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Unpacking the business model: Food delivery platforms as 'multiple market makers'

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Abstract

Food delivery platforms constitute one of the largest objects of study in the field of the digital platform economy. However, to date, there are just a few studies that look at these platforms beyond aspects related to labour relations. This paper aims to advance in the theorization and empirical analysis of the development of the business model of food delivery platforms and analyse the relationship between platforms and providers. I argue that the development of the business model of platforms implies a process of marketization, given that platforms define and organise at least four elements that configurate a for-profit market (i.e. commodification, membership, governance and monetization). In the process of creating the 'core' market (i.e. the 'food delivery market'), they create or develop other support markets: the 'marketing market' and the 'gastronomy market'. For that reason, I assert that they are not only 'market makers', but 'multiple market makers' or 'market developers'. In addition, in that process, the platforms establish power relations with the providers from the gastronomy sector (restaurants, fast food outlets, pizzerias) and exercise algorithmic and non-algorithmic forms of control over them. To make these claims, this paper is based on a qualitative study of food delivery platforms and their relations with providers in the city of Buenos Aires, Argentina. I conducted in-depth interviews with members of chambers of commerce from the gastronomy sector and with providers and analysed contracts signed between the platforms and different types of food establishments.

Keywords

business model, multiple market makers, providers, algorithmic management, food delivery platforms

Introduction

Food delivery platforms constitute one of the largest objects of study in the broad field of the digital platform economy. Considering that labour is their main concern, most studies focus on themes associated with work and labour relations (e.g. the labour conditions of the platform workers, especially their precariousness) (ILO, 2021; Woodcock and Graham, 2020, among others), the (lack of) labour regulation (Aloisi and De Stefano, 2020; Todoli-Signes, 2017, among others) and the forms of control (mainly algorithmic management) exerted by the platforms and workers' resistance (Baiocco and Fernández Macías, 2022; Moore and Joyce, 2020, among others).

To date, a limited number of studies look at food delivery beyond the aspects related to labour relations. Some of these studies analyse the possible impact of food delivery platforms on the gastronomy sector using game theory models to explain the decision-making strategies of platforms and restaurants (Chen et al., 2022; Xiaotong Guo and He, 2022; Talamini et al., 2022). Others explore governance issues between food delivery platforms and restaurants (Yadav et al., 2022).

This article aims to advance in the theorization and empirical analysis of the development of the business model of food delivery platforms, as well as enrich research on social relations between food delivery platforms and other parties of the network they organise, principally the providers from

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the gastronomy sector (e.g. restaurants, fast food outlets and pizzerias). My specific questions are: How do online food delivery platforms develop their business model? How do the platforms relate to the providers in that process?

To answer these questions, I follow the approach that understands the digital platforms as a distinct mode of socio-technical intermediation and business arrangement (Langley and Leyshon, 2016), as well as the literature that identifies platforms as 'market-makers' (Drahokoupil, 2021; Richardson, 2019). I propose a framework to analyse how the development of platforms' business model constitutes a process of marketization, and I argue that for food delivery platforms, this process involves the creation of not just one market but multiple ones.

Methodologically, I conducted a qualitative case study. I analysed the development of food delivery platforms in Buenos Aires in depth, as well as the relationship between these platforms and providers from the gastronomy sector during and after the coronavirus disease 2019 (COVID-19) pandemic. This context is especially relevant for this research, taking into account that, given the restrictions on people's mobility, the gastronomy sector became dependent on platforms to be able to sustain its activity, and food delivery platforms took advantage of this situation to expand and consolidate their business model.

To carry out this research, I conducted in-depth interviews during two periods (last quarter of 2021 and first quarter of 2023): four with members of chambers of commerce from the gastronomy sector and twenty with providers (owners or managers of food establishments). Along with the interviews, I analysed four contracts signed between the platforms and different types of food establishments to identify how the relationship between them is constituted.

My main arguments are presented here. First, the development of the business model of platforms implies a process of marketization, given that platforms define and organise at least four elements that configurate a for-profit market (commodification, membership, governance and monetization). Food delivery platforms are not simply 'market makers', but 'multiple market makers' or 'market developers' entities, given that in the process of creating the 'core' market (i.e. the 'food delivery market' or 'logistic market', they create or develop other support markets: the 'marketing market' and the 'gastronomy market'. Second, in that process platforms establish power relations with providers and exercise algorithmic and non-algorithmic forms of control over them. The algorithmic control over the providers bears certain similarities and differences with the ways in which platforms control workers. Different providers have different possibilities of negotiating with platforms according to their profile (brand, size, pre-existing clientele) and therefore experience varying degrees of subjection to control.

This article is organised into four sections. In 'The business model of digital platforms' section, I analyse the main contributions of the specialized literature on the business model of digital platforms, present a conceptual framework to analyse how platforms in the development of that business model lead a marketization process and advance my arguments regarding the multi-market maker nature of food delivery platforms. In the 'Methodology' section, I outline the methodology used in this research. 'The business model of food delivery platforms in Argentina' section describes the development of the business model of digital food delivery platforms in Argentina, focusing on the concrete creation of the logistic market, the marketing market and the gastronomy market. In addition, I underline how in this process the platforms control the providers in algorithmic and non-algorithmic ways. Finally, in the conclusions, I present my main findings, contributions and possible lines of future analysis.

The business model of digital platforms

Digital platforms have progressively moved to the centre of contemporary capitalism at a global level, giving rise to the so-called 'platform capitalism' (Langley and Leyshon, 2016; Srnicek, 2017). They emerged from the intertwining of the availability of financial resources after the 2008 crisis and the expansion of digital technology and were strengthened in 2020 by the COVID-19 pandemic when many activities (socialising, work, education, commerce, consumption) were conducted virtually (Haidar and Keune, 2021).

In this context, digital platforms represent a distinct mode of socio-technical intermediation and a business arrangement that is incorporated into wider processes of capitalisation (Langley and Leyshon, 2016). Centrally, digital platforms constitute a new and dynamic type of firm that is in the business of organizing a market by coordinating demand among distinct parties. In tune with this, some authors identify platforms as 'matchmakers' (Evans and Schmalensee, 2016), 'market organizers' (Kirchner and Schüßler, 2019; van Dijck, 2009), 'multi-sided platforms' (Evans and Schmalensee, 2016; Hagiu and Wright, 2015) and 'market-makers' (Drahokoupil, 2021; Grabher and van Tuijl, 2020; Richardson, 2019) (Figure 1).

Taking into consideration the inputs from the literature about the main characteristics of the platforms' business model, I assert that digital platforms lead a marketization process. They actively create a market given that in order to develop their business model, they define and organise at least four main elements that configurate a for-profit market: commodification, membership, governance and monetization. These elements present substantial differences with the traditional businesses or 'pipelines'.

Commodification refers here to the product or service that digital platforms offer to their clients. While traditional manufacturing businesses buy raw materials, make products and sell them to customers, the 'raw materials' of platforms are the different groups of customers that they help bring together, and the main product or service that they sell to members of each group is access to members of the other groups (i.e. connections) (Evans and Schmalensee, 2016).

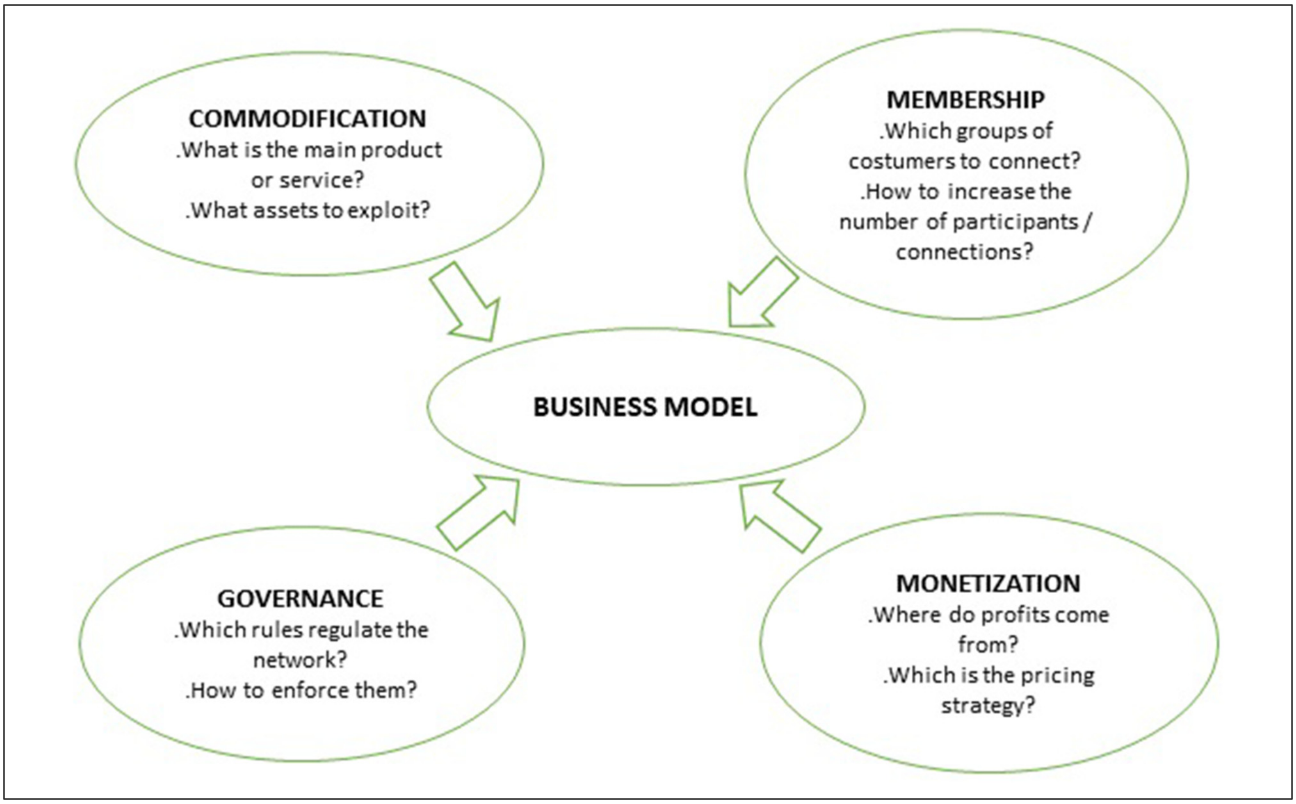

Figure 1. Marketization in the business model of platforms.
Source: Author's own elaboration.

Under this broad umbrella, the connections are related with specific economic activities (e.g. bring together drivers and persons who need a ride, guests with rooms). The opportunity for this business arises when frictions or transaction costs keep market participants from dealing with each other easily and directly.

The move from pipeline to platform involves a key shift from resource control to resource orchestration (van Alstyne et al., 2016). Traditional businesses control scarce and valuable assets like oil or intellectual property. With platforms, the scarce assets are the community or network they build (with the resources its members own and contribute, like cars, apartments) and data. This community is driven by infrastructural platforms, big tech companies which provide internet, coordinate communication and facilitate the collection and organisation of big data which improve the matching possibilities between many parties at the same time (van Dijck et al., 2018).

In addition, creating a market means that multi-sided platforms need to make decisions about network membership. They define which customer groups they want to connect with and develop a thick market, in which there are enough participants on each side that want to interact with enough participants on the other side (Evans and Schmalensee, 2016).

While the industrial economy was focused on the supply-side of the market (companies seek to reduce costs and increase sales), the driving force of the platform economy is the demand-side of the market (van Alstyne et al., 2016) or, in other terms, the generation of positive 'network externalities' (Evans and Schmalensee, 2016; Stallkamp and Schotter, 2021) or 'indirect network effects', which means that the addition of one type of participant to a network increases the value that participants of another type obtain. The larger the network, the better the matches between supply and demand and the richer the data that can be used to make more efficient matches (Parker et al., 2016; Codagnone and Martens, 2016).

The key of this business model is to create a market, and different companies contribute to that creation by attracting more participants and generating more connections. One or a few platforms based on higher investments of money tend to capture the entire market, constituting a kind of monopoly or oligarchy ('winner-take-all', Christophers, 2019), while other platform companies sell their segment of the market to the winners, thereby guaranteeing the profits derived from contributing to the creation of such a market.

The precondition to build a thick market is that the frictions the platforms are trying to solve are substantial enough to persuade participants to join the network. From there, platforms need to define strategies to pull customers in, which includes adding key users ('marquee customers') to one or more sides of the network in order to attract other players (Parker et al., 2016).

However, the challenge for platforms does not finish with founding a multi-sided market and bringing many participants, they have to govern it properly. While in a pipeline, the governance involves the optimization of an entire production chain, the emphasis on platform governance of the network shifts to 'persuading' participants (van Alstyne et al., 2016).

To achieve this, platforms devise and enforce rules for all the players of the network (Evans, 2012) formally through the 'Terms and Conditions'. Thus, the market created by platforms, far from being a free market with no regulations other than the natural supply and demand law, needs a set of rules in order to function properly. However, unlike the historical forms of the state regulation of markets recognized by Polanyi, those who device and enforce the rules of the network are the platform firms, which act as supra-party authority.

In addition, platform's governance implies that they monitor, evaluate and discipline the participants: '*Managers must watch for negative network effects and use governance tools to stem them by, for example, withholding privileges or banishing troublemakers*' (van Alstyne et al., 2016: 62). Revoking an account's membership is the most drastic decision a platform makes, as the mere threat of exclusion is enough to enforce the rules. Additionally, user evaluation systems decrease the need for direct sanctioning because bad user ratings result in decreased transaction chances and lower obtained prices (Kirchner and Schüßler, 2019).

Driving this processes are the algorithmic technologies, which extract and organise data as an input and transform them into desired outputs. Companies utilize user data to create new insights, improve algorithms, refine services, enhance business models and inform decision-making processes (Newlands et al., 2019). Key insights are derived from the performance metrics that reflect the quantity and quality of interactions like the 'sales conversion rate' (i.e. percentage of searches leading to interactions) (Parker et al., 2016; van Alstyne et al., 2016). The governance of the market requires a dedicated process of measurement and readjustment.

Finally, the marketization process also involves making decisions about monetization (i.e. the process of deriving revenue from the value offered to the users). As was previously pointed out, the main value offered by platforms to different groups of consumers is creating interactions or minimizing transaction costs.

While a pipeline business employs a step-by-step arrangement for creating and transferring value, with producers at one end and consumers at the other, platforms transform firms' traditional focus from internal value creation to an outward focus on 'external value creation' (van Alstyne et al., 2016). They do not create value, but because of increasing transactions, they contribute to its creation.

Digital platforms are rather predominantly rentiers since they capture value in the form of rent (i.e. income which accrues from the ownership, control and/or possession of a scarce asset) (Srnicek, 2021), which, in this case, are the network they build and data. There are several possible methods for capturing value or monetarizing, such as charges for access, charges for enhanced access and the most widespread, a transaction fee for one or more participants of the network. Unlike traditional business, the platform business offers the possibility that the profit-maximizing price derives from subsidizing one side of the market and charging prices that more than cover costs to the participants on the other side (Evans and Schmalensee, 2016).

Therefore, monetization methods and pricing strategies also require very targeted intervention from the platforms. In this regard, business administration books advise that platform firms should not be in too big of a rush to monetize, and that the market creation must be handled delicately (Parker et al., 2016).

In sum, taking into consideration that in order to develop their business model, digital platforms define and organise several aspects of a for-profit market, it becomes clear that they are not mere technological intermediary companies, but market-makers. At the same time, it emerges that the marketization process is not conducted just with algorithmic technologies, but on the contrary, it demands the commitment of managers who must make decisions on many aspects of the business model development and do it in the specific geographies where the platforms are embedded.

In line with these insights, food delivery platforms can be defined as creators of a market for the delivery of prepared meals (i.e. beyond the broad service of creating a network and organising interconnections between its participants, the specific product or service these platforms are selling to restaurants and their customers is a delivery service) (Drahokoupil, 2021; Richardson, 2019). From this point, I move a step forward and argue that the platforms, in order to develop properly their business, not only create the core market (logistic market), but also create or develop other non-visible parallel or subsidiary markets: the marketing market and the gastronomy market.

As was pointed out, digital platforms, including food delivery platforms, obtain profits from organising interactions in a network (in this case, between riders, costumers and providers). To have success, they must generate positive indirect network effects, govern the network with balance (which includes ruling and enforcing the rules) and follow a pricing strategy. Previous research noticed that to create the logistic market, food delivery platforms recruit labour force (riders), organise the labour process, monitor and control the workers through the algorithmic management system and define the prices paid to the riders (Drahokoupil, 2021; Haidar, 2023, among others). For restaurants, one of the key advantages of using the platforms is that they have available delivery workers without the responsibilities associated with labour relations. Instead, in many countries, like in the Argentinian case, platforms deny workers employee status by exploiting the gaps within the legal frameworks or ignoring existing regulations and direct, supervise and control the workers.

However, the specialized literature under-analysed the fact that in the process of creating and developing strategies to organise and make the logistic or delivery market more efficient and profitable, food delivery platforms offer providers an extra service, the marketing service which represents for the providers a novelty or displaces previous marketing strategies (commodification). This new service also requires that the platforms coordinate network effects (membership), dictate extra rules and enforce them (governance), obtaining for this service extra fees (monetization). Thus, food delivery platforms create a marketing market.

In turn, the development of the delivery market and the marketing market has strong effects on many aspects of the local gastronomy market like products, prices, the number of establishments and geographical distribution. Therefore, the food delivery platforms also stimulate in a subsidiary way the development of the 'gastronomy market'.

The recognition of food delivery platforms as multiple market creators arises from expanding the study of the relationships established by these platforms beyond the workers and focusing on the relation they establish with providers. This relation requires governance, and it is not exempt of pressure and control, as I will show. In the next sections, I will discuss how a comprehensive business model is developed by food delivery platforms and how in this process these enterprises relate with different types of providers in the city of Buenos Aires.

Methodology

In order to fully capture the development of the food delivery platforms' business model, focusing on the creation of parallel or subsidiary markets, I conducted an in-depth qualitative case study: the food delivery platforms and their relations with the gastronomy sector in the city of Buenos Aires, one of the most important capitals in Latin America. These platforms were established in Buenos Aires at the beginning of 2018 during a right-wing government led by president Mauricio Macri (2015–2019). One of the favourable conditions for platform development was an increase in available labour due to rising unemployment and labour informality[1], as well as the arrival of large contingents of Venezuelan immigrants. The other important condition that benefited platform companies was the political and ideological support from Macri's government.

On the one hand, in March 2017, the National Congress approved the 'Law to Support Entrepreneurial Capital' that created a new status for businesses, called a 'Simplified Joint Stock Company', which enabled the possibility of creating a company in 24 h, with a low initial capital (around two minimum wages) and without the obligation to present a balance sheet to the General Inspection of Justice. Under this modality, Rappi, Kadabra (Glovo) and UberEats were registered in 2018, while PedidosYa, which had already been operating in Argentina, adapted to the model of the arriving companies, laid off its workers and began to operate with self-employed riders. On the other hand, the government designed a labour reform project that included a new figure in the Argentinian legislation: the economically dependent self-employed person, a figure imported from the Spanish labour reform. Through it, the government sought to institute a more precarious form of labour contracting in line with business demands; however, the project was not even discussed in the National Congress because of trade union resistance.

Later, the pandemic, and in particular the social, preventive and compulsory isolation order (ASPO) issued by the national government in March 2020, marked a turning point in the growth of these companies: the delivery service sector was declared essential because of its strategic place in social reproduction, and the main platforms rapidly expanded their operations and concentrated the business, accelerating the constitution of an oligopolistic market. In September 2020, Glovo merged with PedidosYa (Delivery Hero) and, in October of the same year, UberEats stopped operating in Argentina.

The growth of platforms during the pandemic was fuelled by three phenomena: consumers, in order to minimise the risk of contagion, increased their use of apps; many workers who had lost part or all of their income became riders; and centrally for this paper's interest, providers from the gastronomy sector were forced to close their doors to the public and started to use food delivery platforms in order to keep their businesses afloat. Although to date there are no official public statistics about the number of delivery workers or the percentage of food establishments that use digital platforms, it is estimated that during lockdown, online food orders grew by 47% in Argentina (Mera et al., 2022).

To capture the status of the food delivery platform as multiple market makers, it is crucial to move beyond the analysis of the relationship with workers to chart the relationship between platforms with providers. However, to move forward with precision, it is necessary to clarify that providers have a different status than workers, given that they are partner companies and clients of the platforms. These companies are not identical, but have different sizes and have varied traditions and client portfolios, which would indicate different relationships, levels of dependence and possibilities to negotiate with platform companies.

With the aim of delving into this perspective and mapping out the contours of the gastronomy sector, I first interviewed representatives of business associations in late 2021: the Association of National Business Owners for Argentinian Development (ENAC) and the Association of Pizzerias and Empanada Outlets in Argentina (APPYCE). Secondly, based on these interviews, I identified the main profiles of providers in the city of Buenos Aires:

1. Large fast food and 'low-cost' chains, such as 'empanada' chains[2]: They make massive use of the delivery services of the different platforms, but many of them also have their own delivery service, which they

subcontract to companies already working in this area before the arrival of the platforms. As these chains are already well established in the market with a well-known brand name and a high volume of sales, they are less dependent on platforms.
2. Small- and medium-sized fast-food outlets and ice-cream parlours: These are neighbourhood businesses, many of them family-run, oriented towards on-premise eating, which before the pandemic, used to make home deliveries as a complementary activity, with a few of their own riders or workers contracted through delivery companies that pre-dated platforms. With the consolidation of the platforms, and even more so during the pandemic, they became fully or predominantly platform-based (some retained a mixed model with part of the delivery service being self-managed). Their dependence on the platforms increased, and, after the pandemic, they could not do without their services.
3. Eat-in restaurants and pizzerias: These are established businesses with well-known brands and a large volume of customers. Before the pandemic, they did not deliver takeaway food, but during the isolation, they had to do so to sustain their business, becoming very dependent on the platforms. Post-pandemic, they returned to the traditional business and stopped using delivery services.

In order to analyse the food delivery platforms' process of creating or developing multiple markets and characterise the relationship between providers and platforms, I conducted 20 in-depth interviews organised in two rounds of 10, with the latter two types of provider profiles at two different points in time (five interviews with representatives of eat-in restaurants and pizzerias profile and five with representatives of the second profile of providers, including a fast-food outlet, a burger chain and an ice-cream shop chain). The first round was conducted in the last quarter of 2021, a few months after the health measures began to be relaxed, moving from lockdown to mandatory distancing. I analysed the interviews thematically in relation to the four aspects of the marketization process (i.e. membership: the types of providers pulled by the platforms; commodification: the scope of marketing services offered by the platforms to the providers; governance: the intervention of these platforms in shaping the gastronomy sector, as well as the algorithmic and non-algorithmic forms of control exerted by the platforms over the providers; and monetization: the commissions charged by platforms to the providers).

With the aim of updating the fieldwork and verifying whether the main characteristics of the themes mentioned above were still valid in the post-pandemic period, I conducted a second round of interviews in the first quarter of 2023. I re-interviewed the two same representatives of the business associations and kept the same number of interviews for each provider profile, replacing three providers interviewed in 2021 that I was unable to contact again (one representative of the restaurant profile and two representatives of the second type of provider profile, specifically from burger chains). All interviews were anonymised.

In the case of the profile of the large food chains, their management did not authorise interviews. To partially fill this gap, I used the mentions of these companies in the interviews with the chamber of commerce representatives and the other providers, as well as contracts between one large fast-food chain and the platforms.

I analysed in total four contracts: the first between the biggest burger company and Glovo, the second between the same company and Rappi, the third between a medium-sized burger company and Glovo, and the fourth between a small-sized pizzeria and PedidosYa. In the latter case, the contract was specifically about what PedidosYa defines as 'marketplace' (i.e. the organisation of digital sales in the app), taking into account that this platform offers separate contracts for delivery service and marketing service. Regarding these contracts, I analysed the specific services offered by the platforms and the commissions applied for each service, taking into account pricing strategies to pull big users. To do the latter, I compared the commissions and conditions (exclusivity or not) established in the contracts for the biggest burger company (large-chain profile) and for the second brand in the market (medium-sized food establishment). These contracts were provided to me by a government agency on condition of confidentiality, which is why the names of the companies are anonymised here.

The business model of food delivery platforms in Argentina

Food delivery platforms and digital platforms in general define themselves as companies dedicated to the management of a technological platform that provides intermediation services between consumers and providers. Beyond this formal definition, in fact, and as a necessary condition of the development of their business model, food delivery platforms are makers of the food delivery market (i.e. the food delivery from restaurants or stores as the point of production to the consumers who demand the food, through workers (riders) who do the distribution).

With this model, Glovo, Rappi, PedidosYa and UberEats arrived to Argentina to structure the delivery service, which, despite already existing as an economic activity (some pizzerias and gastronomy establishments had delivery), did not constitute an organized market. These companies developed a digital system (the app) for organizing a market for the food delivery service, which includes the generation and administration of demand. If until a few years ago consumers went to eat at a hamburger joint or picked up their order there, now there exists a new habit of getting the hamburger delivered to their home.

As mentioned before, at the end of 2020, there were only two players left in Buenos Aires, Rappi and PedidosYa. According to the interviews, the companies divided the market. Rappi focused on a profile of establishments with higher-income clients, and PedidosYa on establishments with medium and low-income clients. Both offer to the providers the same services: the food delivery service itself, called 'logistics' by the platforms and the marketing service. The development of both services affected the local gastronomy market.

The logistic market

The main service offered by food delivery platforms to the providers is, as it is called in the contracts between both parties, the 'logistic' service, which consists of the digital management of the order and the home delivery intermediation. This logistic service implies the organisation of a labour market made up of riders and involves the governance of riders through algorithmic management (Tassinari and Maccarrone, 2020). Thus, the main assets that platforms exploit are labour force, and the tools used by workers for delivering orders are mainly bikes or motorbikes.

For food establishments one of the main benefits of this service lies in the lack of employer's responsibilities reproduced by the platforms themselves, which deny the existence of employment relationships with the riders. To avoid any responsibility of the gastronomy stores in this respect, the contracts between them and platforms invoke the principle of 'indemnity' (i.e. in the event of a dispute, the platform '*must pay the sums owed and do whatever is necessary to keep its partner free from any payment'*, Rappi contract with an anonymous provider).

As it was already pointed out, delivery is a pre-existing activity in Argentina used mainly by pizzerias and, although there are collective agreements that include the figure of the delivery person (such as those signed by the union of pastry chefs and motorcycle riders), the existence of unregistered delivery workers was very common before the arrival of platforms. The fact that delivery is not a central part of the labour process linked to gastronomy production and that the risks associated with this service are great (traffic accidents) made it a 'complication' for providers. Thus, the logistic service provided by platforms implies minimizing transaction costs and reducing frictions between consumers and restaurants, as well as between the latter and riders. This was expressed by many of those interviewed:

> We are used to having an employment relationship and having employees. What we have never been able to do is organise our own distribution system, because it is highly complex, it was very difficult to take out insurance, the insurance did not cover delivery people (…) There has always been this deficit, which is what the applications seized on to develop their business… (Interview with Mario, representative of the Association of National Business Owners for Argentinian Development, ENAC, 12th October 2021)

> Motorbike riders are a risk, because they are mostly young people, they are not very responsible, all this was the biggest karma for delivery pizzerias, when the platforms came along to solve it. (Interview with Javier, representative of the Association of Pizzerias and Empanada Outlets in Argentina, APPYCE, 3rd November 2021)

The possibility of subcontracting the delivery service under this new intermediation format without any forms of employer's responsibility and the expectation of saving money and risks made the platforms an attractive option for the gastronomy sector that had already been using delivery or that found in platforms an opportunity to expand their sales. This opportunity is given because, along with the logistic function that in itself enables selling products to consumers who remain at home, the food delivery platforms play a fundamental role in marketing and sales promotion, or in other words, in the creation of demand, as it will be shown in the next subsection.

To monetize the logistic service, the food delivery platforms charge providers a commission that varies according to their profile and bargaining power. When I compared the contracts signed by Glovo with different burger chains at the same time (June 2018 to June 2020), I noticed that while the platform charged the largest chain in the market a commission of 18% without requiring exclusivity, it charged 24% to the second-tier chains, requiring exclusivity and establishing that it would charge an additional 5% if this exclusivity was infringed. In other words, for providing the service without exclusivity, it charged 18% commission to a large burger company and 29% to a smaller one, a difference that disadvantages smaller premises and strengthens the comparative advantages enjoyed by the large chains due to their scale of operations. This pricing strategy aims to attract specific members to the network in order to generate positive network effects: the platform offers better prices to super-users to attract others.

Moreover, during the pandemic, the platforms took advantage of their strategic place in the market and unilaterally increased the commissions charged to businesses with which they had pre-existing agreements and demanded higher commissions from newcomers, such as restaurants. Complaints about abusive rates of commission crop up repeatedly in my interviews:

> I have seen people who pay 35% because they were caught in a pandemic, because they had only one business and because they had no other choice… I think that the platforms are necessary and that they are extremely abusive. (Interview with Javier, APPYCE representative, 3rd November 2021)

> Before the pandemic Rappi would call you and we would say no. From then on, we all went to the apps, which meant two things. One was that the commissions were extremely high, they charged as much as 25% or 28%, and the other was that in order to lower the commissions they asked for exclusivity.

> If you had exclusivity, they gave you 12 or 13%. (Interview with Juan, restaurant owner, 1st October 2021)

During the pandemic, restaurants' complaints regarding this abusive situation led to the signing of agreements between the platforms, the sectoral chambers (among them APPYCE) and the Secretariat of Commerce, which reduced commissions to 22%. However, many of the persons interviewed considered that this percentage is still abusive and the result of an imposition by the platforms rather than a real dialogue between the parties. After the pandemic, while restaurants stopped delivering, those who remained in the delivery market became more dependent on the platforms. According to the interviews conducted, the activity did not slow down post-pandemic, but rather consolidated, and, along with it, the commissions and demands of the platforms:

> When we were going through the pandemic it was hard to know what was going to happen to the delivery service because obviously in the pandemic the volume of deliveries increased a lot, the question was: when the restrictions are lifted, what is going to happen? Is the volume going to go down? Luckily that didn't happen, it stayed steady, and it put the platforms in quite an advantageous position to negotiate because they know that they are still important. (Interview with Laura, manager of a medium-sized fast-food chain, 20th March 2023)

The pandemic accelerated the process of dependence that this business model generates. The food delivery platforms organised a market that initially appears as a good option or possibility for providers. However, given that over time all delivery orders went through the platforms, the option became necessary. Thus, the platforms gained more control over the fees charged to the providers for accessing them.

While the business administration literature recommends to platforms not to rush to monetize and to take care of participants (Parker et al., 2016), at least in the Argentinian case (and it is known that particular business strategies are in part developed by local management), the food delivery platforms took advantage of the pandemic context to transfer market acquisition costs to providers. Therefore, they ultimately transferred these costs to the consumers themselves because many of the (smaller) food stores did not have the capacity to absorb the platforms' high commissions and charged them to the consumers. I will return to this point later.

The marketing market

The second and less analysed service offered by the food delivery platforms to the providers is the marketing service. Even though the logistic service can include the provision of a digital marketplace[3] (i.e. the construction and display of the products catalogue on the app), the food delivery platforms offer extra marketing support to providers. It is necessary to clarify that marketing service is broader than just advertising. While the latter is oriented towards the promotion of a product or a brand, marketing takes into account the product, consumers, price, place, process and promotion (Baker, 1998). In this case, as it will be explained below, the main asset exploited by platforms is data.

If years ago, many stores resorted to advertising in the mass media or social networks, and the smaller ones distributed physical flyers in the neighbourhood in which they were located, digital platforms changed the way of marketing for food stores: now, advertising appears in a sort of virtual shop window on consumers' cell phones and does so in a customized way. The providers' visibility depends on the position they occupy on the consumer's screen according to search criteria (e.g. by neighbourhood, product). Those in the first places, according to market studies, are the most in demand, while demand falls when providers appear lower in the list.

Food delivery platforms offer a positioning service, which involves giving more exposure to a provider in exchange for a fee, and which means that the platforms has an extra way of monetization, capturing extra rents beyond the ones derived from the logistic service. Thus, for example, the PedidosYa platform (Delivery Hero) offers 'Gold VIP' services to place the provider in the top three positions on the app (there are only three positions available per neighbourhood) and 'Featured Product' to showcase certain products (there are only eight featured products available for each neighbourhood on the portal, and they are shown randomly; therefore, they will all go to first place at some point) (PedidosYa contract with an anonymous restaurant). In addition, the provider can pay for customised advertising (i.e. targeted at specific audience segments, such as those clients who have never ordered from a store or have ordered only once).

This subsidiary business is possible for food delivery platforms due to the fact that they manage a formidable and scarce asset: big data, not only about the performance of riders, but also about providers' performance and consumers' habits. As some studies demonstrated (e.g. Newlands et al., 2019), platforms use data to enhance their business models and obtain fees offering providers extra specific marketing service that goes beyond simple advertising:

> … in the last two years they have hugely improved all the statistics collected about the branches, from sales, delay times, cancellations, if I want to run a campaign, see reductions in business, quite clear and complex, the application gives you a lot of information about the branches, sales schedules, graphs… (Interview with Lucas, ice-cream shop chain owner, 22nd March 2023)

Marketing is a way of demand building that allows providers to expand their market territory, which is essential for both lesser-known and consolidated brands. However, according to the interviewees, given the high cost of this extra service, small and medium-sized businesses can only buy into this occasionally; as a result, its use is reserved for larger chains which can negotiate better rates for this extra service, in addition to paying lower commissions. Thus, while the most powerful providers define their positioning based on their investment, the others are subordinated to the disciplinary power of the platforms.

Platforms use their marketing power as a way to govern, reward and punish providers, also increasing dependence on them. Behind these procedures operate algorithmic management technologies similar to those used over the riders. As explained before, platforms use data to produce new performance metrics that reflect the quantity and quality of interactions. Algorithms collect, measure and systematise a large volume of information on providers: when and how long the virtual shop is open, the number of sales, cancelled orders, complaints, delays, etc. In addition to this, and in contrast to the relationship with the riders, human and face-to-face control is added to the algorithmic control. All contracts signed between platforms and providers establish specifically that it is the duty of the latter to 'maintain the same quality of the products shown in the catalogue as in those that are offered to the public', and that the platforms can supervise the packaging for delivery. These formal rules are translated into an intensive and broad control from platforms over providers:

> What they do a lot is that they come in one day unannounced, incognito, to see from outside the kitchen if there is a long queue of riders, if it is well organised, how the bags are sealed. Then there are other visits that they coordinate with us, where they go into the kitchen, for example, to see how the orders are put together, to check that I am putting all the elements inside the bag… (Interview with Eduardo, head of digital channels of a medium-sized burger chain, 23rd March 2023)

Platforms use this wealth of data to constantly and automatically evaluate providers. The algorithms construct performance indicators and ratings (e.g. about availability, calculated as the ratio between the time providers committed to connect to the app and the time they actually did so), compare them between providers and rank them. A good rating allows providers to rank higher in the virtual shop window without paying extra costs:

> For example, to accept an order you have an allotted time… depending on the application, some give five minutes, others two, if you don't accept it, it is cancelled, it works against you for this positioning, then also to prepare the order and have it ready, in Rappi they call it trophies… one, two, three trophies. PedidosYa has the same system… (Interview with María, pizzeria owner, 1st March 2023)

On the contrary, poor performance in algorithmic evaluations based on a set of indicators, such as availability in the online shop, order preparation times, etc., can result in a drop in the place occupied on the app. Other more severe penalties include not displaying them in the online shop or not sending riders to deliver orders:

> … you can turn off the shop, we used to give discounts if people came to pick up food, to get away from Rappi. What did Rappi start doing? It started measuring when you turned off the shop. Below 90-something percent, it would eliminate the riders. It created a sort of ranking: if you were better than me, in times of rider shortages, when it rained, it would prioritise sending the rider to you and not to me, so it would suspend up my orders… that's how they forced you to turn the shop on. (Interview with Juan, restaurant owner, 1st October 2021)

> When you don't connect at the established time within a certain time margin, I don't remember if it's 30 or 45 minutes… they suspend you, I think PedidosYa closes the store for two hours. When you have a long delay in preparation or delivery, on Friday or Saturday nights, when food businesses are most in demand, they close the sales channel for an hour and a half. (Interview with Jorge, food outlet manager, 18 March 2023)

Thus, there are several similarities between algorithmic control over workers and providers: in both cases, along with data collection and behavioural monitoring, failure to comply with the behaviours expected by the platforms can result in sanctions including suspension, disqualification and blocking. However, unlike algorithmic management over workers, in the case of providers, there is some room for human intervention: along with the automated measures, commercial representatives from the platforms contact providers both for recommending marketing strategic and warning them about what they consider to be misconduct and possible sanctions.

Once again, it is interesting to note that the high pressure and arbitrariness exerted by platforms over providers depart from the business administration theory, which emphasizes that in order to maximize external value creation (and therefore value appropriation), platforms should observe laws of good governance. A similar behaviour to the one described here was noticed in the study of the Indian case, where platforms govern the relationship with providers in an autocratic way (Yadav et al., 2022). While strategies largely depend on local management, to what extent do the 'non-recommended practices' constitute a deviation from theory or a necessary aspect of the development of the business model of platforms?

The gastronomy market

I have demonstrated that the creation of delivery market implies at the same time the organisation of the logistic (or labour) market and the organisation of the marketing market. The corollary from the active intervention of the food delivery platforms in the creation of these markets is the intervention of the platforms in the construction and performance of the local gastronomy market. In this process, there is not a new service sold to providers, but an active intervention of food delivery platforms in the proper gastronomy service.

This happens in a variety of ways and locus: from the main point of food production to the general gastronomy market map. Firstly, the platforms' need of building strong network effects implies the active intervention of the platforms in the main food production process. As I showed before, that intervention includes the control of the time allocated to food preparation and orders packing, as well as the selection of the products that should be prepared according to sale statistics and projections:

> They [platform representatives] download some numbers, some spreadsheets, and they suggest you choose this type of advertising, I mean, they direct you to a product and they suggest the discount that would be necessary to make that product successful. (Interview with Gustavo, restaurant business owner, 12th October 2021)

Second, along with the intervention about what to be produced, the platforms determine the prices of products. Contrary to what might be assumed, at least in the Argentinian case, the discounts that consumers receive are assumed by the main providers; thus, once again, they are the ones who finance the costs of acquiring the market: they pay the commissions and eventually absorb the promotions' costs.

In other words, the food delivery platforms are price formers, and their intervention has inflationary effects over the gastronomy market in a double way. On the one hand, the order that arrives at the consumer's home is more expensive than if purchased at the store due to the added cost of delivery. On the other hand, many gastronomy establishments, especially smaller ones, do not have the capacity to absorb the costs of commissions; hence, these costs are transferred to customers, who pay higher prices. This phenomenon appeared in many interviews, as illustrated by the following quote:

> [PedidosYa] charges you 30% with their logistics and 15% with your logistics. And if you place the ad, they charge you separately… What I do is charge it to the product that appears on the website, it is more expensive than if you call the pizzeria and buy it from me. I try not to make it 30% because it is too abrupt, I absorb a little bit, and I charge around 20%. But we do have to make it more expensive, at least for small businesses like me, large stores have the same price, but I can't. (Interview with Mario, pizzeria owner, October 14th, 2021)

Third, the digitalization of the delivery service and therefore of the sales generates a formalization of the gastronomy sector, which in Argentina used to operate, at least partially, (especially among small entrepreneurs who receive cash payments) evading taxes. The formalization of all transactions is, together with high commissions, the reason why small businesses bear higher costs than pre-platform sales and charge them on the customers. At the same time, the billing and payment mechanisms (the settlement is made to the businesses every 15 days, deducting the corresponding commission from there) make platforms absorb the credit costs of payment with credit cards and manage the liquidity coming from payments with debit cards and, eventually, cash[4].

Fourth, the platforms also generate effects on the balance of power between the main players of the gastronomy market. Considering that the food establishments are formally partners of the platforms, but have different sizes and power, the food delivery platforms reinforce the existing asymmetries in the gastronomy market to the detriment of smaller establishments. While large chains have a better position to negotiate (for example, the commissions) with the platforms, the other players are subject to the prerogatives of the platforms and suffer a greater increase in the costs they already face by operating on a small scale.

Fifth, given that these platforms are dedicated to the construction and expansion of demand, they also intervene in the urban distribution of the gastronomy market, as was also noticed in a study conducted in a Chinese city (Talamini et al., 2022). This can occur in several ways. The platforms can expand the delivery coverage area of an establishment beyond the neighbourhood in which the store is located, growing sales, and then enabling the opening of new stores. Furthermore, they can promote the sale of certain products in neighbourhoods that until then did not know those products, such as a brand of ice cream in a snack store, then enabling the opening of an ice-cream parlour. Finally, they can facilitate the opening or even create themselves 'black kitchens' (i.e. closed-door stores without walk-in customers where food is prepared to be delivered under their own brand or for other stores). According to interviews with gastronomy entrepreneurs, in Argentina, the platforms' strategy is the creation of demand in a first stage to further, in a second stage, sell the black kitchens to bigger gastronomy entrepreneurs while keeping the platform business of capturing rents from transactions. The vertical expansion of business would thus be more of a transitory and necessary instance of market construction and expansion than the core of the food delivery platforms' business model.

Last but not the least, creating demand for the delivery market involves the promotion and standardization of certain food consumption patterns among consumers. Through digital algorithms, the platforms obtain and organise data over the behaviour of hundreds of clients and use these data to reinforce or promote the consumption of certain products. Thus, riders' performance, providers' performance and clients' consumption are part of the dynamics and infrastructure that food delivery platforms create for upscaling.

Conclusions

In this paper, I contributed to the theoretical and empirical study of digital platforms' business model (Drahokoupil, 2021; Evans and Schmalensee, 2016; van Alstyne et al., 2016, among others), specifically for food delivery platforms. I argued that in order to develop their business model, digital platforms lead a marketization process that organises four aspects that configurate a for-profit market: commodification, membership, governance and monetization. I also stressed that the development of the business model of food delivery platforms is a complex process that involves the creation of parallel or subsidiary markets, making the platforms 'multiple market makers' or 'market developers' entities.

I pointed out that the proper or core business of the food delivery platforms is the creation of the food delivery market, and that they obtain rents from the transactions carried out in this market. More importantly, I showed that to guarantee the scalability of the business, these platforms actively create or promote other markets: the marketing market and the gastronomy market.

Regarding the marketing market, I demonstrated that the marketing service goes beyond the advertising and the condition of platforms as marketplaces. The concept of marketplace suggests that digital platforms are a passive techno-infrastructure that just provides places for providers' exhibition and matching. On the contrary, the platforms actively intervene in the creation of a marketing market, which has a double function: reporting new commissions for the platforms and supporting the creation of network effects, that is, the multiplication of participants and interactions. Regarding the gastronomy market, I showed that even though the food delivery platforms do not receive specific revenues from the gastronomy market, they do contribute to the creation and performance of this market in many ways.

Thus, I also noticed that even though the digital platforms are predominantly rentier entities that capture the fees for the services they sell and financialize the money held by providers until it is transferred to them, after deducting commissions in order to increase the value appropriated, they intervene actively in the creation of 'external value'. Thus, platforms' business model contributes to value production in the real economy.

Two extra remarks come from this paper. On the one hand, there is a real necessity to put the relationship between platforms and providers under analysis to better understand their business model. We already know from the literature that this model is based on asymmetrical power relations between the parties, taking into consideration that the platform company is the only one that has full access to and control over the data, processes and rules of the network (Schmidt, 2017). However, at the moment, these asymmetries are mostly analysed in relation to workers. Here, I showed that, unlike powerful food companies that can negotiate better terms with the platforms, small- and medium-sized providers, despite being companies that sign contracts with the platforms, a priori as peers, are also subject to forms of algorithmic control with very similar characteristics to those experienced by riders. They are permanently and constantly monitored, subjected to evaluation and ranking systems, induced to follow certain behaviours and penalised, often arbitrarily. The algorithmic management of providers, as well as of riders, is functional to the optimisation of the platforms' business model. The difference with the workers is that in relation to the providers, the platforms combine this technological form of control with human pressure and instances of negotiation and persuasion.

On the other hand, the development of the food delivery platforms' business model has specific characteristics according to the geographies where this process takes place. While digital platforms are multinational enterprises, the local managements take decisions about how the business model is implemented locally. In the Argentinian case, the food delivery platforms transfer the market acquisition costs to the providers, centrally via high commissions (while in Argentina, the commissions were around 25%, in other countries, it is half that). Considering that there are a few similar studies carried out in other countries which also notice arbitrary forms of platform governance (Yadav et al., 2022), it is necessary to move forward in conducting comparative studies that evaluate whether that arbitrariness is a deviation from local managements who drive a 'get-big-fast' strategy or whether it is constitutive of a predatory business model.

Finally, some other lines of future research remain open. First is the relationship of the platforms with other satellite parties of the network like banks with which they have partnership agreements to stimulate demand among consumers (platforms offer promotional prices to costumers when purchasing with credit or debit cards from certain banks). How are the power dynamics between them? Do the platforms obtain extra value from relations with partners in the financial sector? Second, the concrete effects of this business model both on the consumption habits of the costumers and on the configuration of the local gastronomy map. Is the standardization of these habits increased? Do big food companies advance in neighbourhoods hurting small local restaurants? Third, the consequences of the algorithmic management exercised by the platforms over the providers on the next chain link: the workers who prepare the food and place the orders. Do the providers transfer the costs and pressures they receive from the platforms to their own employees?

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Notes

1. The unemployment rate rose from 7.2% in 2017 to 9.1% in 2018 and 8.9% in 2019 (INDEC data for the fourth quarter of each year). Similarly, labour informality also increased from 34.2% in 2017 to 35.3% in 2018 and 35.9% in 2019 (INDEC data for the fourth quarter of each year).
2. Typical Argentinian food consisting of pastry with a filling. In recent years, it has gone from artisanal production to low-cost, mass-produced and industrialised.
3. PedidosYa has the option of signing two separate contracts for the two different services: logistic and marketing.
4. Rappi retains the total collections from sales in cash and cards, while PedidosYa does not receive cash and only captures card payments.

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