

# FROM FOOD ON A PLATTER TO FOOD ON THE PLATFORM: DATAFICATION OF THE RESTAURANT INDUSTRY

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## INTRODUCTION

A few months ago, I found myself at the counter of La Mallorca, a diner that one TripAdvisor review calls “the last cafetería” in San Juan, Puerto Rico.<sup>1</sup> I ordered a coffee and a quesito, a cheese pastry. The server did not input my order into a computer; he just nodded, poured my coffee from an unmarked metal pot, asked the woman at the front counter to toast a quesito from the display window, and handed me the newspaper. A few refills and about an hour later, the server asked me to remind him of my order, which he then wrote down before handing me my paper bill. The person who checked out before me paid with cash, and the transaction was completed using an old-school cash register. I proceeded to use ApplePay (enabled through a chip attached to the cashier’s smartphone) to cash out with the woman who had toasted my breakfast. As I walked out, I felt grateful both for the meal and for a dining experience where the restaurant had not visibly integrated a single smart technology into its core restaurant functions. Well, almost.

What made this dining experience so rare? Platform companies<sup>2</sup> such as DoorDash, Resy, and OpenTable have revolutionized what it means to dine at, work at, and own a restaurant without even competing with restaurateurs for ownership.<sup>3</sup> They have “datafied” the restaurant industry by making data

<sup>1</sup> Mutus D, *La Mallorca, the Last “Cafeteria” in San Juan*, TRIPADVISOR (Jan. 14, 2015), [https://www.tripadvisor.co.nz/ShowUserReviews-g147320-d1234687-r249139906-Cafeteria\\_Mallorca-San\\_Juan\\_Puerto\\_Rico.html](https://www.tripadvisor.co.nz/ShowUserReviews-g147320-d1234687-r249139906-Cafeteria_Mallorca-San_Juan_Puerto_Rico.html) [https://perma.cc/JB94-DWYR].

<sup>2</sup> This paper defines “platform companies” as infrastructure-based systems for configuring flows of information to enable data-based surplus extraction while also facilitating business transactions, record keeping, and social organization using data collection, analytics, and sharing. This definition is derived from the following works: JULIE COHEN, BETWEEN TRUTH AND POWER 40 (2019) (“[P]latforms are not the same as networks, nor are they simply infrastructures. Platforms represent infrastructure-based strategies for introducing friction into networks. Those strategies both rely on and reinforce the centrality of a particular way of (re)configuring networked digital communications infrastructures for data-based surplus extraction.”) [hereinafter TRUTH AND POWER]; NIHAD AHMAD HASSAN, RAMI HIJAZI, DATA HIDING TECHNIQUES IN WINDOWS OS 45 (2017) (“In today’s digital age most business transactions are done electronically using networked information systems. Large volumes of digital data are preserved in digital format one way or another. Estimates show that up to 96% of all new information is created by an electronic format at the source.”).

<sup>3</sup> There are exceptions to this; for example, Amazon purchased Whole Foods in 2017. See Cecilia Kang, *Here Comes the Full Amazonification of Whole Foods*, NEW YORK TIMES (Feb. 28, 2022), <https://www.nytimes.com/2022/02/28/technology/whole-foods-amazon->

collection and data sharing core features of restaurant functions such as takeout and delivery.

This transformation is consistent with the way that platforms tend to engage with industries. Platform companies do not just enter or expand markets; they replace and rematerialize them.<sup>4</sup> They reshape industries as data becomes increasingly central to the global economy. Platform companies grease the wheels of “informational capitalism,” a regime in which “market actors use knowledge, culture, and networked information technologies as a means of extracting and appropriate surplus value, including consumer surplus.”<sup>5</sup> Capitalism centers on a party’s efforts to maximize its profits. Informationalism centers on the accumulation of knowledge to increase information processing power.<sup>6</sup> In tandem, informational capitalism aligns capitalism as a mode of production with informationalism as a mode of development.<sup>7</sup> Stated differently, informational capitalism locks data collection and sharing into a mode of production and a mode of development that empowers platform companies to use these practices to transform industries.<sup>8</sup> In turn, when platform companies establish a foothold in a new industry, they provide an entry point for the structures and values of informational capitalism to enter that industry.

In the restaurant industry, platform companies have reshaped the space by overtaking core functions like reservations and delivery—functions that restaurants traditionally managed. This transformation affects diners, restaurant workers, and the restaurants themselves. As platform companies overtake these functions, they redesign them to make data collection and

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automation.html [<https://perma.cc/GX25-GD9D>]. Amazon also considered acquiring Rite Aid in 2018 and 2019. See Taylor Soper, *Amazon Partners With Retailers for New Counter Pickup Service, Starting With Rite-Aid*, GEEK WIRE (June 27, 2019), <https://www.geekwire.com/2019/amazon-partners-rite-aid-new-store-package-pickup-option-expanding-logistics-network/> [<https://perma.cc/SAT4-QH7Q>]. These examples go against the general trend, which is that platform technology companies tend to infiltrate an industry without overtaking ownership. In both cases, platform companies reshape industries when they engage with them.

<sup>4</sup> See Julie Cohen, *Law for the Platform Economy*, 51 U.C. DAVIS L. REV. 133, 135 (2017) (discussing how platform companies replace and rematerialize markets) [hereinafter *Cohen, Platform Economy*].

<sup>5</sup> TRUTH AND POWER, *supra* note 2, at 6.

<sup>6</sup> *Id.* at 5–6.

<sup>7</sup> *Id.* at 6 (clarifying that the relationship between industrialism and informationalism is not sequential, but rather cumulative).

<sup>8</sup> See Nick Srnicek, PLATFORM CAPITALISM, 3 (2017) (emphasizing that platform companies are economic actors with capitalist modes of production. While they use knowledge, culture, and politics, they do not seek to wield power through cultural or political influence; rather they use information and information hubs as tools to extract surplus value and monetary profit).

sharing practices core features of each one. This new structure disproportionately benefits the platforms, which profit from data-based surplus extraction. While the shift may benefit consumers, workers, and restaurants by reducing costs and increasing efficiencies, it also has the general effect of making all three parties increasingly reliant on the platform companies to fulfill their role in the ecosystem (eating at restaurants; working at restaurants; and running restaurants respectively), which this Note considers a harm.

This Note asserts that platform companies introduce data collection and sharing practices into the restaurant industry to extract consumer and labor surplus value, using informational capitalism to deepen the information asymmetries on which their competitive advantage lies.

Part One takes the reader through the dining experience with a brief history of platforms' infiltration into each core function from meal prep to checkout. This journey begins with an overview of workforce management software and tracks the consumer's journey from reservation to payment. This Part charts the breadth of the shift toward datafication with the integration of networked technologies into this industry.

Part Two focuses on platform companies that chiefly operate in take-out and reservation services to demonstrate the depth of datafication's impact on two core functions of the industry. Part Two confronts the harms specific to information flows that consumers, laborers, and restaurants face because of the shifts laid out in Part One. Increased data collection and sharing compels these actors to become increasingly dependent upon platforms, deepening information asymmetries between them and the platform companies.

Part Three turns to the law for the skeleton of a solution. Laws that govern the restaurant industry generally fail to acknowledge the presence—and effects—of platforms in the industry at all. Those that do acknowledge it fail to directly regulate data collection and data sharing. Common legal standards for data mobility<sup>9</sup> could be a step in the right direction of confronting data collection and sharing head-on.

While legal theorists have discussed how platform companies disrupt the restaurant market—by directly connecting consumers and chefs using digital technologies, for example<sup>10</sup>—this is the first paper to identify datafication as a phenomenon that has reshaped the restaurant industry. It is also the first paper to call out information asymmetry as a harm that affects all parties in the industry. The scope of this Note is limited to restaurants in the United States, focusing primarily on sit-down restaurants. Additionally, this

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<sup>9</sup> See *infra* Part III for definition.

<sup>10</sup> See Orly Lobel, *Law of Platforms*, 101 MINN. L. REV. 87, 99–100 (2016); Sarah Schindler, *Regulating the Underground: Pop-Up Secret Supper Clubs, Restaurants, and the Role of Law*, 82 U. CMU. L. REV. DIALOGUE 16, 24 (2015).

Note's recommendations are most relevant in urban areas, where platform companies primarily operate. In future work, I hope to explore how restaurants not targeted for datafication—those in rural areas and the global south, for example—are affected by the industry trend toward datafication.

## I. RESHAPING THE RESTAURANT INDUSTRY

Platform companies have reshaped the restaurant industry, infiltrating every core function that restaurants once handled themselves. Through this takeover, platform companies, as the core organizational form of informational capitalism,<sup>11</sup> integrate the accumulation of information into the industry for the maximization of profit among data-dominant companies. This makes data collection and sharing central to industry operations.<sup>12</sup>

Platform companies generally do not own or invest in restaurants; rather, they infiltrate restaurant functions. Without overtaking ownership, platforms have changed what it means to dine or work in the restaurant industry. They have shifted the power structures that define this space. A journey through the dining experience, including a brief history of how platforms have infiltrated each core function of the industry, provides useful background for analysis of the harms that arise from this datafication.

### A. Be Our Guest: Platforms Overtake Workforce Management

Before a person even sets their sights on a meal, restaurant industry workers are donning aprons, pre-setting tables, and preparing ingredients to start their shifts. Increasingly, these tasks are organized and systematized on platforms. Workforce management software began to overtake paper schedules in the early 2000s.<sup>13</sup> Now, platform companies handle behind-the-scenes activities including staff scheduling, time clocks, payroll, benefits, and

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<sup>11</sup> Cohen, *Platform Economy*, *supra* note 4, at 135 (calling networked information technology the core organizational form of informational capitalism).

<sup>12</sup> To be sure, datafication was not the only shock that hit the restaurant industry in recent years: restaurants were also deeply affected by the economic and health shock created by the Covid-19 pandemic. See Matt Goulding, *An Extinction Event for America's Restaurants*, THE ATLANTIC (June 19, 2020), <https://www.theatlantic.com/culture/archive/2020/06/what-will-happen-restaurants/613141/> [<https://perma.cc/532F-LQNJ>]; Derek Thompson, *America's Restaurants Will Need a Miracle*, THE ATLANTIC (Mar. 17, 2020), <https://www.theatlantic.com/ideas/archive/2020/03/americas-restaurants-will-need-a-miracle/608119/> [<https://perma.cc/E5MY-X8EF>]. The pandemic accelerated the integration of platform technologies into the restaurant industry, making this industry transformation even more pressing to talk about.

<sup>13</sup> Larry Tuck, *Spotlight On: Workforce Management Software*, CUSTOMER INTERFACE, Jan.–Feb. 2003, at 21.

onboarding tasks for restaurants.<sup>14</sup> This technology has helped restaurants adapt to changing dynamics in the industry like a smaller hiring pool and changing workforce demographics,<sup>15</sup> but workforce management platforms are expensive to implement and maintain.<sup>16</sup> The platforms also enable restaurants to bear down on workers. Restaurants feed information—like weather and sales patterns—into workforce management systems to receive information on how to optimize staffing. While such optimization may help restaurants develop competitive efficiencies, this leaves workers in the lurch as they respond to optimization strategies, including last-minute schedule changes and restaurants choosing to staff fewer workers at a time.<sup>17</sup> Platforms create new costs and dependencies for restaurants, quietly shifting harms as they receive credit for ameliorating them.

### B. Pick a Table, Any OpenTable: Platforms Drive Reservation Outsourcing

Want to make a reservation? Platforms like OpenTable and Resy have made it easy. OpenTable launched in 1998 to address a gap in the market: most restaurants had not digitized their reservations and relied instead on a manual process.<sup>18</sup> OpenTable charged restaurants a fee per seat reserved through the platform and made the service free for diners.<sup>19</sup>

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<sup>14</sup> See, e.g., 7SHIFTS, <https://www.7shifts.com/> (last visited May 15, 2022) (listing platform services that include scheduling, time clocking, hiring, tip pooling, task management, and more) [<https://perma.cc/DQ6B-BEJ2>].

<sup>15</sup> While young people entering the workforce used to start in the foodservice industry, this is becoming less common, forcing restaurants to adapt to attract older workers. See Liz Strikwerda, *Why Successful Restaurants Use Workforce Management Software*, WORKFORCEHUB (Apr. 24, 2018), <https://www.workforcehub.com/blog/why-successful-restaurants-use-workforce-management-software/> [<https://perma.cc/57PV-KQR8>].

<sup>16</sup> *Pros and Cons of Cloud Versus On-Premise Workforce Management Software*, WORKFORCEHUB (July 16, 2018), <https://www.workforcehub.com/blog/pros-and-cons-of-cloud-versus-on-premise-workforce-management-software/> [<https://perma.cc/VKC3-7W7H>].

<sup>17</sup> See, e.g., Janine Berg, *Protecting Workers in the Digital Age: Technology, outsourcing, and the growing precariousness of work*, 41 COMP. LAB. L. & POL'Y J. 69 (2019) (discussing *how this software enables managers to send workers with scheduled shifts home once they arrive at the restaurant or cancel their shift last minute*).

<sup>18</sup> See DA, *OpenTable: Restaurant Reservations Made Easy*, DIGIT., DATA, & DESIGN INST. AT HARV. (Mar. 23, 2020), <https://digital.hbs.edu/platform-digit/submission/opentable-restaurant-reservations-made-easy/> (last visited Mar. 25, 2022) [<https://perma.cc/6V7V-C2UQ>].

<sup>19</sup> See *id.* However, this has not been the exclusive model for reservation platforms historically. See Tim Harford, *Paying to Get Inside the Restaurant: is it worth it to fork over the cash for a table?*, ATL. (May 2015), <https://www.theatlantic.com/magazine/archive/2015/05/paying-to-get-inside-the-restaurant/389561/> (detailing partnerships between restaurants and

Other platforms have since found their place in the market by differentiating their offerings.<sup>20</sup> In 2011, SevenRooms emerged promising to help hospitality operators access their own data.<sup>21</sup> Three years later, Reserve and Resy offered restaurants flat monthly fees and technological improvements like text messages to inform customers that their table is ready.<sup>22</sup> Resy also tracks individuals' food and drink preferences, marketing this package by stating that consumers will spend more when restaurants know their preferences.<sup>23</sup>

Reservation platforms facilitate smooth restaurant reservation experiences characterized by lower search and transaction costs. As of 2020, OpenTable housed about 60,000 restaurants on its platform and seated around 134 million diners monthly.<sup>24</sup> But reservation platforms also make all parties increasingly dependent upon the technology, elevating the comparative power of the platform.

### C. Staying in for the Night: Platforms Enable Mass Delivery

Prefer a cozy meal at home? Again, platforms are on the job. Two software engineers founded GrubHub in 2004 to solve their frustration with the lack of streamlined delivery options online.<sup>25</sup> In 2011, Postmates was founded to connect buyers, couriers, and merchants more broadly, but it quickly found its niche in food delivery.<sup>26</sup> In 2012, four app builders started

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reservation companies where reservation companies charged customers for the reservation itself; also mentioning reservation companies like RestaurantHop and Food for All that started selling reservations without restaurants' knowledge) [<https://perma.cc/L5VJ-4WAD>].

<sup>20</sup> See DA, *supra* note 18.

<sup>21</sup> SEVENROOMS, <https://sevenrooms.com/en/company/our-story/> (last visited May 15, 2022) [<https://perma.cc/R6GT-EG9H>].

<sup>22</sup> Janelle Nanos, *OpenTable vs. Resy vs. Tock*, BOS. GLOBE (May 28, 2019), <https://www.bostonglobe.com/business/2019/05/28/upstart-restaurant-booking-sites-hope-unseat-opentable/7z75CPZYuEJsSeJC8b1fFO/story.html> [<https://perma.cc/6WCQ-YAFC>].

<sup>23</sup> *Id.*

<sup>24</sup> See DA, *supra* note 18.

<sup>25</sup> See Ill. Venture Cap. Assoc., *GrubHub.com*, <https://www.illinoisvc.org/grubhub-com#:~:text=GrubHub%20was%20founded%20in%202004,and%20make%20ordering%20food%20easier> (last visited May 12, 2022) [<https://perma.cc/TYS3-LHTN>].

<sup>26</sup> See Annasha, *Postmates: Success Story of a Company that is Modernizing the Way of Shopping Since 2011*, YOURTECHSTORY (Jul. 5, 2019), <https://www.yourtechstory.com/2019/07/05/postmates-success-story-company-modernizing-shopping/> [<https://perma.cc/PD6D-EWW5>]. There are notable similarities between Postmates' self-description and the terminology that Professor Orly Lobel uses to define a platform company: "a platform company is launched as an online intermediary between buyers and sellers of goods and services—the ancient role of the middleman—enhanced with the modern power afforded by cloud computing, algorithmic matching, pervasive wireless Internet access,

DoorDash after speaking to the manager of a macaroon shop in Palo Alto about her delivery woes: She had hundreds of orders to fill and no deliverers.<sup>27</sup> In 2014, Uber expanded into a food delivery industry that was beginning to thrive.<sup>28</sup>

Before these companies cropped up to fill the gap between interested consumers and (somewhat) ready restaurants, restaurants delivered their own food. Drivers typically earned minimum wage from the restaurant plus tips from consumers.<sup>29</sup> They amassed orders within a set radius and then delivered them at once.<sup>30</sup> There was, however, a data gap between customers and restaurants. Without a reliable method for forecasting when, from where, and how many consumers would call, delivery services were typically slow and poorly advertised. Consumers lacked a database of restaurants with takeout services, so they tended to limit their orders to restaurants with built-out delivery systems (think Domino's), and food delivery occupied a small percentage of revenue for most restaurants.<sup>31</sup>

With the proliferation of delivery platforms, however, food delivery has taken off. As of September 2021, delivery was a \$150 billion industry that has more than tripled in global market worth since 2017.<sup>32</sup> Particularly during the pandemic, the restaurant industry significantly expanded its use of the off-premises market, making restaurants more dependent on platform companies that charge high fees for services.<sup>33</sup> People who order delivery tend to order less high-margin items such as alcoholic drinks, narrowing the profit margins for the restaurant per order.<sup>34</sup> Delivery helped many restaurants survive the pandemic, but the added costs make the current model unsustainable for restaurants in the long term.

#### D. Scanning in the Order: Platforms Digitize Menus

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scaled user-networks, and near universal customer ownership of smartphones and tablets.” Lobel, *supra* note 10, at 94.

<sup>27</sup> See @DoorDash, *The DoorDash Story*, MEDIUM, <https://medium.com/@DoorDash/the-door-dash-story-b370c2bb1e5f> (last visited May 12, 2022) [<https://perma.cc/C7WW-KFXT>].

<sup>28</sup> See Biz Carson, *Uber's GrubHub Killer is Finally in the US—Here's the Inside Story on its Big Bet on Food*, BUS. INSIDER (Mar. 2, 2016), <https://www.businessinsider.com/why-uber-launched-uber-eats-2016-3> [<https://perma.cc/GFR7-AUCJ>].

<sup>29</sup> Kabir Ahuja et al., *Ordering in: The rapid evolution of food delivery*, MCKINSEY & CO. (Sep. 2021), <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/ordering-in-the-rapid-evolution-of-food-delivery> [<https://perma.cc/P3PR-RRDY>].

<sup>30</sup> *Id.*

<sup>31</sup> *See id.*

<sup>32</sup> *Id.* at 2.

<sup>33</sup> Delivery companies charge 15-30% delivery fees. *See id.* at 6.

<sup>34</sup> *See id.*



Pellentesque lobortis viverra enim. Integer sed nunc sit amet neque lobortis sodales eu a quam. Curabitur congue augue id justo dapibus, in laoreet augue tincidunt. Cras congue diam id mi porttitor dignissim. Etiam suscipit ante in risus pulvinar, nec fringilla nulla interdum. Nulla a vulputate diam. Curabitur pulvinar, diam sed rhoncus condimentum, est felis lacinia mauris, non dictum elit orci in mi. In many restaurants, servers no longer approach tables before bringing food and drinks. This is because the Quick Response (QR) code, a barcode that stores information in a series of pixels in a square-shaped grid, is overtaking paper menus and person-to-person ordering. QR codes store more data than traditional barcodes.<sup>35</sup> Critically for the restaurant industry, QR codes can store website URLs,<sup>36</sup> allowing consumers to review online menus, order online, and even pay using the link from the code. The restaurant industry dramatically accelerated its use of QR codes during the pandemic, with almost 50 percent of both casual and fine dining restaurants implementing a QR code menu since March 2020.<sup>37</sup>

Some celebrate the QR code for reducing paper costs, making menu updates easier, increasing the size of the average order, and lowering front-of-house labor costs to allow for wage increases.<sup>38</sup> Skeptics protest that QR codes insert an apparatus of online tracking between a person and their meal, bringing their offline dining activity into “part of the online advertising empire.”<sup>39</sup> Additionally, the thirty to fifty percent in labor costs that QR codes save restaurants often fail to translate into wage increases for workers.<sup>40</sup> In many cases, the benefits of the technology are not felt evenly across industry parties.

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<sup>35</sup> *QR Code Security: What are QR codes and are they safe to use?*, KASPERSKY, <https://usa.kaspersky.com/resource-center/definitions/what-is-a-qr-code-how-to-scan> (stating that, “[s]tandard barcodes can only be read in one direction – top to bottom. That means they can only store a small amount of information, usually in an alphanumeric format. But a QR code is read in two directions – top to bottom and right to left. This allows it to house significantly more data.”) (last visited Oct. 28, 2022) [<https://perma.cc/CVT2-W6EC>].

<sup>36</sup> See Matthew C. Kulseth, *Twenty-First Century Trademarks: How Quirky Quick Response Codes (QUIRCS) Will Challenge the Lanham Act and the USPTO*, 3 *CYBARIS INTELL. PROP. L. REV.* 31, 33 (2012).

<sup>37</sup> *Toast: How to Use QR Codes in your Restaurant*, TOAST, <https://pos.toasttab.com/blog/restaurant-qr-code> (last visited Mar. 10, 2022) [<https://perma.cc/JJQ3-PBDS>].

<sup>38</sup> *Id.*

<sup>39</sup> Erin Woo, *QR Codes Are Here to Stay. So is the Tracking They Allow*, *N.Y. TIMES* (July 26, 2021), <https://www.nytimes.com/2021/07/26/technology/qr-codes-tracking.html> [<https://perma.cc/A39V-AY59>]. QR codes store digital information such as when, where, and how often a scan occurs. *Id.* They allow restaurants to build a database of their customers’ order histories and contact information. *Id.*

<sup>40</sup> *Id.*

### E. The Food's Journey to the Table: Platforms Revolutionize Order to Payment

Once the consumer orders, the point of sale (POS) system guides the rest of the meal, but POS systems were not always so savvy. James Ritty's cash register was the original POS system, inspired by a device that tracked the revolutions of a steamboat propeller.<sup>41</sup> The cash register tracked transactions at his saloon to streamline accounting and reduce employee theft.<sup>42</sup> In 1973, IBM introduced the first POS system for restaurants.<sup>43</sup> The computer-based system enabled the waitstaff to relay orders instantly to the kitchen using remote printing, gave diners a streamlined receipt of their meal, and helped calculate the amount of money to be kept in the register after service.<sup>44</sup> Until the invention of the Internet in the 1980s, however, many POS systems could not process credit cards, leading to a lag at the counter that became a lag in adopting the technology.<sup>45</sup> This changed in 1990 when the first electronic POS systems hit the market for restaurant use, providing a financial database and driving consumer interactions.<sup>46</sup> Today, cloud-based POS systems are the restaurant standard.<sup>47</sup> These management applications go beyond POS by assisting with employee scheduling, shift tracking, team and task checklists, food ordering, temperature and safety monitoring, inventory management, sales reporting, and more.<sup>48</sup> According to Toast, a leading POS provider, “[f]rom the owner side[,] cloud-based POS systems provide

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<sup>41</sup> *The Evolution of POS and Why It Matters*, LAVU, <https://lavu.com/blog/how-pos-changing-and-why-it-matters/> (last visited Mar. 5, 2022) [<https://perma.cc/3T8A-TE6T>].

<sup>42</sup> *See id.*

<sup>43</sup> Ian Heinig, *The History of the POS System in Better Business Management*, HUBWORKS (Oct. 16, 2020), <https://hubworks.com/en/blog/the-history-of-the-pos-system-in-better-business-management.html> [<https://perma.cc/W39Y-EBFK>].

<sup>44</sup> *Id.*

<sup>45</sup> *The Evolution and History of the Restaurant POS: What Matters Most Now*, TOAST [hereinafter TOAST, *Evolution of POS*], <https://pos.toasttab.com/blog/the-history-of-restaurant-pos-systems> (last visited Mar. 5, 2022) (describing how Microsoft changed the game with the first POS package for Windows in 1992); *see also The History of Point of Sale in Five Key Steps*, AURES (June 17, 2021) [hereinafter AURES, *The History of Point of Sale*], <https://aures.com/us/expert-voice/history-of-pos> (introducing Nisyst, which arrived at basically the same time as Microsoft's IT Retail POS package) [<https://perma.cc/SRY4-5RRC>].

<sup>46</sup> Heinig, *supra* note 43. While these POS systems expanded data-collecting capabilities because they were connected to the internet, the literature on them conspicuously neglects to discuss data ownership. This suggests either the companies had not yet realized the power that datafication might yield, or, the companies, like they do today, were downplaying the significance of their access to and growing control over the data they were amassing. In all likelihood, the answer is some combination of the two.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

complete control over their restaurants from anywhere.”<sup>49</sup> While it is debatable whether cloud-based POS systems provides owners “complete control,” it is true that this technology has revolutionized the industry by streamlining the dining and work shift experience from check in to check out.<sup>50</sup>

## II: HARMS TO CONSUMERS, LABORERS, AND RESTAURANTS

While the new shape of the restaurant industry has benefitted consumers, workers, and restaurants by reducing costs and increasing efficiencies of certain products and services, it has the general effect of making all three parties increasingly reliant on platform companies. This reliance, facilitated by the centralization of data collection and sharing in the restaurant industry, deepens asymmetries between platforms and other industry actors, increasing the platforms’ competitive advantage over them. Platform companies, under the guise of the term “sharing economy,” shift liability and risk onto employees and consumers.<sup>51</sup> In this section, I focus on DoorDash and UberEats, and OpenTable and SevenRooms—platform companies that chiefly operate in takeout and reservation services, respectively—but the harms illustrated here play out across core functions of the industry.

### A. Harms to Consumers

Platform companies’ centralization of data collection and sharing practices increases information asymmetries between platforms and consumers in four ways. First, it normalizes the collection of consumer data without transparently informing the consumer that their data will be exploited for profit. Second, it facilitates the sharing of consumer data without compensation. Third, it leads consumers to drive further data collection. And fourth, it reconfigures communications infrastructures within the restaurant industry to allow platforms to engage in data-based surplus extraction while

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<sup>49</sup> TOAST, *Evolution of POS*, *supra* note 45. See also AURES, *The History of Point of Sale*, *supra* note 45.

<sup>50</sup> One additional area that is increasingly becoming dominated by platform companies, and is growing as a result, is the loyalty program. Loyalty programs are outside the scope of this paper, as they are not so common in sit-down restaurants and are more common in fast casual establishments and coffeeshops. They are like the other topics this paper touches on, however, because they enable companies to collect data on customers. Loyalty programs have served as a vehicle for the entry of facial recognition technology into the food service industry. Richard Carriere, *Is It Time for Facial Recognition in Restaurants?*, QSR MAGAZINE (Jan. 21, 2022), <https://www.qsrmagazine.com/outside-insights/it-time-facial-recognition-restaurants> [<https://perma.cc/NE7A-NRRW>].

<sup>51</sup> Lobel, *supra* note 10, at 105.

confining consumer choice by, for example, making it harder for consumers to choose to dine in accordance with their interests and ethics.

### 1. Normalizing Data Collection

The integration of platform technologies into the restaurant industry has normalized a deeper and more widespread collection of consumer data. Not only do the platform companies themselves engage in this data collection, but restaurants also increasingly collect vast amounts of personal data on their consumers, making the industry another space in which de facto surveillance is normalized.<sup>52</sup>

Reservation software company SevenRooms, for example, enables restaurants to collect and store data on a consumer's experience, including their arrival time, order details, spending amount, and even their allergies.<sup>53</sup> SevenRooms also enables restaurants to collect personally identifiable information on consumers themselves, such as their email, phone number, and birthday for rewards programs.<sup>54</sup> SevenRooms encourages restaurants to use this information to "remarket" themselves to diners using "personalized campaigns that drive repeat business" in an effort to make data collection central to the regular functioning of the industry.<sup>55</sup>

Platform companies and restaurants provide little information to consumers regarding how the information they provide is stored, aggregated, and shared. This unchecked collection of consumer data falls in line with unconstrained corporate data collection: something that modern privacy scholars see as contributing to profound and unwelcome changes to the way that industries are ordered.<sup>56</sup>

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<sup>52</sup> See Iria Giuffrida, *Smart Cities and Sustainability: A New Challenge to Accountability?*, 45 WM. & MARY ENV'T L. AND POL'Y REV. 739, 766 (2021) (linking checking in at restaurants to a part of loss of privacy for individuals).

<sup>53</sup> Grace Dean, *Why London Department Store Harrods is Partnering With Software Company SevenRooms to Track Whether Diners are Big Spenders or Late to Bookings*, BUS. INSIDER (Nov. 20, 2021), <https://www.businessinsider.com/harrods-sevenrooms-restaurant-technology-dining-data-booking-reservation-software-2021-11> [<https://perma.cc/F5QQ-2953>].

<sup>54</sup> *Id.*

<sup>55</sup> *Getting Started with Direct Reservations*, SEVENROOMS, 2, [https://go.sevenrooms.com/rs/519-YNM-008/images/Sevenrooms\\_Direct\\_Reservations\\_Playbook\\_Clients.pdf](https://go.sevenrooms.com/rs/519-YNM-008/images/Sevenrooms_Direct_Reservations_Playbook_Clients.pdf) (last visited May 16, 2022) [<https://perma.cc/3LE3-ZS95>].

<sup>56</sup> See Cohen, *Platform Economy*, *supra* note 4, at 135 (asserting that platforms are not simply new business models, rather they are core organizational forms of the emerging informational economy. Platforms do not enter or expand markets; they replace and rematerialize them); see Shoshana Zuboff, *Surveillance Capitalism*, PROJECT SYNDICATE (Jan. 3, 2020), <https://www.project-syndicate.org/onpoint/surveillance-capitalism->

## 2. Increased Data Sharing

Platform companies have also increased their sharing of consumer data by increasing the distance that information travels, often without compensating or even informing consumers of this change. Platform companies, by sharing data across industries, increase information asymmetries between themselves and consumers by using consumer data for profit. In return, they provide only the nebulous promise of “convenience” without being clear about the cost.

SevenRooms has intra-industry data-sharing partnerships, such as its partnership with BookaTable<sup>57</sup> It also has inter-industry data-sharing partnerships with companies like Harrods, the famous London department store.<sup>58</sup> In 2018, SevenRooms received an investment from Amazon’s Alexa Fund to introduce in-service voice-enabled technology for the restaurant industry. This was the Alexa Fund’s first investment in the restaurant industry.<sup>59</sup> SevenRooms stated in a 2018 press release that this investment and technology development “will pave the way for SevenRooms to integrate Amazon Alexa into its restaurant operations and guest relationship management experience.”<sup>60</sup> Similarly, OpenTable is owned by Booking Holdings, which also owns booking.com, kayak.com, and Priceline. This structure provides a pipeline for diner data to travel seamlessly from the restaurant to a car rental company.<sup>61</sup> Platform integration drastically increases the scope of data sharing in reservations without explicit consent from—or compensation to—consumers. Consumers lack information about when and how their information is shared beyond the parties to whom they directly provide it. This results in increased information asymmetries between the consumers and the platforms.

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exploiting-behavioral-data-by-shoshana-zuboff-2020-01 (describing an emerging economic system of surveillance capitalism as one that channels human behavior and experience into information that enables increasingly powerful platforms to profit, predict our behavior, and manipulate us to act) [https://perma.cc/GA88-7VNJ].

<sup>57</sup> Press Release, SevenRooms, SevenRooms and Bookatable Announce Global Partnership (May 1, 2019), <https://sevenrooms.com/en/press/sevenrooms-and-bookatable-announce-global-partnership/> [https://perma.cc/93VJ-ZWG6].

<sup>58</sup> Dean, *supra* note 53.

<sup>59</sup> Alicia Kelso, *OpenTable Blocks Data Sharing With Competitors*, RESTAURANT DIVE, (Mar. 18, 2019), [hereinafter Kelso, *OpenTable*], <https://www.restaurantdive.com/news/opentable-blocks-data-sharing-with-competitors/550662/> [https://perma.cc/E5CX-5TA3].

<sup>60</sup> Press Release, *SevenRooms*, SevenRooms Announces New Funding from Amazon Alexa Fund (Oct.17, 2018), <https://sevenrooms.com/en/press/sevenrooms-announces-new-funding-from-amazon-alexa-fund/> [https://perma.cc/K6U7-XFRF].

<sup>61</sup> Nanos, *supra* note 22.

Data determinists protest that data sharing is inevitable and that consumers tacitly consent to having their data shared across industries when they create an account with a company like OpenTable, because they know that these platforms have footprints—or at least partnerships—across industries.<sup>62</sup> But consumer reactions to data breaches indicate that diners might not condone widespread sharing of their data if they had a clearer picture of what it looked like. According to a study by Gemalto, a digital security company, sixty-four percent of consumers are unlikely to do business with a company that has suffered a data breach.<sup>63</sup> Widespread data sharing not only exposes consumers to having their personal information hacked,<sup>64</sup> it also simulates the consumer experience of a hack even in the absence of a breach by sharing data beyond the consumer's knowing consent.

If consumers knew more about how widely their data travels across platforms, they might be less likely to engage SevenRooms or OpenTable in their dining experience. The information asymmetry between platforms and consumers harms consumers because it enables platforms to continue sharing information about consumers without being held accountable to inform or compensate those same consumers.

### 3. Deputizing Datafication

Consumers also drive restaurant datafication.<sup>65</sup> As platforms reshape the industry, consumers become dependent on conveniences that accompany

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<sup>62</sup> See MICHAEL KERNS & AARON ROTH, *THE ETHICAL ALGORITHM: THE SCIENCE OF SOCIALLY AWARE ALGORITHM DESIGN 2* (2019).

<sup>63</sup> Bluefin Blog, *The Rise in Restaurant Data Breaches and the Need to Devalue Consumer Data*, BLUEFIN (Jan. 23, 2020), <https://www.bluefin.com/bluefin-news/the-rise-in-restaurant-data-breaches-and-the-need-to-devalue-consumer-data/> [<https://perma.cc/LE5F-Q7FR>]. *The restaurant industry has been hit particularly hard by data breaches. POS intrusions in 2019, for example, were over 40 times more common in food service businesses compared to other sectors.*

<sup>64</sup> See Robert Hackett, *How Panera Bread Fumbled – And What to Learn From It*, FORTUNE (Apr. 4, 2018), <https://fortune.com/2018/04/04/panera-bread-data-leak-lessons/> [<https://perma.cc/KNR4-T43X>]; Holly Everett, *POS Data Breaches: A Comprehensive List of Restaurants*, UPSERVE (Jan. 5, 2020), <https://upserve.com/restaurant-insider/pos-data-breaches/> [<https://perma.cc/5UEE-Q3JF>]; Robert Liles, *Fast Food Giant McDonald's Suffers Data Breach*, SECURE DATA (June 16, 2021), <https://www.securedata.com/blog/fast-food-giant-mcdonalds-suffers-data-breach> [<https://perma.cc/V34D-V6LF>]; Bluefin Blog, *The Rise in Restaurant Data Breaches and the Need to Devalue Consumer Data*, BLUEFIN (Jan. 23, 2020), <https://www.bluefin.com/bluefin-news/the-rise-in-restaurant-data-breaches-and-the-need-to-devalue-consumer-data/> [<https://perma.cc/QJK5-YL8T>].

<sup>65</sup> See, e.g., Danny Klein, *Restaurants, Meet the 'Multiplatform Consumer'*, QSR (Jan. 25, 2022), <https://www.qsrmagazine.com/consumer-trends/restaurants-meet-multiplatform-consumer> (describing how consumers themselves are driving datafication) [<https://perma.cc/U2QZ-6S2W>].

the widespread availability of their data. Consumers do not expect to input their credit card number each time they order an UberEats delivery. They do not expect to input their email each time they make a reservation on OpenTable. These expectations are perpetuated by the desire for a seamless dining experience, which is made feasible when the restaurant and platform possess troves of consumer data. By galvanizing consumers to drive datafication of the industry, platform companies have enlisted consumers to perpetuate the information asymmetries that may negatively affect them. If consumers were fully informed of the implications of their decision to drive data use and sharing, that decision itself would be less harmful. However, where consumers drive data collection and sharing without clear knowledge of the harms imparted on them<sup>66</sup> and other parties to the industry,<sup>67</sup> platform companies directly harm consumers by deputizing them to achieve further datafication of the industry.

#### 4. Limited Consumer Choice

Information asymmetries limit consumers' ability to support restaurants in a way that aligns with their interests and ethics. Platform company partnerships are expensive for restaurants—and in some cases, consumers. Delivery companies, in addition to the delivery fee they charge consumers, charge restaurants up to thirty percent on each order.<sup>68</sup> Because consumers generally lack this information, they are less empowered to support businesses of their choice by, for example, making informed decisions to pick up directly from the restaurant they want to support instead of ordering through UberEats. As platforms grow in prominence, a smaller portion of every consumer order goes to the business they want to support.

Additionally, platform companies reconfigure communications infrastructures within the restaurant industry, disrupting traditional information flows, some of which—such as pathways that traditionally enabled consumers to choose to dine in alignment with their ethics and interests—are not rehabilitated. Platforms introduce friction into the pre-existing channels for information collection and sharing. They create new channels that better facilitate the platforms' abilities to engage in data-based surplus extraction.<sup>69</sup> This increases information asymmetry between platforms and consumers because companies with data about consumers' interests provide limited options to empower consumers to search for establishments that meet consumer interests.

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<sup>66</sup> See discussion, *supra* Part II.A.1 and Part II.A.2; see discussion, *infra* Part II.A.4.

<sup>67</sup> See discussion, *infra* Part II.B and Part II.C.

<sup>68</sup> Ahuja, *supra* note 29, at 6.

<sup>69</sup> See TRUTH AND POWER, *supra* note 2, at 40.

For example, if a consumer wants to support Black-owned businesses, the platform economy makes this challenging in two ways. First, only a few of the platforms that direct consumers to restaurants—UberEats and OpenTable, among others—allow consumers to search using a filter for Black-owned restaurants. This is changing slowly. Google now has a feature that allows businesses to identify themselves as being Black-owned.<sup>70</sup> It does not, however, enable consumers to search for restaurants using other categorical markers such as businesses with environmentally friendly operations. As diners increasingly use platforms to decide where to eat, that inability to search for restaurants with environmentally friendly operations versus the ease of searching for southern comfort food restricts the availability of tools empowering diners to choose establishments aligned with their ethics and interests. Platform companies have placed themselves in the middle of information collection and sharing channels that previously existed directly between restaurants and consumers. This shift often disempowers consumers from the ability to choose to dine in alignment with their ethics and interests.

## B. Harms to Labor

Restaurant datafication has also created harmful asymmetries between workers and platform companies in two respects. First, it has allowed platforms and restaurants to leverage worker data to maximize worker efficiency without yielding downstream benefits to the workers themselves. Second, it has deepened the effects of this leveraging by transforming the labor market into one largely constituted by gig economy workers, which tightens the platform companies' ability to surveil workers.

### 1. Leveraged Data to Reduce Labor Power

Platform companies and restaurants increasingly use employee data to extract surplus labor value, infringe on worker rights, and reduce labor power of the individual worker. Productivity apps give employers more tools to subject workers to less than 40-hour work weeks,<sup>71</sup> which in many cases results in the denial of benefits. In-house workers whose shifts are canceled or changed at the last minute can be subjected to hours of chaos as they try to rearrange their schedules.<sup>72</sup> For delivery workers, clocking in is synonymous

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<sup>70</sup> Taylor Lyles, *Google is Now Making it Easier to Find Black-Owned Businesses*, THE VERGE (Jul. 31, 2020, 6:15 AM), <https://www.theverge.com/2020/7/31/21348990/google-black-owned-businesses-maps-search> [<https://perma.cc/7JM3-4LW2>].

<sup>71</sup> Jodi Kantor, *Working Anything But 9 to 5*, N.Y. TIMES (Aug. 13, 2014), <https://www.nytimes.com/interactive/2014/08/13/us/starbucks-workers-scheduling-hours.html> [<https://perma.cc/N9QP-2H65>].

<sup>72</sup> Kantor, *supra* note 71.



with opting into uninterrupted GPS monitoring of their activities. This provides entry points for delivery companies to violate driver privacy by tracking their movements outside of work,<sup>73</sup> and it promotes self-surveillance.<sup>74</sup> Some of these apps rely on wearable tracking devices that have proven to be inconsistent.<sup>75</sup> The incomplete data can be manipulated to discriminate against workers who belong to protected classes.<sup>76</sup> Given these practices increase information asymmetries between platforms and workers, it is unclear whether workers actually consent to tracking by apps even when they grant apps explicit permission.<sup>77</sup>

DoorDash encourages workers to make “stacked” deliveries by picking up multiple orders at once from a restaurant. This expedites the delivery process but decreases the payout per order for the worker who is paid for pickups, drop-offs, and distance between locations.<sup>78</sup> Stacked deliveries cut down on the pickup cost—because the delivery person is paid once for three pickups rather than three times for three pickups—and the distance cost—because the apps coordinate routes to cut distance traveled.<sup>79</sup> Delivery workers who run stacked orders usually receive more money per run but less money per order completed. Workers are tipped per order, which makes deliverers running stacked deliveries proportionally more dependent on the end-consumer to tip.<sup>80</sup> Delivery companies use techniques like stacking to leverage data they collect to increase profit, squeezing the workers for efficiency while delivering most of the payout to the platform company. In this structure, platform companies leverage the workers’ information to increase profits for the company without providing a commensurate benefit for the worker.

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<sup>73</sup> Ifeoma Ajunwa, Kate Crawford, and Jason Schultz, *Limitless Worker Surveillance*, 105 CALIF. L. REV. 735, 772 (2017).

<sup>74</sup> *Id.* at 770.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* at 769.

<sup>78</sup> *Seven Questions to Ask Before Accepting Multiple or Stacked Orders on GrubHub, DoorDash, UberEats*, ENTRECOURIER (May 6, 2020), <https://entrecourier.com/delivery/delivery-strategies/multi-apping/multiple-stacked-deliveries-grubhub-doordash-postmates-uber-eats/> [https://perma.cc/CU6R-8MB4] (last visited May 16, 2022).

<sup>79</sup> Niels van Doorn & Julie Yujie Chen, *Odds Stacked Against Workers: Datafied Gamification on Chinese and American Food Delivery Platforms*, 19 SOCIO-ECONOMIC REVIEW 1345, 1357 (Oct. 2021).

<sup>80</sup> *See id.*

## 2. Workers Pushed to Gig

Platform technologies introduced the gig economy—a free-market system using freelance work to perform short-term commitments<sup>81</sup>—to the industry. The push toward gig raises complicated questions for delivery workers when it comes to employment given that, for example, Uber claims that it owns no vehicles and employs no drivers.<sup>82</sup> While gig work yields some advantages for workers, such as giving them more flexibility and control over their hours,<sup>83</sup> it also datafies delivery, empowering platforms to constantly surveil workers without employing them.

Delivery platforms use data driven techniques to manipulate their flexible labor supply to cut costs, achieve higher productivity levels, and meet the expectations of investors and shareholders.<sup>84</sup> Delivery companies imported these techniques from ride hail platforms, which surveil drivers by collecting drivers' behavioral data to generate automated performance reports.<sup>85</sup> The data collected is not only used to evaluate drivers, but also to influence their behavior. For example, delivery platforms offer delivery workers more money during “surges”—times when the number of orders is particularly high or the number of drivers is particularly low.<sup>86</sup> The push toward the gig economy enables platforms to use information they gather about workers to evaluate them and influence their behavior, often without providing the worker with information regarding the employer's practices. This information asymmetry enables platforms to effectively manipulate workers without their knowledge.

### C. Harms to Restaurants

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<sup>81</sup> *Gig Economy*, MERRIAM-WEBSTER.COM, <https://www.merriam-webster.com/dictionary/gig%20economy> (last visited May 16, 2022) [<https://perma.cc/6FFL-HL7Q>].

<sup>82</sup> See Keith Cunningham-Parmeter, *From Amazon to Uber: Defining Employment in the Modern Economy*, 96 B.U. L. REV. 1673, 1685 (2016); see also Lobel, *supra* note 10, at 98 (“Uber asserts it is not a taxi business, but rather merely an app and network. It argues that it owns no cabs and the cab drivers are not employees, but rather independent contractors.”); *Salovitz v. Uber Techs., Inc.*, No. A-14-CV-823-LY, 2014 WL 5318031, at \*1 (W.D. Tex. Oct. 16, 2014).

<sup>83</sup> See Liya Palagashvili & Paola A. Suarez, *The Gig Economy, Transaction Costs, and Female Participation*, 16 J.L. ECON. & POL'Y 65, 83 (2021).

<sup>84</sup> Doorn & Chen, *supra* note 79, at 1363.

<sup>85</sup> Alexandra Mateescu & Aiha Nguyen, *Algorithmic Management in the Workplace*, DATA & SOCIETY 5 (Feb. 2019), [https://datasociety.net/wp-content/uploads/2019/02/DS\\_Algorithmic\\_Management\\_Explainer.pdf](https://datasociety.net/wp-content/uploads/2019/02/DS_Algorithmic_Management_Explainer.pdf) [<https://perma.cc/LVU6-DHH9>].

<sup>86</sup> *Id.* at 6.

Aenean eleifend pellentesque pretium. Nunc condimentum sapien in leo lacinia, eget ornare nisl congue. Nunc et gravida est. Pellentesque volutpat velit et odio tincidunt, vel hendrerit ante rhoncus. Suspendisse massa sapien, egestas ut scelerisque ac, posuere at risus. Nulla nec efficitur nunc. The information asymmetries resulting from the rise of platform companies in the restaurant industry harm restaurants because, in the age of informational capitalism, they compel restaurants to increasingly rely on platforms, forcing them to siphon off large percentages of profits to platform companies. Restaurants operate along the same narrow profit margins they had before datafication of the restaurant industry occurred. Now they face the additional pressure of leaning on technological functions of platform companies to stay alive. The fact that platform companies have reshaped consumer expectations doubles this pressure. A restaurant's reputation now somewhat relies on how tech-forward and convenient the restaurant is from the consumer viewpoint. In many cases being "tech-forward" requires that restaurants further integrate platform services.

Historically, restaurants have operated with seven to twenty-two percent profit margins<sup>87</sup> and about sixteen days of cash on hand.<sup>88</sup> These narrow margins and shallow wells leave restaurants vulnerable to delays or loss of revenue that could come from external economic or health crises. Recently, these crises have quickly caused restaurants to become dependent upon platform companies for survival. While datafication helped restaurants stay afloat through the shock of Covid by connecting customers with restaurants despite isolation and social distancing, industry members and technologists alike raise alarms that platform companies exhibit predatory behavior.<sup>89</sup> Growing information asymmetries will remain in place after Covid. These conditions are unsustainable for restaurants in the long term.

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<sup>87</sup> Ahuja, *supra* note 29, at 5.

<sup>88</sup> Karen G. Mills & Annie V. Dang, *Building Small Business Utopia: How Artificial Intelligence and Big Data Can Increase Small Business Success*, BIG DATA IN SMALL BUS. 15 (Carsten Lund Pedersen, Adam Lindgreen, Thomas Ritter & Torsten Ringberg eds., 2021).

<sup>89</sup> See Neal Polachek, *Dominos Backs Local Restaurants in Battle Against Delivery Apps*, LOCALOGY (Nov. 20, 2021), <https://www.localogy.com/dominos-backs-local-restaurants-in-battle-against-big-delivery-apps/> [<https://perma.cc/XJE2-LGL3>]. Separately, *workforce management companies have experienced incredible growth in valuation this year while restaurants continue to operate on thin margins*. 7shifts, for example, raised \$21.5 million in an investing round in the spring of 2021 and an additional \$80 million in a funding round that closed in February of 2022. *While the technology companies increasingly approach the \$100 million mark in annual investments, restaurants increasingly are struggling to keep their doors open*. Alicia Kelso, *7shifts Raises \$80M to Grow Workforce Management Tech*, RESTAURANT DIVE (Feb. 11, 2022), <https://www.restaurantdive.com/news/7shifts-raises-80m-to-grow-workforce-management-tech/618699/> [<https://perma.cc/GDC6-P8WX>].

Outsourced delivery helped many restaurants survive the Covid crisis, but the added cost of delivery services is unsustainable for restaurants.<sup>90</sup> During the pandemic, many restaurants moved from a thirty percent delivery-based business to an eighty percent delivery-based business.<sup>91</sup> The percentage of delivery-based business has stayed high even as the world begins to open. Delivery channels have been refined through platform data collection and sharing practices, and it appears that delivery as a large portion of restaurant business is here to stay.

While platforms benefitted greatly from information gathered during these desperate times for restaurants, restaurants did not mutually obtain access to information about the platforms. Instead, restaurants are being forced to respond reactively. For example, a Florida restaurant group recently sued Google, alleging Google's blue "order online" button has diverted millions of consumers to order through Google rather than ordering from a restaurant's own website.<sup>92</sup> The restaurant group alleges the webpages Google created to enable direct ordering for consumers are "unauthorized and deceptively branded."<sup>93</sup> Google was likely able to use information about consumer ordering practices to develop this tool, and restaurants lacked information about the platform to see the tool coming.

Datafication and resulting informational asymmetry have forced restaurants to rely on technology platforms, cutting into already narrow profit

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<sup>90</sup> *UberEats charges a one-time \$350 setup and equipment fee and 15-30% per delivery.* Joe Guszowski, *UberEats Introduces Tiered Plan for Restaurants*, RESTAURANT BUS. ONLINE (Sept. 13, 2021), <https://www.restaurantbusinessonline.com/technology/uber-eats-introduces-tiered-pricing-plan-restaurants> [<https://perma.cc/8JFS-ZDGA>]. *GrubHub charges no initial fee, but it charges a 20% marketing fee, a 10% delivery fee, and a flat base and percentage processing fee on each order.* GrubHub, *See for Yourself how GrubHub Can Deliver Profits*, <https://get.grubhub.com/resources/grubhub-profit-calculator/> [<https://perma.cc/JWW8-JNZH>] (last visited May 16, 2022). Historically, *DoorDash did not disclose the fee model it uses to charge restaurants for its delivery services because "it offers a variety of packages to restaurants."* See Anthony Ha, *DoorDash Announces New Pricing for Restaurants, With Commissions as Low as 15%*, TechCrunch (Apr. 27, 2021), <https://techcrunch.com/2021/04/27/door-dash-pricing/> [<https://perma.cc/M3GG-MRUL>] (announcing DoorDash's new pricing plan for restaurants and its previous refusal to offer standardized pricing across restaurants). *The lack of collective knowledge of DoorDash partnership terms prevented restauranteurs from more effectively negotiating packages with the platform company.*

<sup>91</sup> Dain Evans, *How Delivery Apps Have Changed the Restaurant Business*, CNN (Mar. 31, 2021), <https://www.cnn.com/2021/03/31/door-dash-grubhub-and-uber-eats-have-changed-the-restaurant-business.html> [<https://perma.cc/L52Y-ZZTZ>].

<sup>92</sup> Tim De Chant, *Google "Hijacked Millions of Customers and Orders" From Restaurants Lawsuit Says*, ARS TECHNICA (Mar. 14, 2022), <https://arstechnica.com/tech-policy/2022/03/google-hijacked-millions-of-customers-and-orders-from-restaurants-lawsuit-says/> [<https://perma.cc/FG8F-MR6X>].

<sup>93</sup> *Id.*

margins. As delivery services become more popular and platforms further integrate their services into each function of the industry, the conditions created become less sustainable for restaurants.

### III. LOOKING TO THE LAW FOR A SOLUTION

The purpose of this Note is to identify information asymmetries in the restaurant industry as harms that exist—and are expanding—between platform companies and industry actors because of the datafication of the industry. While this Note largely leaves the development of solutions for later works, I will briefly discuss steps that lawmakers and researchers should avoid, and those they should consider taking, to address this problem.

Platform companies—which profit from integrating mechanisms for data-driven resource extraction into the restaurant industry—should not be responsible for developing tools to counter the harms that they themselves created. Instead, this is the role of lawmakers and policy experts. Current laws and regulations that affect players in the restaurant industry generally fail to address this problem for two reasons.

First, laws and regulations largely fail to account for the presence of platform companies in this industry.<sup>94</sup> Relatedly, they fail to confront data as a tool for exacerbating inequities between parties to the industry.<sup>95</sup> Laws and regulations that govern the restaurant industry should acknowledge the presence of platform companies and regulate data collection and sharing directly. Achieving the first goal is simple: Lawmakers can acknowledge the presence of platform companies by amending laws that govern the industry to include provisions that define platform companies and detail how platforms must adapt to carry out the proposed mandate. This is beginning to occur at the state and local level.<sup>96</sup> While a patchwork state-by-state solution may lead to uneven regulations around the country, it is a more realistic starting point than a federal law that acknowledges the presence of platform companies in this industry.

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<sup>94</sup> Looking specifically at DC regulations that govern restaurant industry operations, for example, Reopening DC Guidance, the regulations often fail to mention the role that platform companies must play in support of restaurants making these shifts. Reopening DC Guidance, <https://abra.dc.gov/page/reopening-dc-guidance> [<https://perma.cc/Y6PT-D885>] (last visited May 16, 2022).

<sup>95</sup> See D.C. Law 23-130 § 205 and the recent regulation of disposable cutlery. It acknowledges platforms, but fails to address datafication as a problem (defining “third-party food delivery platform” and making it illegal for one to charge a restaurant a commission fee greater than 15% of the purchase price per online order during a public health emergency).

<sup>96</sup> See, e.g., D.C. Code § 8-1533 (including a definition of a “third-party food ordering platform,” at § 401(a)(8) and requirements relating to platforms at §§ 403(e)(2)–(3)).

The second goal presents more of a challenge. Lawmakers sometimes turn to data ownership structures to ameliorate the harm of corporate abuse of consumer data, but this fix does not always work. In fact, as scholar Elettra Bietti's work elucidates, ownership or labor-based rights and incentives over data fuel data production even when that data is unnecessary, which leads back to the same distributive effects that this Note calls out.<sup>97</sup> The goal of addressing datafication is not to incentivize the creation of more data, but rather to enable a fairer flow of information among the entities. For these two reasons, developing regulations that define data ownership among parties to the industry is likely not the right solution. However, increasing data mobility might be a better solution.

But data mobility alone is insufficient to mitigate information asymmetries that have already redefined the industry. Policymakers must also adopt legal tools that respond to scale-based effects of platforms.<sup>98</sup> Without this adjustment, the law will fail to hold platforms accountable for the real harms they indirectly pass onto data subjects long after the data is initially shared.

#### A. Laws Should Enable Data Mobility

Increasing data mobility would replace the winner-takes-most dynamic that currently dominates markets such as the restaurant industry.<sup>99</sup> As Part II illustrates, datafication enables platform companies to accumulate knowledge through data collection and maximize profits using data processing and sharing. If laws require industry members to agree to common standards that give consumers more control over their data—allowing them to choose when it is moved and shared between platforms and restaurants—platforms would lose some of their power. This could reshape platform-centric dependency structures that are ossifying in the industry. This will likely lead

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<sup>97</sup> See Elettra Bietti's discussion of single party ownership, data as compensation and data as a share of profit, all of which can perpetuate distributive harms. Elettra Bietti, *Locked-In Data Production: User-Dignity and Capture in the Platform Economy*, HARV. CTR. FOR ETHICS (May 13, 2019), <https://ethics.harvard.edu/elettra-bietti-may-13-2019> [https://perma.cc/G5QN-Y6JQ].

<sup>98</sup> See Julie E. Cohen, *From Lex Informatica to the Control Revolution*, 36 BERKELEY TECH. L. J., 21-23 (forthcoming 2022) [hereinafter *Cohen, Lex Informatica*].

<sup>99</sup> See Jason Furman, *Unlocking Digital Competition*, OPEN GOVERNMENT LICENSE 9 (Mar. 2019),

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/785547/unlocking\\_digital\\_competition\\_furman\\_review\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf)

[https://perma.cc/DA2E-2MBS].

to more competition and innovation, causing restaurants and platforms to compete to be the party with which data subjects choose to share data.<sup>100</sup>

Data feuds between platform companies exemplify how increased mobility could shift dependency structures. OpenTable and SevenRooms entered a data feud in 2019, when OpenTable updated its client agreement to forbid restaurants from giving certain diner data to other platforms.<sup>101</sup> Prior to 2019, OpenTable automatically shared diner data with the restaurants where customers ate. The updated client agreement changed this automatic exchange so that users of OpenTable can “opt in” to data sharing when they make reservations, but sharing is no longer automatic.<sup>102</sup> If restaurants or companies request the protected data, OpenTable reserves the right to block access to the data unless the consumer explicitly directs the company to share it.<sup>103</sup> Competitors, like SevenRooms, speculated that OpenTable used “privacy protection” as a pretextual excuse to lock out rivals and restaurateurs who use this data for marketing.<sup>104</sup>

Companies like OpenTable and SevenRooms exploit the absence of a legally agreed upon common standard of data mobility to exercise their control over data flows while restaurants, consumers, and laborers alike struggle to respond to platform company policy shifts.<sup>105</sup>

Restaurant operators and SevenRooms were jointly disgruntled by OpenTable’s disruption of their ability to work together.<sup>106</sup> The CEO of OpenTable claimed that the company updated its client agreement to ensure compliance with then-upcoming privacy laws,<sup>107</sup> but in response to criticism, OpenTable allowed SevenRooms to use its data if restaurants paid a fee.<sup>108</sup> Both companies use the vague idea of empowerment through data ownership to benefit their businesses, but in the absence of legal consensus regarding when consumers can choose to share or move their data, these companies are merely engaging in marketing techniques and locking out rivals.

Platform companies already face requirements for portability and interoperability under existing laws such as the General Data Protection Regulation, the EU Digital Markets Act, and state laws such as the California Consumer Protection Act. Consumers and workers might be able to rely on these requirements to claim data from platforms like OpenTable. Skeptics may

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<sup>100</sup> *See id.* at 11.

<sup>101</sup> *See* Kelso, *OpenTable*, *supra* note 59.

<sup>102</sup> Lisa Jennings, *OpenTable Tightens Control on Consumer Information*, NATION’S RESTAURANT NEWS, (Mar. 15, 2019).

<sup>103</sup> *See id.*

<sup>104</sup> *Id.*

<sup>105</sup> *See id.*

<sup>106</sup> *See* Kelso, *OpenTable*, *supra* note 59.

<sup>107</sup> *See* Jennings, *supra* note 102.

<sup>108</sup> *See* Kelso, *OpenTable*, *supra* note 59.

argue that, because opting into data sharing on platforms like OpenTable is mindless and automatic, it would be futile to depend upon industry parties to recalibrate information structures in the restaurant industry by choosing to claim their data. However, laws that use portability and interoperability requirements to increase data mobility do not depend upon consumers, workers, and restaurants to claim their data to increase data mobility; rather, they carve out pathways for increased mobility that industry parties can choose to take advantage of.

Policymakers have the ability, and perhaps the responsibility, to map pathways for restaurant industry members to use existing laws to increase data mobility and to establish common legal standards that define data mobility in the industry.<sup>109</sup> While common legal standards defining data mobility will likely be imperfect, they are necessary to achieve a more equitable distribution of rewards in a data economy.

### B. Law Itself Must Adjust

In addition to responding to technological developments with regulation, the tools of the law must themselves be adapted to better fit the environment of informational capitalism. The law would more effectively govern the restaurant industry in the age of informational capitalism if it reckoned with the scale-based effects of the platforms. As it stands, if a restaurant shares consumer or employee data with third parties, those parties can then share it further without notifying the subject of the data.<sup>110</sup> There is a reason that platform companies are generally underregulated. As technology law scholar Julie Cohen has written, legal institutions do not adequately contend with scale-based effects of datafication or the process of data-driven intermediation that produce and perpetuate them.<sup>111</sup> This is as true in the restaurant industry as it is anywhere in today's economy.

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<sup>109</sup> For state and local jurisdictions, one additional way to increase data mobility is to establish regulations that incentivize the formation of data cooperatives among restaurants and among data subjects (this includes the customers and workers in this industry). Data cooperatives provide frameworks for the voluntary and collaborative pooling of data to meet the mutual needs of a group. See Yochai Benkler, *The Realism of Cooperatives*, in *OURS TO HACK AND TO OWN* 93 (Trebor Scholz & Nathan Schneider eds., 2016). These cooperatives could empower industry parties to bargain for more information from platform companies, thereby increasing information mobility. For example, restaurants in a data cooperative could collectively request that a company like DoorDash disclose its fee model. See discussion, *supra* Part I.C. A discussion about data cooperatives first requires a more in-depth discussion about data ownership, however, which is beyond the scope of this paper.

<sup>110</sup> See Thorin Klosowski, *The State of Consumer Data Privacy Laws in the US*, N.Y. TIMES (Sept. 6, 2021), <https://www.nytimes.com/wirecutter/blog/state-of-privacy-laws-in-us> [<https://perma.cc/KT2K-7K2K>].

<sup>111</sup> See Cohen, *Lex Informatica*, *supra* note 98, at 21-22.



Cohen locates a mismatch between legal protections of privacy that are oriented toward individual control rights and the data collecting, processing, and sharing practices they constrain, which are designed to operate on populations.<sup>112</sup> The current focus on individual control rights inadequately contends with data practices designed to operate on populations by failing to hold data sharers accountable not just to the data subject, but also to the entire chain of actors who contribute to data collection and are affected by data proliferation.

Data changes over time as well as when it changes hands. It generally increases in value as it is aggregated. Today's legal structure fails to contend with the scale-based effects of the value of data and the methods that platforms use to extract and appropriate that value. The rise of platform companies calls for a shift for legal structures themselves to better respond to the scale-based effects of the information economy.

#### CONCLUSION

The “La Mallorcas” of the world are becoming fewer and farther between—especially in urban areas in the United States. Platform companies contribute significantly to this phenomenon. They have datafied the restaurant industry without much legal or industry pushback. While diners, workers, and restaurants are unlikely to resist this sea change because they enjoy the conveniences and efficiencies of datafication, they also face real harms associated with emerging information asymmetries. Further research is needed to build the public's perceived legitimacy of this problem. Simultaneously, state and local policymakers should develop laws that acknowledge the presence of platforms in the industry and common standards that give consumers more control over their personal data.

Finally, restaurant industry members should be included in these processes. Despite their substantial employment numbers and tendency to interface broadly with the public, small businesses tend to be excluded from policy conversations and economic models, which instead focus on investments made by big businesses, consumer trends, and government spending.<sup>113</sup> But researchers and policymakers need industry input to create effective solutions. Only under these circumstances will feasible solutions to these elusive harms become possible.

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<sup>112</sup> *See id.*

<sup>113</sup> *See Mills & Dang, supra* note 88, at 13.