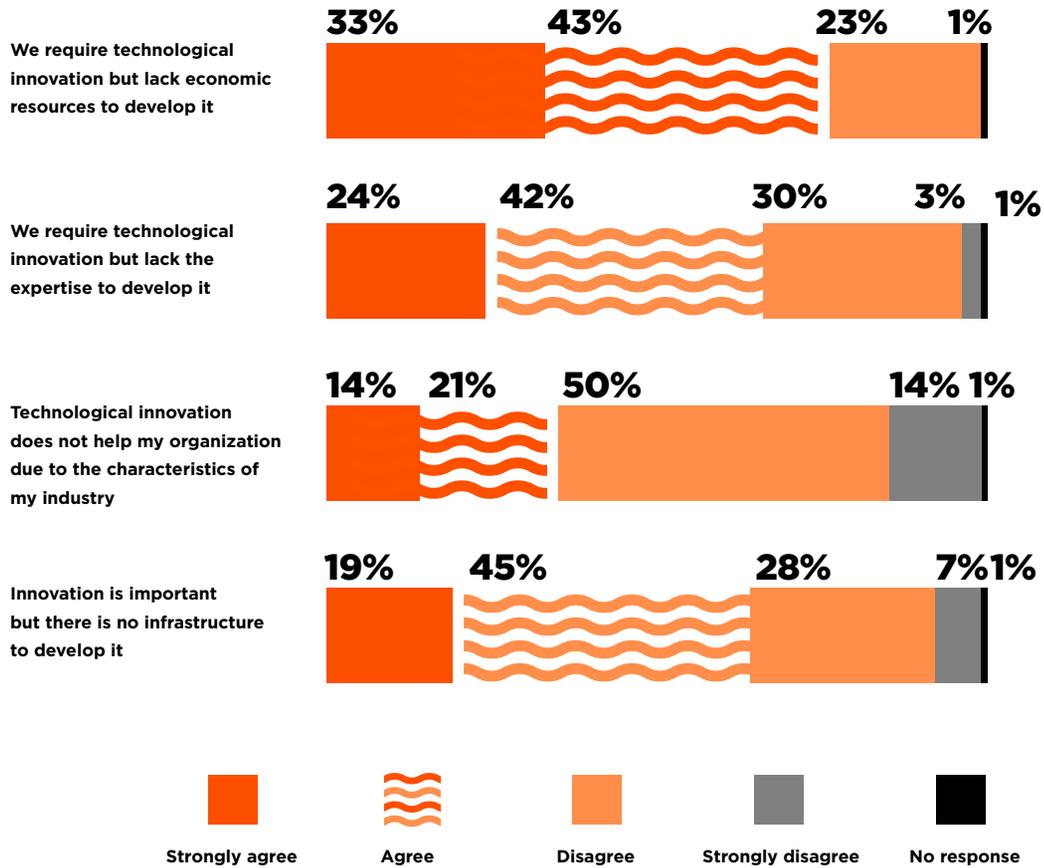
Other important factors mentioned by respondents were restricted promotion or dissemination of gastronomy events due to the lack of technological means (27%) along with concerns about not reaching target audiences (19%). This data is relevant since an aprioristic interpretation of results can lead to the impression that the sector is not concerned at all with technological development and innovation. But our survey shows that respondents consider technology as insufficiently employed for dissemination and promotion purposes. Furthermore, this technological divide can be credited mainly to a lack of economic resources.

Graph 8. **Restricted services due to lack of technological means**



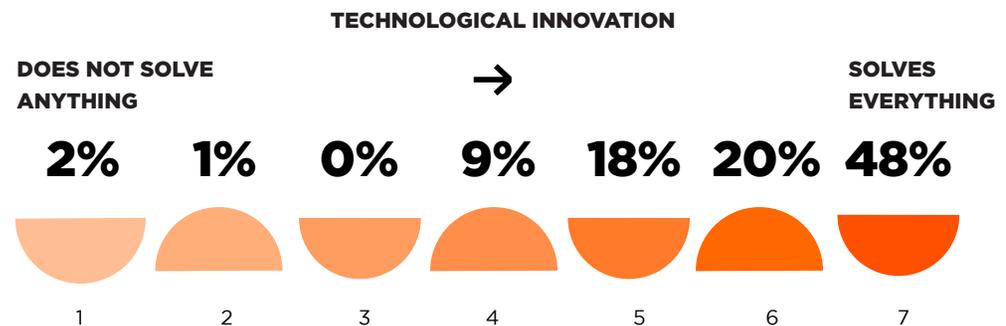
Almost half of the respondents did not have monetization systems to face the crisis. In addition to a lack of digital financial structure, we must consider a systematic time lag in the region, where an informal approach is the rule, as it will be explained in the next section.

Graph 9. **Technological innovation**



Perception of technology as an essential tool has increased since the outbreak of the pandemic and its severe consequences. However, some of the respondents still believe that technological innovation is not useful or does not cover the specific needs of the gastronomy sector. On the other hand, those who do not question its relevance, identify the urge for specialized knowledge and the lack of economic resources and funding as two issues to be solved to successfully adopt new technology.

Graph 10. **Perception of the use of technological innovation to solve current challenges**



Unlike what can be concluded in Graph 9, whenever technological innovation is directly linked to immediate and future challenges, most of the respondents agreed on its importance almost unanimously (see Graph 10). The pandemic in this case has spread the idea of the digital world as a perfect context to solve future crises. Technology and innovation are held in the highest estimation, even if gastronomy businesses in LAC are being faced with significant challenges before being able to opt for them.

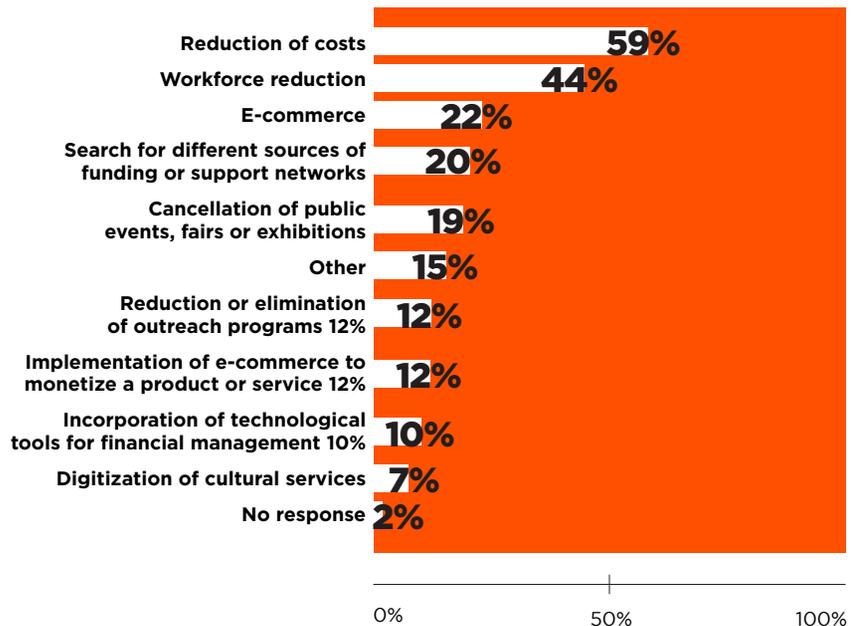
Graph 11. **Perception of using technology in the development of financial strategies**



Financial strategies or lack of financial strategies during the pandemic was another aspect covered by the survey. 51% of the respondents acknowledged not having any financial strategy to cope with the pandemic. Those who did admit having a strategy (45%) explained they mostly used it for staff cuts (44%) and operational cost reductions (59%).

This has resulted in a negative impact along the entire food chain, and on labor rights of those who are part of the gastronomic ecosystem.

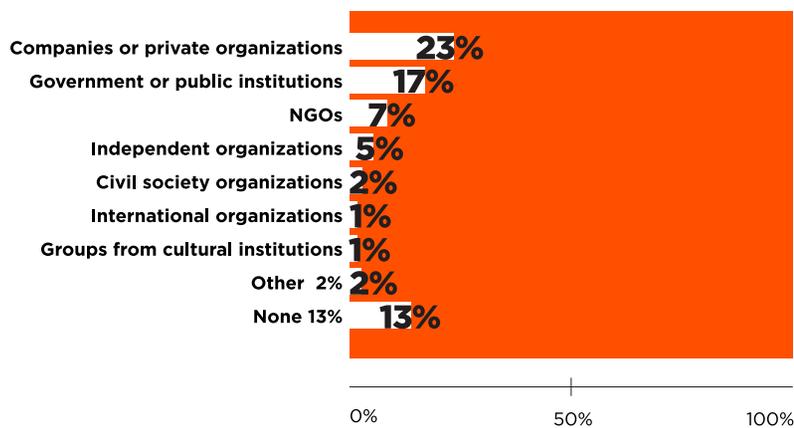
Graph 12. **Recently implemented financial strategies**



Support networks were built mainly by public institutions (17%) and private organizations (23%). Very few respondents reported having received specific support to maintain operations during lockdown. Although a sense of solidarity has been reported, its relevance in our study is lower when compared to the situation of other cultural sectors. Only 13% of respondents admitted having helped other organizations, even if 71% of them describe people involved in the sector as being more supportive to each other.

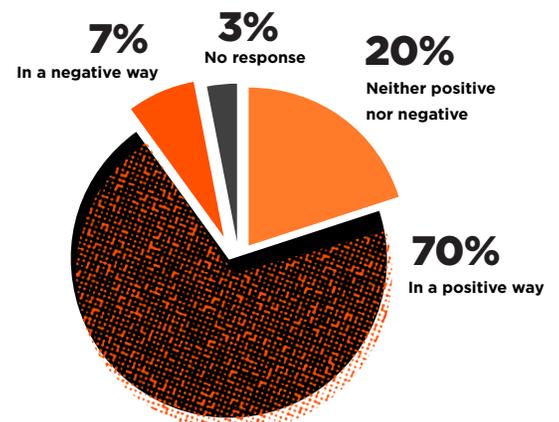
The data also shows the importance of having a public policy on the prevention of future crises to reduce negative impact on an extremely vulnerable sector.

Graph 13. **Support networks**

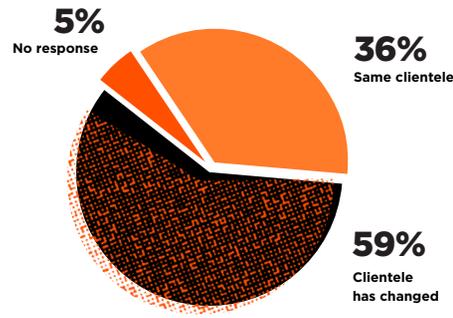


Reaction of clients to pandemic-driven changes and challenges was considered to be mostly positive, although in a less optimistic manner than in the case of respondents from other cultural sectors included in this editorial series (museums, tourism, education, performing arts, and festivals and carnivals). For most of the respondents from the gastronomy sector, customers have had a positive reaction, although two out of ten considered that most of their clientele remained indifferent, and for six out of ten it even had a negative effect.

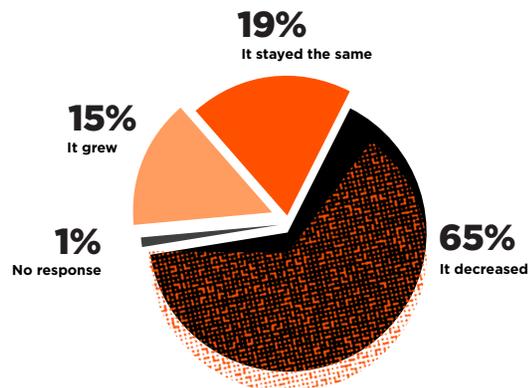
Graph 14. **Reactions from diners to COVID-19 changes**



Graph 15. **Type of clientele**

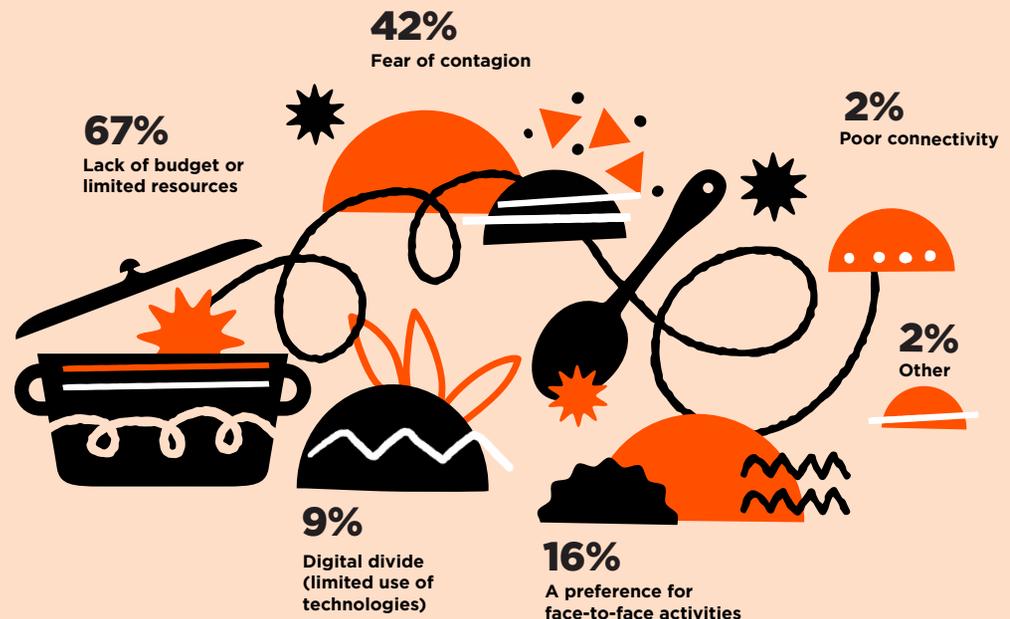


Graph 16. **Growth and decrease of the clientele during the last year**



Among the main reasons preventing diners from going back to restaurants are the lack of resources (67%) and fear of contagion (42%). Lack of resources in LAC is not an issue exclusive to the sector, but a wider factor discouraging demand in almost every sector of the economy, which is still having a real impact on local and global economies.

Graph 17. **Obstacles discouraging customers**



2.

Rethinking Gastronomy: Between the Face-to-Face and the Digital Experience



In digitizing the culinary offer, it has been possible for traditional companies and industries to apply the startup philosophy. In other words, to constantly pivot and innovate, giving the user and its demands a central role, while working horizontally to be more responsive.

—**Anaïs Iglesias**, lecturer in management and entrepreneurship at the Research Center of the Basque Culinary Center

Access to social networks has allowed many people to sell their products, reinventing themselves by migrating into the digital world, not only along the distribution process, but throughout the entire value chain.

—**Lázaro Rodríguez**, consultant and founder of Transformatorio

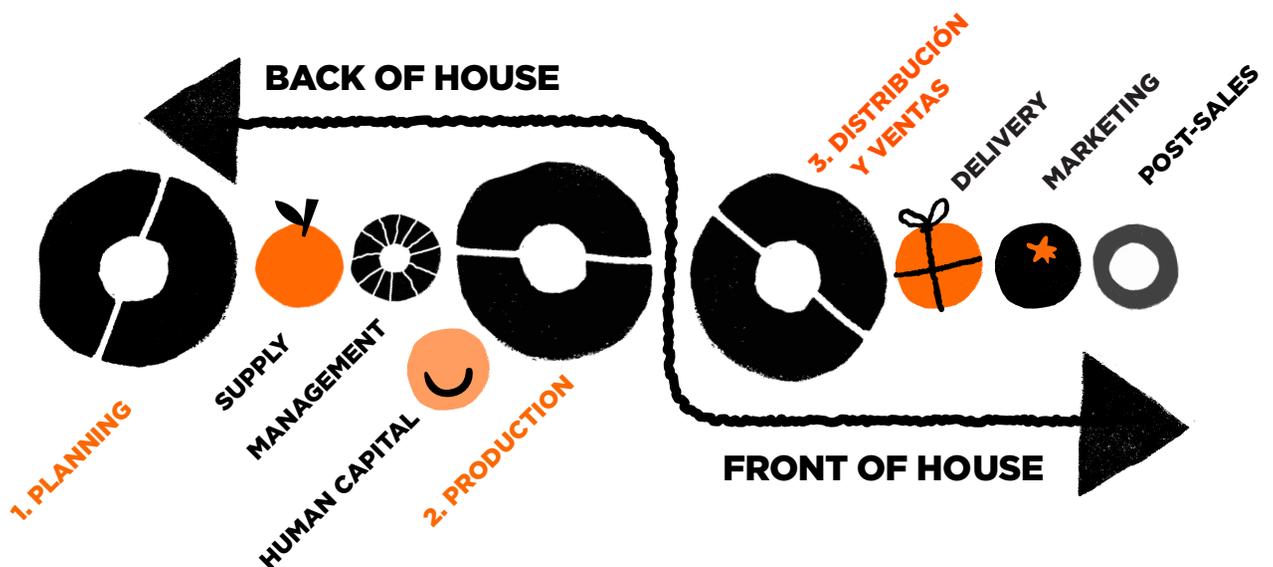
Anatomy of a restaurant: The value chain

A restaurant is one of a series of links in an economic, social and cultural ecosystem. In this research we aim to dissect it in light of the value chain, by tracking down major innovations in the entire range of gastronomic activities, from the production of ingredients to the creation of dishes and delivery.

The value chain is a notion recently taken up by public policy makers to highlight the importance of cooperation in value creation of a product, right from the time it is harvested or “conceived” until its final production and delivery. But in the case of the food value chain, we must also consider the moment when food turns into “waste”. By focusing on the complexity and extension of the process, we gain access to a comprehensive and in-depth understanding of how economic actors interact among each other, gaining a more suitable point of view to analyze and envision relevant public policy. Rather than understanding gastronomy as a dismembered process, our goal is to explore the impact of manifold factors on the economic development of the food industry and on the creation of jobs and well-being for our communities.

All the steps in the value chain fit into two areas of the gastronomy business: the Back of House and Front of House. Back of house activities are those occurring “backstage”—in warehouses or kitchens, for instance—while the term Front of House refers to those taking place at the moment when the company interacts visibly with its clients, conveying the service values of the brand (see graph no. 1).

Graph 1. Value chain in a restaurant



Planning: Deconstructing the digital warehouse

After shutting down permanently or temporarily, some of restaurants' main suppliers²¹ were also forced to stop production, disrupting the supply chain, and altering consumption patterns. Anaïs Iglesias, from the Basque Culinary Center (BCC) explains,

We realized how transversal food is to our society, in all areas that have been affected by this crisis, at the moment when gastronomy is still suffering its effects. It's not just about restaurants shutting down, but about disrupted supply chains, altered consumption patterns modifying our awareness, and making us change our priorities.²²

Selling produce from suppliers became a means of survival at some restaurants and served as a form of “cohesion or unification within the sectors, where parties now see themselves as part of the same continuum.”²³

The buy-local trend has highlighted solidarity among communities globally, bringing actors of the food value chain closer together. Some restaurants ventured into ecommerce almost naturally, building special sections on their websites to sell products and ingredients under their own established names, but also launching new brands designed especially for the online market. According to our interviewees, the pandemic has boosted their e-stores. Such is the case of Maito (Panama), by chef Mario Castrellón, who has managed to consolidate a “virtual food basket” made of upmarket products from its local suppliers. In addition, other signature cuisine restaurants such as Pujol (Mexico) or Evvai (Brazil), were transformed into impromptu boutiques selling vegetables, meat and other fresh produce, and even processed products, such as bread, butter or jams. Don Julio in Argentina, acquired a reputation as a retail business, expanding its operation as a virtual meat store and an on-site butcher shop.

While these examples are representative of some restaurants in LAC, others did not turn to the virtual world mainly due to its artisanal vocation and their focus on a close relation with customers. Chef Virgilio Martinez

21 Although in the specialized literature the terms ‘producers’ and ‘suppliers’ are usually interchangeable, here we will distinguish between the two concepts. For us, ‘producers’ are those local farmers providing basic inputs, and with whom restaurateurs have direct contact, whereas suppliers is a term encompassing anyone that facilitates any sorts of products (including third parties involved in the distribution of them), but also services and other items of the inventory such as furniture, silverware and linen.

22 Anaïs Iglesias (Professor at the Basque Culinary Center Research Center), interview by Isabel Gil, May 2021.

23 *Idem.*

from Mater Iniciativa (Peru), thinks that: “This digital and technological urge is now not so urgent for us, because our vision is more about connecting, and it has to be more authentic and real.”²⁴

Inside kitchen warehouses, digital efficiency has also become a clear priority. Restricted mobility of people and goods has urgently required more efficient ways of communication between restaurateurs and producers. Communication with suppliers before and during the pandemic was limited mostly to free message platforms, and even if using specialized software is a priority for restaurant owners, according to consultant and entrepreneur Enrique Landa (Veinte Veinte, Mexico) informality is predominant in the sector. Our quantitative study confirms his opinion. Only 10% of the respondents mentioned digital management systems as one of the technological advantages being currently functional at their business. Besides, when restaurateurs think about technology, they think of tools to improve processes like interaction with customers, payment systems, delivery and marketing, but they rarely list communication with suppliers as one of their priorities, thus wasting the opportunity to implement intelligent systems that can help them in the management of both stock and inventory, and even human resources at their facilities.²⁵

Considering the economic crisis faced by the sector, accessible and low-cost initiatives powered by digital and innovative tools can be of great advantage among restaurateurs. The Brazilian startup FoodStack, is a good example. Its flagship app is a smart invoice scanner that keeps track of the inventory of the restaurant, improving the restocking process, while automatically updating any increase in prices to calculate costs and generate automated profit reports.

Nonetheless, and without denying the advantages of such applications, the culinary sector needs 360° solutions that instead of concentrating on a single and limited area of a restaurant (warehouse, sales, post-sales service, and so on), it can largely simplify all administrative and logistical tasks.²⁶ As Enrique Landa points out: “Suppliers are not being included from a technological point of view [...] We have not yet reached that point where all aspects of technology can be fully integrated, even if we’re heading in that direction.”²⁷

²⁴ Martínez, interview.

²⁵ Aura / SIMO, “Quantitative study for the Series ‘Art, Culture and New Technologies in Latin America and the Caribbean’” (Mexico City: 2021).

²⁶ The Internet of Things (IoT) could be a good alternative to the constant human need of monitoring inventories. IoT is already being used by big brands to improve input tracking, or to aid managing other areas of their businesses like Human Capital Administration and Maintenance of Equipment.

²⁷ Enrique Landa (Operation Partner at Veinte Veinte. Strategic Supplies), interview by Isabel Gil, January, 2021.

Both owners and software suppliers are faced with the challenge of changing misconceptions on the cost-benefit ratio of these technologies, as well as to publicize their advantages from the point of view of competitiveness and sustainability. Chef Enrique Fleischmann, from the Bailara restaurant in the Basque Country believes that: “There are people who are reluctant and who are afraid of change, but they can learn, and they would end up losing their fears.”²⁸

In LAC, several comprehensive solutions have been launched, focusing on stock and inventory, sales and payments management, as well as other additional functions such as invoicing, tax records, and even delivery and loyalty programs, everything managed by one software. The advantages of such Point of Sale Software (POS) are manifold, from automation of administrative processes, to improving communication with suppliers, while preventing and reducing food waste (see comparison chart).

POS or POS systems that integrate communication with suppliers into inventory and stock management in LAC. ²⁹

Name / Country	Main Features	Link
Easy Pos (Mexico)	<ul style="list-style-type: none"> · Sales, inventory and stock management. · Order management. · Automated bookkeeping software. 	https://www.easypos.com.mx
Fudo (Argentina)	<ul style="list-style-type: none"> · Cloud-based. · Costs and sales Management. · Stock management · Order and suppliers payment Management. 	https://fu.do/es/
Gal-Da (Peru)	<ul style="list-style-type: none"> · Cloud-based and free version (with limited functions). · Inputs and stock management · Inventory management. 	https://www.gal-da.com
Gour-net (Chile)	<ul style="list-style-type: none"> · Hub of apps and software. · Production management. · Inventory management. 	http://www.gour-net.cl/#software

²⁸ LABe, “Digitalizarse para una ‘nueva normalidad’”, LABe, May 15, 2020, accessed July, 6 2021. <https://www.labe-dgl.com/en/news/digitalizacion-hacia-la-nueva-normalidad/>.

²⁹ Cfr. FUDO, “Los 5 mejores softwares para restaurantes en Latam”, accessed July 3, 2021 <https://blog.fu.do/mejores-softwares-para-restaurantes-en-latam>.

Traceability: A Universal Passport for Our Food

Global population began to care about the making of food after some major crises, such as the outbreak of the cattle disease known as “mad cow syndrome” (bovine spongiform encephalopathy), or even the avian influenza in 2009.³⁰ From then on, the importance of traceability—that is the ability to identify producers, distributors and retailers—, has grown considerably. Traceability is not only about ensuring biosafety for consumers, but also guaranteeing our right to be informed about the authenticity of a product.³¹ In other words, its purpose is to make the “DNA” of what we eat explicit: clarifying its place of origin, as well as the growing and raising methods of the ingredients in our plates: for instance, if they were genetically modified (GMO) if they were grown by organic or biological methods, and so on.

For some time now, platforms have been developing ways of tracking down products from “farm to fork”, combining strong databases with smart labeling retrieved through barcodes and QR codes, providing information on their growing methods, processing and transformation, and even on their transportation. Thanks to a digital app, all information can be synchronized and displayed in real time.³² Thus, in just a few seconds, the final buyer can know whether his cargo of potatoes is coming from California, India or Peru, what kind of water was used for its cultivation, or even the traveling distance from the warehouse to the final point of sale or consumption.

As an example, the Brazilian application SafeTrace offers, both to suppliers and restaurateurs, a digital cloud-based set of solutions. Through a scanner that reads a barcode, the final customer can find out in which city, what day of the week and with which fertilizer each batch stored in the warehouse has been grown. In addition, the app transmits alerts about changes in local sanitary regulations, or notifications about potential product contamination, in real time.

³⁰ See: *Trazabilidad y de seguridad alimentaria de la leche cruda de vaca*, Vol. DECRETO 31/200, March 13, 2007, accessed July 3, 2021, <https://www.euskadi.eus/y22-bopv/es/bopv2/datos/2007/03/0701536a.pdf>.

³¹ The Food and Agriculture Organization (FAO) defines traceability as “as the ability to discern, identify and follow the movement of a food or substance intended to be or expected to be incorporated into a food, through all stages of production, processing and distribution¹”. See: “Antecedentes, Inocuidad y calidad de los alimentos”, FAO, The Food and Agriculture Organization, accessed July 3, 2021 . <http://www.fao.org/food-safety/background/es/>.

³² Ángela Fernández, “Five Steps to Food Traceability”, *Modern Restaurant Management*, May 16, 2016, accessed July 3, 2021, <https://modernrestaurant-management.com/five-steps-to-food-traceability/>.

On the other hand, Anaïs Iglesias, from the BCC, thinks that traceability should be approached from a more sustainable perspective. Along with tracing the steps in the process, traceability should help reduce redundant intermediaries in the distribution and supply chain, so that products might reach the final consumer straight from farms. This will allow to “increase profits for the producer and empower the consumer on deciding from whom you want to buy, thus creating short food value chains.”³³ There is a growing awareness among diners and chefs to encourage more responsible patterns of consumption. It is not just about buying local products but about understanding that biodiversity around ecosystems is a more natural and sustainable approach to food. Anaïs Iglesias sees this process as an ecological imperative: by consuming seasonal products grown in our countries, we reduce our carbon footprint, instead of bringing ingredients or food inputs from all over the world.³⁴

Going back to the basics of food supply and lowering ecological impact, are ideas growing in popularity in LAC, like in the rest of the world. As Igor Ozamiz, chef de cuisine at the Higher School of Hospitality of Bilbao explains: “Perhaps, in our traditional pans and seasonal vegetables lies the greatest possible innovation for gastronomy: a return to our origins, to a diet based on zero km or zero mile food [i.e., ingredients not traveling long distances, grown in the exact same region where they are consumed] and on local markets and neighborhood stores.”³⁵

Sasha Correa, also from the BCC, suggests adding an element of social responsibility to the concept of traceability: “You need more transparency, not only to be aware where the ingredients you are being served come from or how they were produced, but how the restaurants you pick actually work. As a consumer, I would like to know what business models are behind the restaurants I support: how they build their menus, how they administer their businesses (how they deal with costs and remunerate their staff) and how they are working to make the food industry more meaningful”. In other words, it is important to know their policies on “their ingredients and methods, but also how they take care of the people that run and sustain their businesses”.³⁶

³³ Iglesias, interview.

³⁴ *Idem*.

³⁵ Verónica Gómez, “La saludable innovación de mimar el producto”, *El País*, December 27, 2020, accessed May 27, 2021, <https://elpais.com/espana/2020-12-27/la-saludable-innovacion-de-mimar-el-producto.html>

³⁶ Sasha Correa (Project Manager at the Basque Culinary Center), interview by Isabel Gil, May, 2021.

Finally, Gastrocampo, an app born in the entrepreneur program at the Basque Culinary Center, is committed to the digitization of what is called the “short circuit retail”. Considering the needs of small and medium size providers and farmers, it facilitates interaction between them and final customers in the supply chain. In this way, restaurants can establish a more direct, sustainable and equitable relationship with those who are the first link in the food value chain, the true cornerstone of the food system.

The City as an Infinite Nursery: Sustainable Supply Chains

In recent years, Green and Urban Farming have become consolidated assets in the European and American markets, offering to improve logistics and reducing high costs for remote transportation of goods. According to Jeffrey Landau, development director of Agritecture, an agency based in the United States with clients in more than 25 countries, this sector should reach a global market value of 6.400 million dollars by the year 2023.³⁷ In fact, Agro Urbana, a Chilean startup specialized in ecological farming, closed in June 2020 a financing round of approximately one million dollars.³⁸ Although there are several examples of Green and Urban farming in LAC, vertical and urban agriculture have yet to take off, offering growing investment opportunities in this niche market.³⁹ In Mexico, Verde Compacto Company (León) stands out by having developed a technology of its own, aiming at growing vegetables in closed areas through an automated system that saves water consumption, achieving a production higher in up to 200%, when compared to traditional methods.

The pandemic forced chefs and restaurateurs in LAC to reinvent their menus with a more flexible and practical approach, putting aside exhaustive and long pages for reduced and sustainable-centered versions of them. Maito (Panama) is a good example. As its chef Mario Castrellón recalls: “I refused, and I still refuse to offer a standard Maito dish for delivery because I know it will not travel in good conditions. So, what did we do? We somewhat deconstructed our concept”.⁴⁰ Other examples are Picchi

³⁷ Russell Hotten, “Agricultura vertical: el boom del millonario negocio de las frutas y verduras futuristas que crecen en las ciudades”, *BBC News Mundo*, September 4, 2019, accessed July 3, 2021, <https://www.bbc.com/mundo/noticias-49530857>.

³⁸ AgroUrbana, official website, accessed July 3, 2021. <http://agrourbana.ag/>.

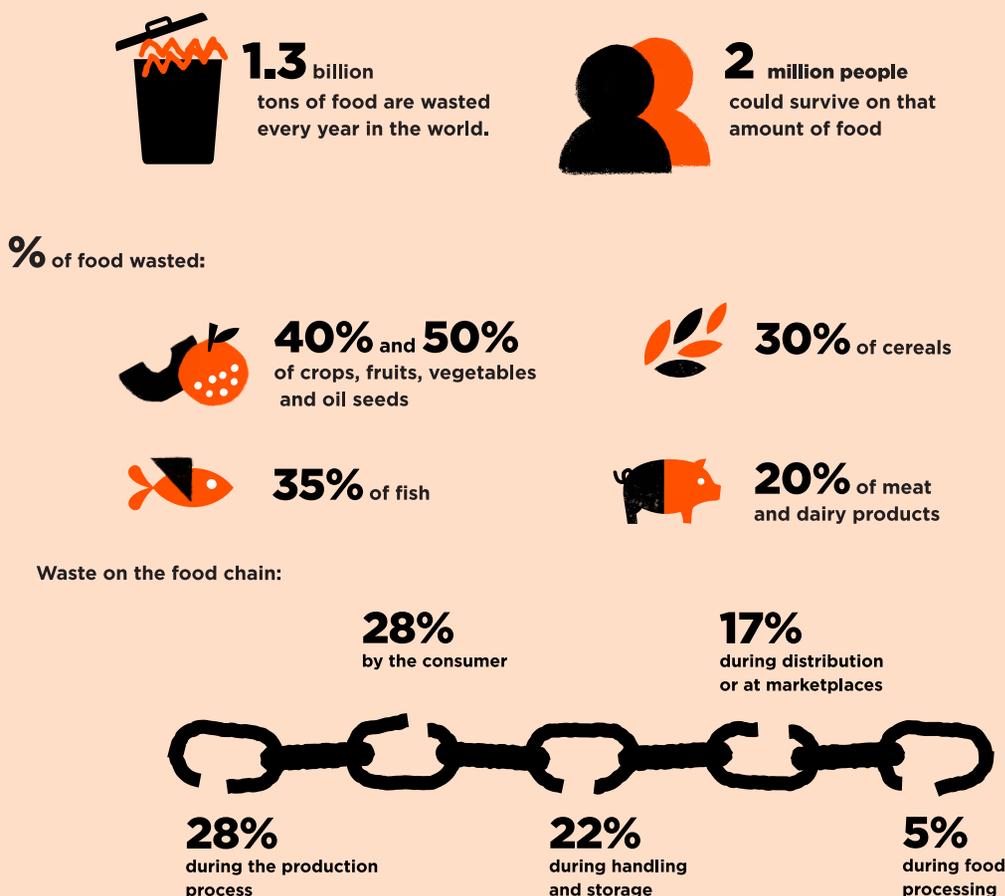
³⁹ Sol Park, “Los startups latinos que destacan ante el boom global de inversiones en Agtech y Foodtech”, *AETechno - AméricaEconomía*, April 1, 2021, accessed July 3, 2021, <https://tecno.americaeconomia.com/articulos/los-startups-latinos-que-destacan-ante-el-boom-global-de-inversiones-en-agtech-y-foodtech>.

⁴⁰ Mario Castrellón (chef at Maito), interviewed by Isabel Gil, February 2021.

(Brazil) or De Calle (Chile), where simplified versions of their dishes are served, focusing on bridging the spontaneity and authenticity of fine dining with techniques and strategies of the fast food industry. In other words, sophistication has been put aside searching for more flexible ingredients and recipes, forcing chefs to innovate and to care for functionality and not only for aesthetics.

From another perspective, the popular digital menu is here to stay, helping avoid menus as physical objects. Digital menus meet health regulations derived from the COVID-19 pandemic by restricting physical items among people within the restaurant. Some platforms in LAC, such as Frubana (Colombia) propose restaurateurs to digitize their menus, at no cost. In that way clients can have access to them on any personal device, via QR codes. This also allows chefs to update items on their menus continuously and faster, saving extra costs.

Infographic: **Food Should neither Be Wasted nor Thrown away, It Must Be Transferred** ⁴¹



⁴¹ See: FAO, *Sistemas alimentarios y COVID-19 en América Latina y el Caribe: Cómo disminuir las pérdidas y desperdicios de alimentos*, FAO, June 24, 2020, bulletin, no. 9. FAO, accessed July 4, 2021, <http://www.fao.org/3/ca9728es/CA9728ES.pdf>.

The following innovative digital projects have been developed to address food waste:

Food Finder	Brazil	Online catalogue where producers can log in to offer sales on products with close expiration dates. Through personalized notifications, the platform alerts restaurants about discounts and other promotional foods.
Muy	Colombia	This cloud kitchen chain, recently transformed into the Robin Food consortium. They use data analysis to implement smart menus. By collecting big data they can understand and improve understanding of their clientele preferences, optimizing their inventory process, and maintaining a diversified offer by brand and segment (green, fast food, traditional, etc.). They maximize different ingredients, used in different recipes according to their degree of ripeness. Tomatoes, for instance, are used in a salad while they're fresh, or in a sauce for pastas or pizzas when ripe, thereby increasing the life cycle of natural ingredients.
Gastromotiva	Brazil, with projects in El Salvador and Mexico	In alliance with Cargill, a company from the agri-food sector that produces grains, meats and transformed products, chef David Hertz prepares complete meals for vulnerable people using the surpluses of the multinational. Its success story shows that enterprises of different backgrounds and scales can unite around urgent issues for society, such as food safety and food sustainability. In response to COVID-19, the Gastromotiva division in Mexico partnered with the project Xochimilco Agro Ecological Initiative, based in one of the main urban agricultural areas in Mexico City, to buy its products, contributing to local economy and reducing food waste.
Nilus	Argentina, with projects in Mexico and Puerto Rico	The initiative connects food producers with community kitchens, taking care of transportation of goods and logistics. They apply state-of-the-art technology to add transparency and end-to-end traceability to their operation. An online geolocation and ordering system enables haulers to identify points of sale, collect orders and deliver them to customers. The startup has also partnered up with street markets in Mexico City and Buenos Aires to use produce otherwise discarded for aesthetic reasons (partially bruised fruits and vegetables or items having irregular shapes) and distribute them to catering businesses. They also propose highly nutritious recipes for charity diners made out of simple ingredients (available on their website and on their app), as a complement in fighting malnutrition in the region.
AgroSingularity BCC	Spain	The Basque Culinary Center, in collaboration with the MIT Media Lab, has developed a tool to ferment and reuse food waste based on the principles of circular economy: reintegrate into the production and value chain what otherwise would end up as waste. In addition, the Spanish platform AgroSingularitylived (created with the support of the BCC) transforms fresh, and short-living ingredients into raw materials, as powders and concentrates, for the food industry.

The world of gastronomy has mirrored changes and social challenges in LAC, especially when it comes to inclusion and diversity. There are many examples of individuals, “outsiders” of the market being encouraged to become active participants and protagonists of these changes. In Colombia, the restaurant chain Crepes & Waffles, founded in 1980 and known for its social and gender-oriented hiring policy (96% of their staff are women, most of them coming from vulnerable contexts) launched its own delivery program, based on motorized women, an initiative at first promoted primarily by the company’s own employees.

Technology has also been playing a major role. In Mexico, the multidisciplinary firm Mero Mole, that specializes in the food and beverage sector, merged the concept of microlearning (practical and brief content, explained in a simple way) with gamification: through a cell phone workers can spend ten to fifteen minutes completing a video game to develop skills on customer service, biosafety or handling of perishable products, without leaving their home.⁴²

Seeking to strengthen ties with their human capital, some global brands have reinvented their relationship with their employees. Bloomin’ Brands, an umbrella company with more than 1,400 restaurants worldwide, and Chipotle, a Tex-Mex food chain with more than 1,000 locations in North America, France, England and Germany, have turned the old human resource departments around. By restructuring them under criteria of social justice and gender equity, they have relabeled them centers for “Diversity, Inclusion, and People” where new training methods profiting from digital technology are being implemented. Chipotle, for example, announced an alliance with the Guild Education platform allowing its employees to access an online university education program, with debt-free tuition, focused on modern pedagogies and relevant certifications and programs for the food sector such as “Value Chain”, “Hospitality” and “Agriculture”.

However, not everything is bright when it comes to human capital. The negative impact that some technological changes have brought, in terms of job security, cannot be ignored. As Sasha Correa points out: “Sadly we take on creative solutions to do more with less, but in the long run they are not sustainable solutions: we end up reducing contracts, extending working hours, under more precarious conditions.” It is the task of governments and observers, such as the BCC, to analyze the effects of

42 Elizabeth Meza, “Hero Guest capacita staff de restaurantes”, *El Empresario*, February 28, 2018, accessed July 3, 2021, <http://elempresario.mx/tecnologia/hero-guest-capacita-staff-restaurantes>.

innovation from a social and cultural perspective, allowing both entrepreneurs and stakeholders to prevent conflicts and legislate on labor rights.⁴³

Production: The Restaurant Backstage

The Restaurant as a Startup: Research + Development

Research today is understood as a multidisciplinary task: not only an exclusive chore of the kitchen staff, and even carried out at laboratories and departments detached from the restaurant's physical location. That was the case of the now mythical "El Taller" led by chef Ferran Adrià in the beginning of the century. Some of the most important chefs in LAC, together with biologists, historians and anthropologists, have been facing the duty of recovering and revisiting traditional cuisines by experimenting with their ingredients and their methods out of heritage recipes. At Central, in Peru, or Gustu, in Bolivia, they have sought to create a dialogue between the Amerindian heritage and the gastronomic traditions of the world.⁴⁴

Mater Initiative, for instance, is an organization led by Malena and Virgilio Martínez, chefs from Mayo and Central in Peru. There, more than twenty projects led by anthropologists, engineers and artists are developed, in fields such as traceability or transformation of ingredients, mixing technological innovation with indigenous techniques and ingredients, like in the case of crafting a meat dehydrator for alpaca meat, using solar panels.⁴⁵ But the main contribution of Mater, according to its founders, is to collaborate and learn from established producers, a relation that grew stronger since the pandemic. For Virgilio Martínez this has meant returning to the farm:

Mater stayed in the countryside with the people [...] We are not farmers, but we can better understand their issues and learn more about what people need. As a result, the demand for indigenous products (such as potatoes or corn) has risen, the value has risen, the quality has risen. The

⁴³ Correa, interview.

⁴⁴ Charles-Edouard De Suremain, "Cuando la alimentación se hace patrimonio. Rutas gastronómicas, globalización y desarrollo local", *Travaux et Recherches dans les Amériques du Centre*, 2017, accessed May 28, 2021, <https://www.redalyc.org/articulo.oa?id=423853404009>.

⁴⁵ Mater, "Diseño de Artefacto para añejar Carne de Alpaca en altura", *Mater*, accessed July 3, 2021, <https://materiniciativa.com/disenio-de-artefacto-para-anejar-carne-de-alpaca-en-altura/>.

farmers thought that they were wasting their time working in the fields when people did not pay back what they deserved. But today we really appreciate what they do, since we depend on their superb products.⁴⁶

Another similar experience is that of Marsia Taha, head chef of Gustu in La Paz, Bolivia. When it comes to research and innovation at their restaurant, their main goal is to explore, revalue and disseminate the natural and cultural wealth of Bolivia, enhancing their food heritage and gastronomic culture, making gastronomy a source of pride and sustainable growth for Bolivians, and providing them with necessary tools to improve their living conditions as well as those of actors of the entire production chain.⁴⁷

In this changing world in which innovation is the guideline to stay relevant, different international institutes have focused on fostering digital innovation. The Basque Culinary Center, through its accelerator Culinary Action, promotes entrepreneurship, digitization and the implementation of technology in restaurants. It does not fulfil the role of a mere educational institute. On the contrary, it supports and advises students on their business projects, not only through training but also through mentorships, support programs, and implementation of good practice.⁴⁸

They have also launched a multidisciplinary project called LABE Digital Gastronomy Lab (see chapter 3), an innovation hub where an international panel of consultants provide young entrepreneurs with advice, while helping them test and adapt innovative initiatives at a living lab: real restaurant kitchens where they get feedback from real customers.

We can say that the ability to anticipate and manage crises, resorting constantly to creativity and innovation has become the key for success in the field, especially after the pandemic. According to Anaïs Iglesias, the focus is on “designing a flexible action plan that includes open and collaborative innovation shared by agents along the food value chain (or in connection with others), multidisciplinary teams, with rapid execution of activities: launching of new products, establishing alliances, and so on.”⁴⁹

The End of the World Restaurant: Robot Chefs, Kitchen Kits and Streaming

Since at least a decade ago, intelligent chef robots working in the kitchen for production processes have become a reality. Sally is an Artificial Intelligence system that works in a similar way to a vending machine,

⁴⁶ Martínez, interview.

⁴⁷ Marsia Taha (head chef at Gustu), interview by Isabel Gil, February, 2021.

⁴⁸ Correa, interview.

⁴⁹ Iglesias, interview.

personalizes salad bowls assembling fresh ingredients chosen by the client and presented in a cool and airtight container. Chowbotics, the company behind Sally, recently announced its strategic partnership with Doordash, the global delivery brand based in San Francisco, California.

Another case is that of Creator, a restaurant also in San Francisco whose most emblematic product is a hamburger created by a robotic chef in charge of the whole process of preparing your dish, from cooking the ingredients, preselected by the client, until its final presentation.

Beside the use of robots, 3D printers at restaurants are a trend to follow in the coming years. Sushi Singularity is a high-tech restaurant in Tokyo, offering a personalized menu based on biometric data (through a DNA analysis from a saliva sample). Once a nutritional profile has been generated, the printer creates tailored-sushi according to each diners' profile, condensing texture, flavor and digitized-nutrient values, using laser technology. Thus, the Japanese company behind the project heralds the arrival of the fifth revolution in food services. According to Open Meals, this type of technology will soon evolve towards formats with greater usability and low costs.⁵⁰

Is the Latin American market ready for this technology? The entrepreneur and gastronomic consultant Enrique Landa thinks it is, but in the long term: "Recouping that huge investment for Latin America is not easy. We depend on the recovery of the sector and on investors [...] The pandemic should accelerate these processes, because the opportunity is just there."⁵¹

When considering the human element in the face of new technologies, it is worth considering if all technology has positive effects, or if in some cases, rather than empowering users, it is taking away creativity and power from them. Ferran Adrià, a great exponent of technology as part of gastronomy, once stated that technology should aid the progress of cuisine, as it has been the case in most fields of human evolution throughout history.⁵² But others wonder to what extent technological tools boost or inhibit creativity. Anaïs Iglesias, from the BCC, believes in technology being neither good nor bad in itself, and must always support and never diminish human nature. In other words, it must empower those involved in the process: "Technology should not depersonalize gastronomy, otherwise we would turn into food industry."⁵³

The goal is to make restaurant operations more efficient, leaving more spare time for creativity, so that technological resources enrich the user's

⁵⁰ Regina Sienna, "Restaurante produce sushi impreso en 3D según tus necesidades de salud", *My Modern Met*, August 24, 2020, accessed July 3, 2021, <https://my-modernmet.com/es/sushi-impreso-3d-tokio/>.

⁵¹ Landa, interview.

⁵² elBulliRestaurante, "Nuestra cocina en 23 puntos", *elBullifoundation* (blog), accessed July 3, 2021, <https://elbullifoundation.com/nuestra-cocina-23-puntos/>.

⁵³ Iglesias, interview.

experience and not impoverish the chefs' work.⁵⁴ In other words, it is about personalizing technology and not depersonalizing gastronomy, preventing culinary traditions from being deprived of their most human trait: creativity.

According to Bernardo Milesy, director of GLOCAL, an AgTech accelerator founded in Argentina, although the artisanal methods of traditional cuisines seem always to be irreconcilable with global brands and their shift towards industrialization, LAC can offer some alternatives to harmoniously combine the analog with the digital world. Our region must transition from growing and exporting food, which has been its main activity, to become producers and exporters of technological services in agriculture and food.⁵⁵

Streaming is another phenomenon that has become normalized in digital gastronomy in recent years: chefs from all over the world have been sharing their life in their kitchens in real time, 24/7. The amount of time a consumer spends in front of digital screens has forced stakeholders in the field to generate massive and non-stop content, especially through streaming. According to marketer Omar Johnson, before the pandemic "the customer experience was [when] they get into your parking lot. The new customer experience begins when they wake up and ends when they go to sleep."⁵⁶

As a result, some chefs have ventured into the global trend of streaming platforms on Facebook Live, Instagram, YouTube or Twitch. Argentine Pedro Lambertini, a recurring host on El Gourmet, a specialized TV channel, began to broadcast his cooking sessions spontaneously, sometimes reaching more than 1,500 viewers per online session. According to Juliana Duque, it was about "providing a space for reflection and connection, while asking ourselves questions about society. Lambertini's 'live' broadcasts are a good example [of this...] As soon as the pandemic began, a community around cooking and food started to emerge, having a great impact on our thoughts about human nature".⁵⁷ During lockdown, sessions like these served as a meeting point, a bridge made of culinary experiences between chefs and audience in search for human contact, as a logical result of gastronomy's social nature. As Duque points out "Streaming became fashionable because people could see their heroes at their own homes, getting to know them at a personal level. It was like a demystification process, and at the same, a reassurance of the virtues and achievements of these respected characters."⁵⁸

⁵⁴ *Idem.*

⁵⁵ Sol Park, *op. cit.*

⁵⁶ Holly Petre, *op. cit.*

⁵⁷ Duque, interview.

⁵⁸ *Idem.*

Kitchen Kits: When A Chef Steps Into Your Home

According to some surveys, about 60% of the population in the United States admitted having spent much more time in the kitchen since the onset of the pandemic than ever before.⁵⁹ This trend fueled sales of kitchen kits, a market expected to reach a global value of 20 billion (USD) in 2027, at a growing rate of 13% per year.⁶⁰

In LAC, Lardo (Mexico) and El Día Que Me Quieras (Colombia) launched this type of “do-it-yourself” kitchen boxes, which have allowed restaurants to diversify their income while remaining alive in the imaginary and preferences of consumers.⁶¹

Álvaro Clavijo, chef at El Chato in Colombia, launched the “We Cook with You” kit, a set of ingredients prepared, semi-prepared or ready-to-serve, depending on the degree of complexity chosen by the client. The kit was sent with a set of instructions and links to video tutorials on how to complete the dish.

“Brico delivery” is a similar trend. At Barracuda MX, inaugurated in the midst of the pandemic, chef Roberto Ruiz offers a delivery menu with separate items and lists of instructions in which diners actively participate as “assemblers” of their own experience.

Distribution and Sales: Satisfaction Is Just One Click Away

Delivery and Dark Kitchens: Cravings on the Go

According to some reports, Latin American delivery services have grown

⁵⁹ Elaine Watson, “From scratch cooking to home baking: What coronavirus-fueled trends could linger post-pandemic?”, April 13, 2020, accessed July 3, 2021, <https://www.foodnavigator-usa.com/Article/2020/04/13/From-scratch-cooking-to-home-baking-What-coronavirus-fueled-trends-could-linger-post-pandemic>.

⁶⁰ Grocery Dive, “Meal Kit Industry Expected to Hit \$20B by 2027”, accessed May 27, 2021, <https://www.grocerydive.com/news/meal-kit-industry-expected-to-hit-20b-by-2027/579265/>.

⁶¹ Rodrigo Ruíz, “Platillos gourmet ‘hazlos tú mismo’: restaurante Lardo de CDMX ahora vende kits para cocinar sus recetas desde casa”, *Directo al paladar*, February 15, 2021, accessed May 27, 2021, <https://www.directoalpaladar.com.mx/eventos/nueva-tendencia-cocina-tu-restaurantes-ciudad-mexico-restaurant-lardo-lanza-diferentes-kits-para-cocinar-casa>.

exponentially,⁶² ranking second as the region with the highest growth in this field, only after Asia Pacific.⁶³

Comparison chart of estimated profits per country in 2021 according to Statista

Country	Profit (USD millions)
Brazil	3.800
Mexico	2.000
Argentina	891
Colombia	421
Chile	249
Peru	90

Lock-down, social distancing and mobility restrictions upon populations forced several restaurants to venture into e-sales and delivery, a business model until recently seldom explored. Gastón Acurio, chef of Astrid & Gastón, in Peru, admits: “Chefs trained at haute cuisine schools always frowned upon delivery, since we pictured it as an option only customized for the junk food universe, or fast food, arguing that our food does not travel well.”⁶⁴ Despite these reserves, Acurio himself, along with most of the continent’s top chefs, had to adapt to the new reality, launching delivery-friendly dishes and digital initiatives.

For Enrique Landa: “Restaurants did not pay attention to it, because it represented a minimum percentage of their sales: from 10 to 15%. Now everyone has come to realize that it is the only way to survive [...] Even if competition [in the delivery market] has become ten thousand times bigger than it was a year ago.”⁶⁵

This is how we went from signature restaurants by superstars’ chefs to dark kitchens. After the pandemic, dark kitchens (DK) became a massive

⁶² Stéphanie Chevalier Naranjo, “El pedido de comida en línea en América Latina en 2021”, *Statista*, March 12, 2021, accessed June 3, 2021, <https://es.statista.com/grafico/19027/ingresos-generados-en-pedidos-en-linea-de-comida-a-domicilio/>.

⁶³ Daniela Arce, “El auspicioso futuro del delivery en América Latina”, *América Economía*, January 26, 2021, accessed July 3, 2021, <https://www.americaeconomia.com/negocios-industrias/el-auspicioso-futuro-del-delivery-en-america-latina>.

⁶⁴ BCC, “Si el cliente no va al restaurante, el restaurante irá al cliente”, *Gastronomía360*, November 28, 2020, accessed July 3, 2021, <https://gastronomia360.bculinary.com/si-el-cliente-no-va-al-restaurante-el-restaurante-ira-al-cliente/>.

⁶⁵ Landa, interview.

global trend. DK are business models that can do without tables or areas of interaction with the consumer, thus reducing operational costs, cutting rent and extra staff salaries. Not surprisingly, several restaurants chose to transform their venues into DK and bet everything on delivery business models.

Although reducing commercial surface at restaurant facilities is not a novel idea (the DK market doubled from 2014 to 2019), the expansion of DK since the pandemic has been paramount, and according to estimations, its share in the global market can grow up to a trillion dollars in ten years.⁶⁶ Considering that any food business spends almost 50% of its total expenses in rent and salaries, the DK model has become more attractive at a time of crisis when keeping most of the commercial space underutilized seems just unaffordable.

According to press reports, in the first quarter of 2021 there were more than 400 DK in Brazil, Argentina, Chile, Peru, and Mexico. And although the market seems dominated by established brands or kitchen aggregators such as Muncher, Rappi or UberEats, the flexibility of the model allows for the participation of any type of individuals or entrepreneurs, operating from any commercial venue or even from home. For that reason, it is not only well-established restaurants who are venturing into the new DK scene, but also the general population from LAC countries.⁶⁷

Although there is no general consensus on how the terms “mirror kitchens”, “ghost kitchens”, “dark kitchens” and “cloud kitchens” must be employed, we have identified at least four business models:⁶⁸

1. Dark kitchens: In this model, restaurant facilities are designed to meet the needs of a delivery business company, following specific trends of cuisines or food in high demand, such as Italian, Mexican, healthy, pizza, and so on. In addition, DK brands are designed to attract different

⁶⁶ Laura Reiley, “A pandemic surge in food delivery has made ghost kitchens and virtual eateries one of the only growth areas in the restaurant industry”, *Washington Post*, September 17, 2020, accessed July 2, 2021, <https://www.washingtonpost.com/business/2020/09/17/virtual-ghost-kitchen-restaurants/>.

⁶⁷ SAS, Editorial La República, “La pandemia y las cuarentenas dispararon el uso de las cocinas ocultas y sus domicilios”, *Diario La República*, accessed July 6, 2021, <https://www.larepublica.co/empresas/la-pandemia-disparo-el-uso-de-cocinas-ocultas-espacios-especializados-en-domicilios-3152939>.

⁶⁸ For this summary we follow Héctor Shibata Salazar from the Universidad Tecnológica de México. “Los modelos de negocio de las cocinas fantasma”, EGADÉ, August 5, 2020, accessed July 3, 2021, <https://egade.tec.mx/es/egade-ideas/opinion/los-modelos-de-negocio-de-las-cocinas-fantasma>.

- socioeconomic segments. An example from this category is Foodology in Colombia, recently awarded with the Harvard Entrepreneurship Award, for its growth of 30% per month during the pandemic.⁶⁹
2. Virtual kitchens: These are companies offering restaurants digital branding and digital marketing based on data intelligence. They do not engage in the operation of the restaurants but rather focus on virtual marketing and customer loyalty through reward programs. They charge a percentage of the profits as if it were royalties. An example of this category is Cloud Foods in Brazil.
 3. Kitchens as a service: They work exactly the opposite way virtual kitchens do, namely, they are dedicated to managing the Back of House on behalf of a third-party brand. They prepare dishes and use their logistics expertise to efficiently “customize” dishes for established and well-known brands, or even new ones. Mimic, in Brazil, is a good example of this category.
 4. Kitchen aggregators (KA): Delivery companies offering restaurants the same business model as virtual kitchens but adding delivery services. Most of the time they include a real estate model (rental of facilities and venues). The big difference for KA is technology, a database of loyal users and the expertise in last mile delivery services. Most iconic examples include Rappi in LAC, and Deliveroo in the UK. In addition to a commission on the delivery, KA companies get a share of the profits from their partners.

<p>Dark Kitchens</p> 	<p>Kitchen-as-a-service</p> 
<p>Virtual Kitchens</p> 	<p>Kitchen-Aggregator</p> 

⁶⁹ Laura Lucía Becerra Elejalde, “Foodology, la startup colombiana ganadora del premio al emprendimiento de Harvard”, *La República*, April 20, 2020, accessed July 3, 2021. <https://www.larepublica.co/empresas/foodology-la-startup-colombiana-ganadora-del-premio-al-emprendimiento-de-harvard-2994346>.

Virtual, Mirror, Dark, and Cloud Kitchens in ALC

Virtual pop-ups: restaurants as happenings

Not only traditional restaurants or delivery platforms have ventured into conquering virtual commerce. Different food brands were actually born without a venue, betting everything on digital marketing and digital platforms, for a short period of time. Like a rock festival or a football game, its attractiveness depends on its unique and ephemeral existence. When a specific date set in advance finally arrives, the virtual restaurant disappears. Palta Sabor Latino was a good example of this type of pop-up-restaurant. Created by chef Alejandro Cuatepotzo (Mexico) with collaborations from other guest chefs such as Marsia Taha, head chef of Gustu (Bolivia), it has been an important initiative in the LAC market. As Taha herself explains: “In times of crisis...as cooks we must be more united and resilient than ever. I am happy to merge two Latin American cuisines and take Mexicans on a trip to Bolivia through our kitchen.”⁷⁰

Dark Kitchens in Perspective: Future Reincarnations of a Digital Ghost

Advantages of dark kitchens in today’s world are indisputable. In a possible post-COVID-19 scenario, the structure and equipment adaptations to meet social distancing protocols and regulations might come with a reduction of the number of clients capacity at facilities, making it difficult for businesses to keep paying high rents as a fixed cost.

And while some corporations like Alsea, in Mexico are dabbling in the DK market, others seem more cautious.⁷¹ Interestingly enough, great chefs of the region, those who have highlighted the restaurant as an experience, revisiting ancestral knowledge and ingredients, have a different approach on the matter. At Gustu, their plan is to get back to a traditional-physical-format, as soon as health restrictions have been loosened, but they still consider the DK model as a sort of wild card for future crises. Marsia Taha believes they might as well continue with the DK operation, but only if needed, since the restaurant can survive when fully booked: “When going back to normal we could cancel the platforms or maybe we could also keep them just in case.”⁷² Virgilio Martínez agrees on calling off the exploration of digital platforms, although he admits the transition has taught them several lessons: “When we thought about digitizing we

⁷⁰ María Hernández, “Marsia Taha y Alex Cuatepotzo juntos para el cierre del pop-up Palta Sabor Latino”, *El Universal*, September 17, 2020, accessed July 3, 2021, <https://www.eluniversal.com.mx/menu/marsia-taha-y-alex-cuatepotzo-juntos-para-el-cierre-del-pop-palta-sabor-latino>.

⁷¹ Cristina Ochoa, “Dark kitchen, el modelo de negocio, que se mantendrá tras covid-19”, *Milenio*, June 20, 2020, accessed July 3, 2021, <https://amp.milenio.com/negocios/dark-kitchen-modelo-negocio-mantendra-covid-19>.

⁷² Taha, interview.

asked ourselves why we should do it. What we do is bring the ancestral, the traditional, the artisanal to the contemporary world, and for that reason we also have to think globally and understand what our people are looking for... if we feel comfortable.”⁷³

This new model entails additional problems. With the moving of DK into residential neighborhoods, or suburban areas without commercial infrastructure, the problems of traffic and environmental issues have skyrocketed: motorcycles blocking streets and entrances, pollution coming out from ovens and invading schoolyards, waste accumulation all over public spaces, and so on. As Anaïs Iglesias points out: “Before, a DK was located in an industrial pavilion at the outskirts and it was cool as a model; now you see the urgency for regulation as “people who live in those buildings have to deal with these problems.”⁷⁴

The growth of DK requires a rapid regulation from local and federal governments, not only on environmental issues, but also on labor rights for employees, cooks, and delivery drivers.

The question is: Is the sector ready to bet on an eco-responsible and local delivery model, encouraging “delivery deglobalization”? Even if the advantages of global delivery platforms seem unquestionable, not all restaurants at the regional ecosystem level can easily adapt to their operation or their financial scheme. For Sasha Correa, the case of Uber is paradigmatic: “You may think that it is great that each restaurant can distribute its offer through digital platforms, increasing their market and fostering digital transformation. But without an adequate legal context to protect employees, they may end up as couriers with no rights, with their roles and positions changing unexpectedly.”⁷⁵

Faced with the expansion of giants like UberEats or Rappi, some micro-initiatives at a neighborhood scale have been launched as alternatives suitable for SMEs. In Mexico, Colectivo Tlacuache was a project designed by a group of restaurateurs established in a neighborhood traditionally dedicated to catering and hospitality, making “delivery at a fair price” their slogan. As an independent ordering platform charging 0% commission to delivery-service interfaces they partnered with Plataforma, a programming studio owned by Common Ground, the company builder that helped them develop the project’s technological infrastructure.⁷⁶ After the reopening

⁷³ Martínez, interview.

⁷⁴ Iglesias, interview.

⁷⁵ Correa, interview.

⁷⁶ José Manuel Aguirre, “Colectivo Tlacuache, las cocinas están abiertas”, *Disruptivo*. tv, n. d., accessed July 3, 2021, <https://disruptivo.tv/columnas-y-notas/colectivo-tlacuache-las-cocinas-estan-abiertas/>.

of restaurants, the platform has stopped operations. Half of their former clients, however, keep offering delivery and take-out using WhatsApp, while 20% of them migrated to platforms like Rappi and UberEats.

Despite this scenario, Andrés Villarraga, co-founder of Muncher, a Colombian company focused on DK with partners in countries like Mexico, believes that the surge will continue: “We estimate that by 2024, 10% of the 5.5 million restaurants in the region will have a DK and that only in Latin America there will be around 550.000 DK.”⁷⁷

Following these opinions, it is possible to envision a hybrid future for the LAC culinary scene: with a predominance of traditional establishments, but with the consolidation of DK, a segment already growing slowly out of the public eye.

Crowdfunding: Pay Today, Eat Tomorrow

Besides limiting the risk of contagion, prepayment methods aided capitalization of businesses in the food sector, where profits dropped to a minimum. Restaurant conglomerates like Takami in Colombia offered bonds and gift cards.⁷⁸ In Argentina, Compra Futura encouraged payments in advance, and bonds that could be used in small businesses, giving them the advantage of keeping track of sales and cash flow on their own administration systems.

From another perspective, crowdfunding emerged temporarily in the gastronomic sector. As with other initiatives, this participatory and social financing system encouraged users and diners to support their favorite restaurants and brands through digital donations. Unidos en la mesa (Peru) and Salvemos Restaurantes, from Culinaria Mexicana (Mexico), encouraged buying meal vouchers and tokens to support local brands, calling for economic solidarity through the ‘Buy Local’ movement.

As more restaurants reopened, the importance of these financial models has been reduced. Nonetheless, they are alternative ways of financial innovation for the sector.

Regarding cash flow and digital payments, despite a persisting financial digital divide, QR code payments and electronic wallets are trending in the region.⁷⁹ As Stas Matviyenko, the founder of the prepayment com-

⁷⁷ Cristina Ochoa, op. cit.

⁷⁸ Takami, *BONOS DE REGALO*, Takami (blog), n.d., Accessed July 3, 2021. <https://takami.co/bonos/>.

⁷⁹ Érika Astudillo, “La brecha de género también se evidencia en servicios financieros”, *El Telégrafo*, February 2, 2020, accessed July 16, 2021, <https://www.eltelegrafo.com.ec/noticias/economia/4/la-brecha-de-genero-tambien-se-evidencia-en-servicios-financieros>.

pany All Set, explains: “Before we had to go out and look for restaurants wanting to hear our solutions, now they are the ones looking for us.”⁸⁰ His opinion supports the quantitative results of our study, where respondents considered that incorporating technological financial solutions to the sector was crucial (see graph 9 of the first chapter).

Marketing: In Search of the Lost Clientele

Along with seating capacity being reduced to comply with health regulations, there was a dramatic decrease in worldwide tourism due to travel restrictions and border closures. All this in a context in which some LAC signature restaurants were reporting that, before the pandemic 60% to 70% of their clientele were international tourists.⁸¹

For that reason, the sector has had to face the challenge of attracting local customers again. Marsia Taha says the pandemic taught her that “tourism is not sustainable, because in the end, tourists come once and may never come back [...] it’s not like a lady who comes right here from your own neighborhood, and if she really likes the place, she’s going to come back at least five times and she’s going to bring more people along with her.”⁸²

Maito went through a similar process: “When we decided to position ourselves in the world of fine dining we kept changing and reshaping the menu adapting it to something that is not necessarily the local taste, because locals just want to go and chill at their long-time-trusted restaurant. That’s why Maito had lost some of the local clientele.”⁸³

Restaurants in LAC have been forced to regain local consumers from their own cities and neighborhoods, using digital-marketing campaigns, user-friendly menus and kitchen kits.

One such strategy is storytelling. By portraying restaurants as protagonists of their own survival story, and using the pandemic as a background, advertising attracted consumers with messages revolving around a storyline even leaving the product itself (like food, or plates)

⁸⁰ Joe Guskowski, “How the Coronavirus is Reshaping Ordering and Payment”, *Restaurant Business* (blog), accessed July 3, de 2021, <https://www.restaurant-businessonline.com/technology/how-coronavirus-reshaping-ordering-payment#>.

⁸¹ Reuters, “Alta gastronomía también lucha contra la crisis por coronavirus”, *Forbes México* n.d., accessed July 3, 2021, <https://www.forbes.com.mx/negocios-alta-gastronomia-tambien-lucha-contra-la-crisis-por-coronavirus/>.

⁸² Taha, interview.

⁸³ Castrellón, interview.

out of the narrative. With COVID-19 as the overarching narrative, restaurants sought to transmit messages of resilience and solidarity with their employees, as well as eco-responsibility and hope in the face of global uncertainty.⁸⁴

Brands tried to be perceived as closer to consumers, while conveying the gastronomic experience as an added-value service. As Virgilio Martínez, from Central and Mayo points out: “We had to do a work of rapprochement using more casual concepts [...] I used to say: ‘That’s what people should feel seated at their tables, like if they were traveling around Peru, to feel connected, and engaged, like a committed participant in this whole experience. Diners must leave with something to reflect upon: what do they eat, for what purpose, and for what reason they’re doing it.’”⁸⁵

And if marketing has been occurring mainly on the digital sphere, it has also been integrated into other steps of the value chain, the ones usually out of consumers’ sight. Producers have been particularly in the spotlight⁸⁶. By highlighting the origin of ingredients and inputs, producers have become recognizable faces, with an identity of their own, fostering the appreciation of dishes and restaurants by their own clients.

Today the urge for innovation, the ability to tackle challenges imposed by the pandemic, and even eco packaging and labor policies are under public scrutiny, conditioning positively or negatively on sales at food venues and restaurants.

Furthermore, packaging has become one of the most relevant vehicles for a gastronomic brand to communicate with their clients, given that delivery services are now in charge of the last and most direct contact with them. This has forced chefs to think of innovative strategies and smarter designs. In Chile, chef Benjamin Nast (De Patio, De Calle) sends his “take-away boxes” with elements recreating the typical environment of his Asian fusion cuisine (or “fusion-fake”, as he calls it), like an “Asian lamp” or the restaurant’s Spotify playlist.

Sophistication and added-value items aside, consumers are demanding more engagement in ecological responsibility. In Peru, it has been reported that the demand for ecological packaging grew 50%,⁸⁷ while in Mexico, according to the new plastic regulations (CDMX, 2021), restaurants

⁸⁴ Holly Petre, op. cit.

⁸⁵ Martínez, interview.

⁸⁶ For a definition of the terms ‘supplier’ and ‘producer’ see note on page 19

⁸⁷ Moisés Navarro Palacios, “Demanda de restaurantes por envases ecológicos creció un 50%”, *GESTIÓN*, n.d., accessed July 3, 2021, <https://gestion.pe/economia/empresas/demanda-de-restaurantes-por-envases-ecologicos-crecio-un-50-covid-19-pandemia-delivery-noticia/>.

have been forced to comply with new regulations and switch to sustainable packaging.⁸⁸

In fact, packaging was one of the major challenges Gustu had to deal with, when thinking about transitioning to delivery, as the head chef Marsia Taha explains: “[Delivery] is a concept in food which I do not support 100%, due to its poor sustainability and high contamination nature. But we had to balance it to get it right. We had to do a lot of research on suppliers; some of them are still using plastic, but their products are made of a biodegradable base of sugarcane bagasse.”⁸⁹

Since data from several organizations shows that almost 80% of plastics in the world are not being recycled,⁹⁰ the transition to biodegradable packaging seems a necessity.

After-sales Services and Data: A Crystal Ball Predicting Consumer’s Loyalty

Robust digital databases increase the ability to “predict” tastes and trends in the food sector. This has an impact on all the steps of the value chain, from planning and production to after-sales, customer satisfaction surveys, and even loyalty programs. From the consumer’s point of view, a customized experience equals a greater satisfaction, and even effortless and time-saving transactions.

For this reason, data intelligence is a crucial tool for the survival and innovation of the food sector. Rappi is a good example of digital innovation and decision making based on data. As María Ramos explains: “In order to give restaurants advice on time slots or about how much a segment is growing, we rely heavily on our data.... We support our partners by giving them guidelines on best-selling products in the area, or on average ticket, so that they can build a digital brand.”⁹¹

But data interpretation requires creativity: “You need intuition as well... you must see if a product is well established in a given market, country or region, and be brave...otherwise, if we were just trusting data, we would

⁸⁸ Arturo Ordaz, “Prohibición de plásticos pone en ‘aprietos’ a restaurantes de la CDMX”, *Forbes México*, n.d., accessed May 27, 2021, <https://www.forbes.com.mx/negocios-prohibicion-plasticos-aprietos-restaurantes-cdmx/>.

⁸⁹ Taha, interview.

⁹⁰ Roland Geyer et al., “Production, use, and fate of all plastics ever made”, *Science Advances*, July 17, 2017, accessed July 3, 2021, <https://advances.sciencemag.org/content/3/7/e1700782>.

⁹¹ María Ramos Terrazas (Project Managing at Dark Kitchens Rappi Mexico), interview by Isabel Gil, May, 2021.

end up selling only hamburgers, pizzas, and tacos, while also having to consider other indicators.”⁹²

Some have decided to launch their own applications in order to attract and keep audiences captive. For Maito, in Panama, this has meant the expansion of their brand at an international level. As Mario Castrellón, who has recently ventured into the North American market, explains: “It is very important to have a strong participation in e-commerce, because if you do, you can expand sales and diversify your offer. In Maito we have an integrated loyalty program application, it’s quite robust and ready to be used both in Panama and the United States.”⁹³

There are other examples of open data and democratization of technology. In India, BroEat!, a WhatsApp based home-delivery platform to discover menus & order food directly from restaurants and venues, has built a confident relationship with its clients based on digital transparency. Unlike platforms like Uber Eats or Rappi, BroEat! transfers all data generated during transactions directly to its partners. According to its founders, they have also decided to make delivery sustainable for businesses, maintaining a 5 % commission per order, even after the health covid crisis started, a much more affordable fee than the 25 % to 30% charged by other companies. Focusing on universal access to digital services, this is the first delivery app based entirely on the WhatsApp texting service. Its usability is a clear advantage for customers, while among SMEs, WhatsApp Business is perceived as a more user-friendly and accessible platform.⁹⁴

In terms of innovation, some apps like Cómete la fila (Skip the Line) in Mexico concentrate on just one in all delivery app, helping clients avoid downloading an unlimited number of them, one for each restaurant.⁹⁵

Public Policies: Legislating Innovation

Any analysis of the food chain must include development of public policy, since policy makers have the ability to enhance or hinder growth in the sector, to provide business with either flexible or paralyzing regulations.

⁹² *Idem*.

⁹³ Castrellón, interview.

⁹⁴ BroEat!, “India’s First WhatsApp Based Home-Delivery Platform”, *StartupTalky*, April 14, 2021, accessed July 3, 2021, <https://startuptalky.com/broeat-success-story/>.

⁹⁵ Cómete la fila, Check-eat, n.d., accessed July 3, <https://cometelafila.com>.

Most of the gastronomic entrepreneurs interviewed for this study have admitted a lack of familiarity, or even sheer disappointment towards public regulations recently enforced by their governments. In most cases, public policy has been limited to credits or subsidies that neither take into account restaurateurs needs, nor address their problems. In Colombia, according to Juliana Duque, the gap between real problems in the sector and government policy can be explained by a “patrimonial” view of things: “A state policy phrased from a cultural and heritage point of view may be useful, even crucial, but always insufficient.”⁹⁶

Anaïs Iglesias points out that we need active not passive regulations:

They must be not only about subsidizing seasonal workers payments, but about actively training them in any given technology or in food handling. It is a 100% renewed concept. It is a good thing that there are subsidies for food promotion, for example, but today that can be done online. Why not devote the same subsidy to food processing projects? You have to be critical of the way the system works now.⁹⁷

Besides the need of a horizontal dialogue among stakeholders to reach a goal-oriented and transparent financial scheme, customized for the sector, what has become urgent is a legal frame for the newest digital business trends. Anaïs Iglesias explains:

New economy and labor models go faster than the legislation under this scenario. Riders [motorcycle drivers doing delivery] are working under a fake self-employed scheme and as a result they are not eligible for social security. Now is the time for a season of legislation, of normalization of Dark Kitchens, and all delivery platforms, so we can fix this current mess.⁹⁸

It is not a question of discouraging economic recovery or hindering the rise of these new models, but rather of generating a competitive market, as Iglesias suggests: “Governments must guarantee equal conditions and a legal frame for competition when it comes to markets. They also have to be more flexible because after three years a regulation can end up being out of date; they have to plan and plan again. It is about applying the startup method to everything, even to governing or public policy making.”⁹⁹

⁹⁶ Duque, interview.

⁹⁷ Iglesias, interview.

⁹⁸ *Idem*.

⁹⁹ *Idem*.

Thriving startups are often based on business models one step ahead of regulations. This state of affairs has produced complex issues like delivery drivers not respecting traffic regulations or industrial kitchens occupying residential spaces, or even more recently, fines and sanctions imposed by the Department of Industry and Commerce of Colombia to Rappi, punishing its insufficient protection of personal information from users¹⁰⁰, as well as not attending demands to comply with labor rights by partners and unionized delivery drivers working for the app. Similar to other delivery app cases, riders are considered partners, not workers, depriving them of their rights, like rest days or health insurance.

This has led governments to search for explorative public policies focusing on leveling and regulating the situation. The Mexican Institute of Social Security (IMSS) recently signed an agreement with digital platforms of passenger transport and food delivery services such as DiDi, Rappi and Uber, in which drivers and distributors have entered a social insurance pilot project for independent workers.¹⁰¹

100 “Superindustria multa a Rappi por reiteradas violaciones al régimen de protección de datos personales”, *Superintendencia de Industria y Comercio*, Gobierno de Colombia, October 19, 2021, accessed November 2, 2021, <https://www.sic.gov.co/slider/superindustria-multa-rappi-por-reiteradas-violaciones-al-r%C3%A9gimen-de-protecci%C3%B3n-de-datos-personales>.

101 “Las claves sobre el convenio del IMSS para repartidores y conductores de apps”, *Expansión*, October 1, 2021, accessed November 2, 2021, <https://expansion.mx/empresas/2021/10/01/imss-para-repartidores-conductores-uber-didi-rappi>.

3. Cases of Innovation



Innovation will always be a part of our history, in traditionally working with our communities, in connecting people, in making communities, their products and their traditions visible.

—**Virgilio Martínez**, chef (Central) and director of Mater Iniciativa

The six cases of entrepreneurship that follow are a sample of many who, during the pandemic, innovated and expanded the mission of their organizations into the digital world. Their strategies demonstrate how the gastronomic value chain can be deconstructed in the digital sphere, contributing to the growth and consolidation of local economies. A restaurant—whether a street cart, a food chain or a fine dining one—has transformed itself into an actor in a continuous changing scene: the resilience of a gastronomic brand seems to be related to its ability to participate in multiple dialogues, while responding to the needs of suppliers and audiences in the digital world. The more integrated into the virtual space, the more a brand will be able to partner with other brands and suppliers, to build alliances and establish networks. The new normal has brought us back to a gastronomic experience largely similar to the one we knew before the pandemic—that is, a meal served in a physical setting, at a restaurant’s table. Nonetheless, the following cases show an unstoppable paradigm shift in the field, not only when it comes to seeking innovative ways of communicating with suppliers, but in every step of the value chain: in the production, sales, after-sales, and marketing processes.

Cocina con Alma (Soul Kitchen). Costa Rica

Can Technology Shorten the Value Chain and Help Reactive Local Economies?

After a process of consulting and establishing alliances with leaders of the gastronomic and food sector in Costa Rica, the IDB identified the need to bring producers, restaurateurs and local consumers together, through training stakeholders in the standardization of recipes and processes. That was how *Cocina con Alma* was born, a project led by the IDB with the participation of SMEs from the local food, fishing and agricultural industries. Through this technological alliance, gastronomic entrepreneurs have an opportunity to generate profits thanks to a collaborative business model based on satellite kitchens, where gastronomic SMEs prepare dishes in their own kitchens (either at home or at restaurant facilities), which are later sold on the delivery app “*Cocina con Alma*”.

All recipes were designed by local chefs, considering ingredients that could be furnished by an association formed by producers from the local fishing and agri-food industry. In doing so, the value chain is shortened, eliminating intermediaries, and distributing profits in a fair way. In addition, freshness of ingredients is guaranteed, while fostering a sense of local and cultural belonging among their Costa Rican clientele.

It is expected that after the registration of SMEs in the Association of Local Producers and Cooks (APROCOL), a total of about fifty kitchens will be ready to start operations, with more room to continue growing. The project is built on two pillars of the IDB's 2025 Vision, supporting SMEs in LAC, and fostering digital innovation. The objective is to aid economic recovery of the sector in Costa Rica, where restaurant sales were particularly affected by the pandemic, with a drop of income of about 50% up to 85%.

BCC Innovation. Spain

How Can Research and Development Help Respond to Challenges in Gastronomy?

Faced with the need to generate specialized knowledge, while attracting the attention of institutions and governments to find sustainable business and financial strategies for the culinary sector, the Innovation Center of the Basque Culinary Center has engaged in the creation of applied knowledge on gastronomy and gastronomic experience. In dealing and mitigating the effects of a crisis like the COVID-19 pandemic, they have put a multidisciplinary team of chefs, biologists, chemists and food technicians to the test of demonstrating that it is possible to anticipate and react quickly upon real problems of the sector.

Composed by the BCC Innovation team, "Gastronomy 360: Four post-COVID-19 scenarios for the sector", along with specific food safety protocols dealing with the health crisis, the document anticipated and complemented other official documents and public guidelines. In addition, through one of its backbone projects: LABe - Digital Gastronomy Lab, a living lab for open innovation, they have organized live events, such as the streaming "4 Areas of a Restaurant towards a Digital Future", where solutions to the challenges facing restaurants today were discussed.

In October 2020, LABe also launched the second edition of the *Accelerator Culinary Action!* The project has supported seventy-four start-ups focusing on FoodTech and food innovation and five more through a program on digitization and RestTech. The program consists of taking part in an intensive bootcamp, 100% developed online, with mentors, investors, entrepreneurs, chefs, and influential consultants from the food and restaurant industry.

Maito. Panama

How can a Signature Restaurant Diversify its Offering to Grow in Times of Crisis?

Maito, a signature restaurant by chef Mario Castrellón, ventured into the realm of dark kitchens during the pandemic. Using Maito as the umbrella brand, they expanded their products designing delivery-friendly menus 1) Oban (Asian), 2) Besties (sandwiches and shakes), and 3) La Despensa (The Pantry). According to Castrellón, his purpose was to deconstruct Maito into sub-brands adapting them for fast food demands but adding the values of the quality and freshness of their ingredients. And so, they looked for the most popular gastronomic trends that would best resist delivery conditions.

Maito is an example of a successful transition into the digital market and even, as chef Castrellón points out, of a hybrid future, since he not only intends to maintain these new virtual brands but is also willing to move with them into physical venues, giving those new restaurants a tangible identity and a space where clients can walk in.

Regarding its delivery strategy, Maito waited to partner with mainstream digital platforms, trying first to establish enough cash flow. That is why they started capitalizing on WhatsApp Business, and after growing its liquidity they were ready to migrate to delivery platforms. In doing so, they avoided high commissions, and were able to stay afloat.

In addition to these financial advantages, being in charge of their own delivery had an impact on the kindness and personalized service for consumers assuring quality control of their products. Maito's waiters owning a motorcycle turned into riders representing the brand. By employing its own staff and not hiring a third party that would not care enough about control quality and branding, Maito found a hybrid solution for the delivery dilemma.

As a result, Maito's products have grown in acceptance positioning the restaurant as an innovative brand at a global scale. A Panamanian restaurant in the list of 50's Best LatAm list, it is widely recognized for replicating and reinventing popular urban food combining different regional flavors across Panama that reflect its identity as a melting pot of cultures and races.

Gustu. Bolivia

Can Gastronomy Contribute to Social Change by Increasing Food Equity?

Gustu was founded in 2012 by Melting Pot, Bolivia, an NGO created in 2010 by the restaurateur Danish Claus Meyer. What makes Gustu different

from other fine dining restaurants in the region is its culinary school where its founders seek to spark entrepreneurial spirit in its participants, while providing them with tools to put their own projects into practice, keeping in mind the improvement of vulnerable sectors of life across the country, as its main objective.

Based on a “we can change the world through food” philosophy, Gustu uses a zero km or zero mile food policy sourcing ingredients grown or transformed exclusively on Bolivian soil. In doing so, they promote respect for gastronomic culture, food heritage, and the sustainability of products around Bolivia’s different ecosystems.

Sabores Silvestres, its R&D department, is a laboratory where valuable information on Bolivian food culture is generated, searching for new gastronomic ways of employing traditional ingredients. This research governs the design of sustainable by-products adapted to the demand in a real global market, promoting the use of regional inputs.

During the pandemic, the school pivoted to online platforms such as Zoom, although the experimentation and involvement with the community still play a key role.

The work of Gustu and its *head chef*, Marsia Taha, has paid off in gaining more visibility. Gustu is currently considered one of the fifty best restaurants in LAC, while Taha was considered by Forbes magazine as a key player in promoting sustainable and responsible gastronomy as an engine for social change, and has also been awarded as the Rising Star Female Chef of Latin America in 2021.

Rappi. Colombia

How Can Big Data Be Used in the Creation of New Restaurants and in Consolidating Brands and Companies?

Since its foundation, Rappi was one of the first delivery apps that allowed cash payments, a modality that facilitated “access to hundreds of thousands of people who had not been able to participate in electronic commerce” in LAC. Rappi started as a courier and delivery service for large companies such as Walmart or El Corte Inglés, but since 2016, and thanks to its development in incubators and through several financing rounds, it is now established as one of the biggest delivery companies, with operations in thirty cities across Latin America. It is the second company with the largest investment in AgriFoodTech in LAC, reaching 300 million dollars.

During the pandemic, Rappi faced the dilemma of an increasing demand in a market hit by the partial or permanent closure of thousands

of restaurants. By March 2020, user traffic on the platform increased up to 40%. In this scenario, Rappi encouraged the development of Dark Kitchens, following its own business model in which data analysis merges with the company's expertise in delivery and digital marketing.

Unlike other delivery platforms that have ventured into the DK market, Rappi offers an adapted physical venue ready to be used by any entrepreneur willing to embark on this partnership business model. Advised by real estate operators, the company locates a free space at the epicenter of the data-driven heat zone map, investing in its transformation as a restaurant kitchen. As a result, new food SMEs and entrepreneurs do not have to invest heavily in official Capex.

Based on the analysis of consumer preferences, Rappi advises the SMEs on which meals are most in demand, where and at which time of the day. They can also look for alternatives to fulfill non-active time slots. For example, if a fast-food restaurant does not open during mornings, breakfast options with a lower average ticket can be offered to reach other market segments without increasing operation costs too much.

Finally, thanks to big data analysis, for a DK the capability to adapt and transform itself can be an instant process. If one dish does not sell it can be removed from the menu immediately, or if another is in high demand, it can be consolidated as a digital brand of its own.

4. Final Observations



Gastronomy must be a platform to promote societies. It has to be a tool for their development, inspiring and nurturing them at all levels, from the most physiological to the most philosophical aspect of it.

—**Juliana Duque**, food curator, writer and food studies professor

The big question that gastronomy has posed us with, is whether we are going to be able to create the necessary legal, social equity and sustainability contexts for the near future.

—**Sasha Correa**, project manager at the Basque Culinary Center

In 2020, a group of gastronomic experts from around the world, made up of chefs, critics and academics, undertook an imaginative and revealing exercise in futurology around a series of questions: What can we expect from gastronomy in the coming years? Will it be the end of restaurants as we know them? Will innovation and creativity be enough for some traditional restaurants (anchored in analogue principles and methods) to survive?¹⁰²

Some of its conclusions coincide with those of our study, especially in three main topics: a) sustainability as a mandatory medium-term condition for any gastronomic project b) democratization of restaurants driven by personalized and more flexible menus with needs from the 21st century consumers taking center stage; and c) the transition from global trends to experiences designed at a local scale: even if global dialogue among brands and cuisines will continue, the reaffirmation of unique national identities will become key in the culinary scene.

In the following pages we propose a possible route map to understand the field while promoting the consolidation of gastronomic projects in our region, in the context of competitive global and digital economies. Always bearing in mind the cornerstone of the IDB's 2025 Vision towards sustainable and inclusive growth: to support SMEs and to foster digitization.

1. Sustainability: Ecological Responsibility Should not Be an Extravagance, nor a Burden

1.1 Eating local means reliving the value chain while fostering regional economies. The use of local ingredients and local products reduces the number of intermediaries in the value chain. As a result, economic benefits for producers increase. Additionally gastronomic brands gain more prestige for themselves, as well as for their local traditions.

1.2 Research on local gastronomic traditions represents an opportunity for investment. The paths explored by some entrepreneurs in LAC are a good example of the investment potential of LAC cuisines, seen through the prism of the world. To transcend clichés and stereotypes, future chefs must be familiar with ingredients and methods from their own historical heritage. While the 'eating collective unconscious' of the 20th century was dominated by European culinary traditions, today the richness and

¹⁰² Nele Schwark, Victor Tiberius y Manuela Fabro, "How Will We Dine? Prospective Shifts in International Haute Cuisine and Innovation beyond Kitchen and Dish", *Foods* 9, no. 10, September 26, 2020, accessed July 3, 2021, <https://doi.org/10.3390/foods9101369>.

variety of native ingredients offer a possible renewal of historical and fusion cuisines in the 21st century.

1. 3 Gastronomic brands in search of sustainability need to better understand the value chain and partner up with other brands. Ecological and sustainable policies, such as eating local, reducing food waste and even sustainable packaging used for delivery, require synergies between brands. In the digital world, no one can survive in isolation. The transition of some restaurants as “take-away and delivery venues” (provisionally in some cases) is an example of the urgency of mutual understanding and proximity to other actors involved along the value chain, as to establish favorable and sustainable strategies and alliances among each other.

2. Democratization and Personalization: The Revolution of Clients as Co-authors of Their Own Experience

2. 1 The menu of the future: diversity dictates the dishes. With the increase of food allergies, environmental and ethical concerns (veganism, vegetarianism, etc.), as well as fashionable exotic or local ingredients, to design specialized menus has become a major task. Both at signature cuisine restaurants, or at fast food and street boots clients are demanding customized experiences addressing their needs, taste, and habits.

2. 2 Big Data: Loyalty programs and personalization. Digital devices and data mining have become a vital ally for restaurants. Not only the client’s purchasing history and food preferences, but also their complete profile (address, payment method, age and segment group), is a powerful tool to understand and satisfy their demands. However, in the field of big data analysis, it has become urgent to realize the importance of strong rules and legislation to protect the privacy and integrity of digital users.

2.3 If the diner does not go to the restaurant, the restaurant must go to the diner. One of the main lessons after lockdown is that you do not have to leave home to engage in a gastronomic experience. Kitchen kits sales, coupled with the popularity of online cooking lessons and bridelivery—where the clients must complete the last steps to assemble their dish, right after the moment of delivery— are examples of how food bands have expanded the ways we eat. As in other fields of economics, specialized knowledge—in this case the art and craft of cooking—has turned into a mechanism of empowerment for the consumer, instead of just an exclusive private good, as it was in the past.

3. Regionalization: Stubbornly Local in a World without Borders

3. 1 Digital media interconnects us with universal gastronomic experiences, replicable only at a local scale. The use of social networks, streaming and digital advertising in the gastronomic sector has become more than a trend, thanks to the consolidation of the final step in the value chain: e-sales and delivery. Delivery has blurred boundaries and responsibilities: previously local kitchens were producing, selling, and delivering their own product at a local scale. But in the universe of digital brands, an outsourced kitchen in Bogotá or Lima can produce a dish registered and billed by a San Francisco-based burger joint. Is there any space for creativity in the digital sphere? Only by embracing their own cultural background and national identity, chefs and restaurants can create unique concepts anchored in regional momentum, attracting local consumer again, and reaching wider audiences through digital technology.

3. 2 To develop a short local value chain, you have to think globally. Regarding well-established companies from the sales and delivery field, some examples discussed in this book show that to adapt and translate technology to the needs of a local market, you need solutions addressing specific and local idiosyncrasies. More than copying or importing business models, learning from global corporations might help local brands to participate in national value chains and find unique solutions to universal problems such as food waste or shortage of human resources.

3. 3 LAC can export gastronomic knowledge from a human rather than a global perspective. Unlike the franchise model adopted by giants of the food sector and multinational companies that prioritize quantity, some LAC chefs have opened unique restaurants in highly competitive markets such as Japan and North America. In some cases, the name and the concept were preserved, but always taking into account local ingredients and adapting their dishes to local demands. Mario Castrellón and Virgilio Martínez are pioneers of a regional business model that could be replicated. The prestige of Latin American culture and rich gastronomy, coupled with technological innovation, can foster continental entrepreneurship on a global scale, by placing the accent not on the quantity but on the quality of the final product.

4. Public Policy: Collaboration Is the Way

4. 1 Successful public policy must be formulated after dialogue and under consensus. Constant changes in the sector are pushing policy makers to

consider dynamism and flexibility when planning and implementing programs that must respond to real needs of entrepreneurs in the context of an ever-changing world. Guidelines must include an active rather than a passive approach in which training, learning, and adaptation is encouraged. To successfully translate LAC culinary momentum into economic growth advantageous for everyone, out-of-the-box ideas promoting the transformation and the incursion of LAC gastronomy into the digital world should take priority over a petrified vision of its museum like take of cultural and gastronomic heritage.

4. 2 Digital market regulations should promote competitiveness. The sudden appearance of dark kitchens, delivery platforms and virtual restaurants forces governments to react quickly and issue legislation on economic, labor, and environmental matters. To legislate, governments must take into account the real needs of the people involved. It is not about imposing burdens or hindering growth, but about fostering free markets, protecting workers rights and creating equal conditions for stakeholders.

4. 3 Hunger and malnutrition can be tackled by targeted and profitable investment. If the priority of LAC countries is to contribute to food security among their populations, the COVID-19 scenario must be a turning point. Governments must work together along with private actors in this matter. Technology offers profitable solutions (smart farming, apps reducing food waste, real-time communication with producers and suppliers) that can overcome an extended false dichotomy between paramount costs and limited profits when it comes to investing in ecological production systems committed to communities and the environment.

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Interviews

- Mario Castrellón (chef at Maito), interviewed by Isabel Gil, February 2021.
- Sasha Correa (Project Manager at Basque Culinary Center), interviewed by Isabel Gil, May 2021.
- Juliana Duque (food curator, writer and food studies professor), interviewed by Isabel Gil, February 2021.
- Daniela Gutiérrez Betancourt (project manager Dark Kitchens Colombia), María Ramos Terrazas (project manager Dark Kitchens México) y Stephanie Gómez Cardoso (project manager Dark Kitchens LATAM), interviewed by Isabel Gil, May 2021.
- Anaïs Iglesias (Professor at the Basque Culinary Center Research Center), interviewed by Isabel Gil, May 2021.
- Enrique Landa (Operation Partner at Veinte Veinte. Strategic Supplies), interviewed by Isabel Gil, January 2021.
- Virgilio Martínez (chef at Central and director of Mater Iniciativa), interviewed by Isabel Gil, May 2021.
- Lázaro Rodríguez (founder and consultant at Transformatorio), interviewed by Isabel Gil, February 2021.
- Marsia Taha (head chef at Gustu), interviewed by Isabel Gil, February 2021.

Quantitative study for this research

- Aura / SIMO, "Quantitative study for the Series 'Art, Culture and New Technologies in Latin America and the Caribbean'", Mexico City: 2021.

6. Glossary

A

Accelerator

Public or private entity whose mission is to promote business projects to accelerate their growth.

Artificial Intelligence

Combination of algorithms that replicate human intelligence, performed by machines.

Average Ticket

Metric that provides details on the average amount of sales per customer at a restaurant.

B

Big Data

Large and complex data set employed by organizations to make decisions and implement strategies.

C

Capex (Capital Expenditure)

Makes reference to investments in fixed assets.

Company Builder

Companies whose mission is to identify business opportunities leading to the creation of companies or startups.

Coworking

Collaborative workspace where a variety of companies or professionals carry out their activities.

Crowdfunding

Collective funding mechanism through a digital environment.

D

Data mining

Process by which data is searched and analyzed to facilitate decision-making.

E

E-commerce

System of exchange of goods and services carried out electronically or online.

H

Hidden Kitchen or Ghost Kitchen

Restaurant business model whose distribution relies only on a given delivery system or platform.

Hospitality

Industry related to tourism that emphasizes the importance of customer service, including accommodation and food.

Hub

A center of activity where companies or stakeholders from different backgrounds converge to promote collaborative work and co-creation.

P

Pick-up / Take-out

Alternative to the delivery model for restaurants in which the final consumer picks-up her own food.

Pivoting

Business model or methodology whose main goal is to change direction continually and strategically to improve and keep growing.

Q

QR Code (Quick Response)

Code that stores information in a matrix of dots or two-dimensional bars. QR stands for Quick Response.

R

Restaurateur

From the French word, *restaurateur* refers to owners or managers of a restaurant. It can include investors, chefs, or food shop owners.

64 **Retail**

Sales carried out directly between the company and the end customer in a small quantity.

S

Smartphone

Mobile device that has advanced digital functions like those of a computer.

Startup

Company in the first stages of operations, usually related somehow to technology.

Streaming

Multimedia technology that allows watching recorded or live content on digital platforms.

T

Touchless

Technology based on contactless interaction relying on A.I., augmented reality, sensors, among other components

Z

Zero kilometer / Zero mile / Okm.

Type of diet or cuisine that is based on products that have traveled less than 100 km until its final consumption.

7. List of Discussed Projects

Brand / Project	Country	Type	Pages
Central	Peru	Restaurant	8, 31, 43
Mayo	Peru	Restaurant	31, 43
Pujol	Mexico	Restaurant	22
Evvai	Brazil	Restaurant	22
Don Julio	Argentina	Restaurant	5, 22
Maito	Panama	Restaurant	22, 27, 42, 45, 51
Bailara	Spain	Restaurant	24
Picchi	Brazil	Restaurant	27
De Calle	Chile	Restaurant	27, 43
Gustu	Bolivia	Restaurant	31, 32, 39, 44, 51, 52
Sushi Singularity	Japan	Restaurant	33
Lardo	Mexico	Restaurant	35
El Día Que Me Quieras	Colombia	Restaurant	35
El Chato	Colombia	Restaurant	35
Barracuda	Mexico	Restaurant	35
Astrid & Gastón	Peru	Restaurant	36
Palta Sabor Latino	Mexico	Restaurant	39
Bloomin Brands	U.S. (global)	Chain of Restaurants	30
Chipotle	U.S. (global)	Chain of Restaurants	30
Takami	Colombia	Chain of Restaurants	41
Unidos en la mesa	Peru	Chain of Restaurants	41
Culinaria Mexicana	Mexico	Chain of Restaurants	41

Brand / Project	Country	Type	Pages
Veinte Veinte	Mexico	Consulting firm	23
Basque Culinary Center	Spain	University	22, 24, 27, 29, 32, 50
MIT	U.S.	University	29
Escuela Superior de Hostelería de Bilbao	Spain	University	26
Mater Iniciativa	Peru	Research Center	23, 31
LABE Digital Gastronomy	Spain	Research Center	32
Opentable	U.S. (global)	Digital Platform	10
Food Stack	U.S.	Digital Platform	23
Easy Pos	Mexico	Digital Platform	24
Fudo	Argentina	Digital Platform	24
Gal-Da	Peru	Digital Platform	24
Gour-net	Chile	Digital Platform	24
SafeTrace	Brazil	Digital Platform	25
Gastrocampo	Spain	Digital Platform	27
Frubana	Colombia	Digital Platform	28
AgroSingularity	Spain	Digital Platform	29
Food Finder	Brazil	Digital Platform	29
MUY	Colombia	Digital Platform	29
RobinFood	Colombia	Digital Platform	29
Guild Education	U.S.	Digital Platform	30
Mero Mole	Mexico	Digital Platform	30
BroEat!	India	Digital Platform	45
WhatsApp Business	U.S. (global)	Digital Platform	41, 45, 51
Rappi	Colombia	Aggregator	37, 38, 40, 41, 44, 45, 47, 52, 53
Deliveroo	U.K.	Aggregator	38
Muncher	Colombia	Aggregator	37, 41

Brand / Project	Country	Type	Pages
Uber eats	U.S.	Aggregator	40, 41, 45, 47
Colectivo Tlacuache	Mexico	Aggregator	40
Foodology	Colombia	Startup	37, 38
Cloud Foods	Brazil	Startup	38
Mimic	Brazil	Startup	38
Agro Urbana	Chile	Startup	27
Verde Compacto Company	Mexico	Startup	27
Gastromotiva	Brazil (El Salvador and Mexico branches)	Startup	29
Nilus	Argentina (Mexico and Puerto Rico branches)	Startup	29
GLOCAL	Argentina	Accelerator	34
Cargill	U.S. (global)	Food Corporation	29
Iniciativa Agroecológica Xochimilco	Mexico	ONG	29
Sally	U.S.	FoodTech	32, 33
Chowbotics	U.S.	FoodTech	33
Doordash	U.S.	FoodTech	33
Creator	U.S.	FoodTech	33
Open Meals	Japan	FoodTech	33

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