Committee on Small Business

Stephanie Jones, *Legislative Counsel*

Noah Meixler, *Legislative Policy Analyst*

Aliya Ali, *Finance Analyst*



**THE COUNCIL OF THE CITY OF NEW YORK**

##### COMMITTEE REPORT OF THE

##### GOVERNMENTAL AFFAIRS DIVISION

*Jeffrey Baker, Legislative Director*

*Rachel Cordero, Deputy Director, Governmental Affairs*

**COMMITTEE ON SMALL BUSINESS**

*Hon. Mark Gjonaj, Chair*

**February 6, 2020**

**Oversight:** “Ghost Kitchens” “Virtual Restaurants” and the Future of the Restaurant Industry

1. **INTRODUCTION**

On February 6, 2020, the Committee on Small Business, chaired by Council Member Mark Gjonaj, will conduct an oversight hearing entitled, “‘Ghost Kitchens’ ‘Virtual Restaurants’ and the Future of the Restaurant Industry.”This hearing will explore the rise of ghost kitchens in New York City and across the country, and how this new innovation is currently being regulated, as well as its impact on locally owned restaurants. Those invited to testify include the Department of Small Business Services (“SBS”), the Department of Health and Mental Hygiene (“DOHMH”), ghost kitchen operators, representatives from third-party delivery platforms, Business Improvement Districts (“BIDs”), associations representing small businesses, and other community-based non-profit organizations.

1. **BACKGROUND**
2. **Terminology and Definitions**

Ghost kitchens, which are also referred to as “dark kitchens,” “cloud kitchens,” and “virtual restaurants,” are commercial cooking spaces without a dine-in or retail option. There are two main ghost kitchen models that restaurants utilize to increase food production at lower costs. The first model, commonly known as a “virtual restaurant” operates out of a traditional brick-and-mortar restaurant.[[1]](#footnote-1) Restaurants using this model produce food sold under a variety of eatery names, differing from the name displayed outside their storefront, exclusively on third-party delivery platforms. This model allows restaurants to maximize kitchen space and produce a greater variety of food.[[2]](#footnote-2) For example, SushiYaa, a sushi chain restaurant in Dallas, operates five brick-and-mortar restaurants but these five restaurants produce food for nearly two dozen online-only virtual restaurants, selling separate menus and dishes such as bento boxes, poke and dumplings, which are only available for delivery on Uber Eats.[[3]](#footnote-3) SushiYaa’s VP of operations, Louie Kim explained the advantage of using the virtual kitchens model: “We were already paying rent and already paying [kitchen staff], so the space and the labor were already there. And [as a sushi restaurant], we all had most of the ingredients for poke already on hand…[It’s] almost as if we have another restaurant without paying additional rent and labor, even though [Uber Eats] takes about 30 percent.”[[4]](#footnote-4)

The more common ghost kitchen model operates like a commissary kitchen, a shared kitchen space that restaurants can use for online ordering and delivery-only purposes. Restaurants typically pay a monthly membership fee that covers rent, infrastructure, commercial equipment, and other services such as dishwashing and cold storage space.[[5]](#footnote-5) Restaurants that lease space in these ghost kitchen facilities produce food orders directly for third-party delivery platforms, which provide couriers to deliver orders to consumers. As storefront restaurants may have difficulty producing food for both dine-in customers and food delivery, renting space in a ghost kitchen facility can help restaurants free up space and time in their brick-and-mortar restaurants. These types of ghost kitchens have decreased overhead costs, as they employ only a few cooks answering online orders.[[6]](#footnote-6) While a traditional restaurant can cost millions of dollars to open, opening a ghost kitchen restaurant can cost as little as $20,000 and rented spaces can be as small as 200 square feet.[[7]](#footnote-7)

**B**. **Ghost Kitchens Operating in NYC**

There are currently a number of different ghost kitchen operators in New York City. Zuul Kitchens launched a 5,000-square-foot ghost kitchen facility in Soho in September and is currently leasing space to five different restaurants.[[8]](#footnote-8) Zuul is planning to open several more ghost kitchens by the end of 2020.[[9]](#footnote-9) REEF Kitchens, a division of the Miami-based REEF Technology, operates two ghost kitchens[[10]](#footnote-10) in New York.[[11]](#footnote-11)

Several other ghost kitchen companies that do not currently operate in NYC plan to expand to the New York market imminently. Travis Kalanick, the former CEO of Uber, owns a real estate investment company, City Storage Systems, which is the parent company of the ghost kitchen operator CloudKitchens.[[12]](#footnote-12) City Storage acquires distressed properties, which it outfits with kitchen equipment. The firm has raised a reported $400 million from Saudi Arabia’s sovereign wealth fund,[[13]](#footnote-13) and has purchased at least $40 million of commercial space in Manhattan and Queens.[[14]](#footnote-14) Kitchen United, a Google Ventures-backed company, plans to open 400 ghost kitchen centers housing 5,000 kitchens within the next four years.[[15]](#footnote-15) The company plans to open 11 ghost kitchens in Manhattan[[16]](#footnote-16) and its website lists these locations as “opening soon.”[[17]](#footnote-17) In August 2019, Kitchen United secured a $40 million Series B round of funding, co-led by RXR Realty, one of the largest real estate owners in New York City.[[18]](#footnote-18)

While these companies are representative of ghost kitchens that operate as commissary kitchens, it is unclear how many virtual restaurants currently operate in NYC. As mentioned earlier, Uber Eats helps restaurants establish delivery-only restaurants in kitchens within their brick-and-mortar restaurants.[[19]](#footnote-19) Because any brick-and-mortar restaurant could theoretically host virtual restaurants, it is unclear how many virtual restaurants operate in NYC.

1. **THIRD-PARTY DELIVERY PLATFORMS**
2. **Industry Growth**

Off-premises dining, meaning food prepared in a restaurant but consumed elsewhere, is on the rise. A 2019 survey conducted by the National Restaurant Association found that nearly 60 percent of food orders are consumed off-premise.[[20]](#footnote-20) The growth of online and app-based delivery services has revolutionized off-premises dining.[[21]](#footnote-21) Online restaurant orders have grown 23 percent annually from 2013 to 2017.[[22]](#footnote-22) UBS predicts that by 2030, the global online food ordering market could grow to $365 billion, up from $35 billion in 2018.[[23]](#footnote-23) Additionally, sales for the third-party food delivery industry rose 31 percent in 2019, and the percentage of Americans who ordered food from a third-party platform increased from 20 percent to 26 percent during the same period.[[24]](#footnote-24) According to the National Restaurant Association’s survey, around 60 percent of consumers ordering takeout used a third-party delivery service.[[25]](#footnote-25) The real estate research firm CBRE predicts that by 2022, 70 percent of online delivery sales will occur on a third-party delivery platform.[[26]](#footnote-26)

1. **Vertical Integration**

As the online food delivery market is predicted to grow tenfold over the next decade, ghost kitchens are seen as a primary growth vehicle for restaurant delivery platforms.[[27]](#footnote-27) Ghost kitchens integrate restaurants and delivery services into the same space, creating a more seamless ordering and delivering system.[[28]](#footnote-28) Ghost kitchen providers characterize their industry as “the inexorable logic of the market, a further optimization of an already efficient system.”[[29]](#footnote-29) Corey Manicone, CEO of Zuul Kitchens, predicts that in the future, restaurants will only have one or two flagship locations in a single market, with ghost kitchens throughout the surrounding area: “Have a Zuul in every neighborhood.”[[30]](#footnote-30)

While ghost kitchens may accommodate the growth of the restaurant delivery industry, third-party delivery platforms have opened their own ghost kitchens. According to Fuad Hannon, the head of new business verticals at DoorDash, there is a large value in the vertical integration of a third-party delivery platform operating a ghost kitchen.[[31]](#footnote-31) DoorDash currently operates a ghost kitchen facility, DoorDash Kitchens, in Redwood California.[[32]](#footnote-32) DoorDash rents kitchen spaces to independent restaurants, and provides delivery and pickup services through the DoorDash phone application. Because every food order at a ghost kitchen is a digital transaction, a large amount of customer data is generated that may inform operational decision making.[[33]](#footnote-33) Third-party delivery platforms operating their own ghost kitchens are well-suited to use this data in conjunction with the data they already possess on the types of food consumers are requesting. DoorDash Kitchens has leased out space to restaurants serving cuisines that data indicated DoorDash users were searching for, filling a cuisine-gap in areas that may not have an existing brick-and-mortar restaurant.[[34]](#footnote-34) According to Fuad Hannon, “This isn’t high-level data…It allowed restaurants that did not have a presence in that area to move in with very little risk…We have eliminated the [capital expenditure] commitment. We have helped you understand how your concept will do. And we become your marketing expert. We’re able to promote your story and your brand [via the service’s app].”[[35]](#footnote-35) Not all third-party delivery platforms are expanding into the ghost kitchen industry, however, as Grubhub’s VP of special projects, Padma Rao, commented: “We are not in the real estate business.”[[36]](#footnote-36)

Because ghost kitchen operators may possess data on what types of restaurants will be financially lucrative, they are also well-suited to further vertically integrate by opening their own restaurants. Travis Kalanick’s CloudKitchens startup has used its restaurant consumer data to develop and rent out space to its own in-house restaurant brands, like “Excuse my French Toast” and “B\*tch Don’t Grill My Cheese.”[[37]](#footnote-37) CloudKitchens has developed its own menus that it lists on third-party applications, as its business model has expanded to generating and handling food orders itself.[[38]](#footnote-38) Third-party delivery platforms or ghost kitchen operators that already have data on high-demand food markets may therefore open their own restaurants in their ghost kitchen facilities, as they have data to support whether these virtual restaurants can be lucrative. However, not all ghost kitchen operators are interested in competing with restaurants. Kitchen United CEO Jim Collins explained in an interview, “I don’t want to be a restaurant; I don’t want to cook food for consumers.”[[39]](#footnote-39) While discussing ghost kitchen operators’ access to data, Collins explained, “It’s a hot topic. We’re pretty careful… Information we do get is stuff like how many chicken sandwiches a Chick-fil-A is selling or whatever. And you might think, ‘Oh cool, so you’ll just make a chicken sandwich [of your own] when Chick-fil-A closes down and you’ll sell it to the public.’ The restaurant world is very nervous about that; it’s a big topic in this space.”[[40]](#footnote-40)

1. **CONCERNS**
2. **Hurting Small Businesses and Community Engagement**

Because restaurants renting space in a ghost kitchen do not offer storefront access to consumers, they must rely on their brand image to drive sales at their delivery-only locations. Accordingly, chain restaurants are best-suited to benefit from the rise of ghost kitchens. During Wendy’s 2019 Investor Day, Chief Development Officer Abigail Pringle announced that ghost kitchens would be a significant aspect of Wendy’s expansion strategy.[[41]](#footnote-41) Popular brands like SweetGreen, Chick-fil-A, and The Halal Guys were some of the early adopters of ghost kitchens.[[42]](#footnote-42) Starbucks opened a virtual kitchen in China and is looking to bring a similar model to the New York metro area,[[43]](#footnote-43) and McDonald’s recently opened its first ghost kitchen location in London.[[44]](#footnote-44) Ghost kitchen operators may even prefer to lease out space to restaurants with name-brand appeal. When asked about the criteria to become a part of Kitchen United, CEO Jim Collins explained, “We don’t work with startup restaurants. We don’t work with people that only have one location... if you’re a restaurant and you don’t already have a consumer connection and an audience and a following and you try to open in a space with no consumer interface, no storefront, you have to climb a giant mountain.”[[45]](#footnote-45)

However, if ghost kitchens expand throughout communities, fulfilling Zuul Kitchens CEO Corey Manicone’s prediction of a “Zuul in every neighborhood,”[[46]](#footnote-46) markets could be flooded with quick and easy delivery options, competing with already existing brick-and-mortar restaurants for customers.[[47]](#footnote-47) Because restaurant brands leasing space in ghost kitchens save costs by allowing restaurants to employ fewer workers and rent smaller spaces, they could decrease their menu prices, producing food for delivery at below market rates.[[48]](#footnote-48) Mireya Loza, a professor of food studies at New York University, explained that “The mom-and-pops, the bricks-and-mortars, may not be able to stand up to these cloud kitchens.”[[49]](#footnote-49) According to Michael Mortiz, a well-known venture capitalist, “The large chain restaurants that operate pick-up locations will be insulated from many of these services, as will the high-end restaurants that offer memorable experiences. But the local trattoria, taqueria, curry shop and sushi bar will be pressed to stay in business.”[[50]](#footnote-50)

The expected loss of business for brick-and-mortar restaurants, as well as the shift of chain stores from storefront locations to delivery-only ghost kitchens, may also have the unintended effect of eradicating community gathering places for City residents.[[51]](#footnote-51) Professor Loza commented, “My question is where are people who actually come from different backgrounds, where will they have to interact?”[[52]](#footnote-52) Marcia Chatelain, a Georgetown University professor and author of “Franchise: The Golden Arches in Black America,” has pointed to McDonald’s as a hub for civic activity, including voter registration and senior citizen gatherings.[[53]](#footnote-53) Marci Chatelain explains, “I think this structure of putting the preparation of food behind closed doors, it really disadvantages people who need the brick-and-mortar experience — or who really need to access the internet, warm up between shifts at a job, have a meeting point for them and their kids.”[[54]](#footnote-54)

As the rise of ghost kitchens selling food at below market rates may lead local restaurants to close down, storefront vacancies across cities may rise. Michael Mortiz explains “Landlords, too, are going to suffer. Before long they will be contending with the consequences of leases that will not be renewed and empty storefronts on the streets where books, toys, clothes and shoes once were sold.”[[55]](#footnote-55) Beyond losing the neighborhood-feel of family owned restaurants, NYC communities may see storefront vacancies increase as ghost kitchens grow across the City.

1. **Grocery Stores**

While ghost kitchen restaurants selling food at below market rates will likely undercut local mom-and-pop restaurants, this practice may squeeze grocery store operators, too.[[56]](#footnote-56) When asked about how ghost kitchens will harm neighborhood restaurants, Kitchen United CEO Jim Collins responded, “Marketplace delivery is actually pulling business out of grocery stores. That’s why you see Kroger and Amazon and other grocery store chains plowing down rows of [goods] and installing warm counters with warm food and you’re seeing grocery chains focus on delivery.”[[57]](#footnote-57) According to a UBS report on the future of home kitchens, innovations such as the rise of ghost kitchens will cause the production of a “professionally cooked and delivered meal [to] approach the cost of home-cooked food, or beat it when time is factored in.”[[58]](#footnote-58) UBS predicts, “The expertise currently resides in-house (to cook, as it once did to produce a pair of trousers) could potentially be rendered immaterial, or the expertise might shrink to preparing breakfast or cups of tea, much like sewing has arguably shrunk to basic clothing repairs carried out at home. … We could be at the first stage of industrializing meal production and delivery.”[[59]](#footnote-59) Accordingly, UBS foresees “it’s possible that by 2030 most meals currently cooked at home will instead be ordered online and delivered from restaurants or central kitchens.”[[60]](#footnote-60) The decrease in City residents cooking meals with products from grocery stores, and instead opting to order food from ghost kitchens, could have potential health consequences. The Department of Health recommends that City residents cook more meals at home, as home cooked meals are typically more nutritious and less expensive than meals eaten out.[[61]](#footnote-61) Cooking at home allows City residents to use fresher ingredients and less salt, and control portion sizes.[[62]](#footnote-62)

1. **Labor and Automation**

As ghost kitchen restaurants require fewer employees to produce food for consumers,[[63]](#footnote-63) the rise of ghost kitchens may lead to fewer City residents being employed in the restaurant industry. In labor markets with higher minimum wages, like NYC, chain restaurants may look to lease space in ghost kitchens to increase their profitability.[[64]](#footnote-64) While delivery-only restaurants create more jobs for couriers, these gig-economy jobs could become automated in the future. Emerging technologies in drone delivery are on the rise,[[65]](#footnote-65) which could halve the unit cost of food delivery.[[66]](#footnote-66) The 2019 National Restaurant Association survey found that 41 percent of respondents were likely to use autonomous delivery if it was available.[[67]](#footnote-67) It also remains possible that robotics[[68]](#footnote-68) and AI could cut the cost of professionally preparing food.[[69]](#footnote-69) Celebrity chef David Chang, who previously invested in a ghost kitchen facility in NYC that failed, commented, “The thing that might change this whole equation is when everything gets automated…That’s when I think, personally, tech people will feel like: We don’t have to worry about this perfect balance with food. We’re just going to have computers make it.”[[70]](#footnote-70) While automation may become standard across the restaurant industry in the future, jobs in ghost kitchens may be the easiest to automate as consumers are already unaware of how and where their food is being prepared.

1. **Regulations**

NYC authorities have encountered problems regulating ghost kitchens. In 2015, *NBC 4 New York* conducted an investigation into ghost kitchens operating out of commissary kitchens.[[71]](#footnote-71) After looking into the top customer-rated restaurants on Grubhub and Seamless, they found that 10% of the kitchens operated out of commissary kitchens, and failed to have names or addresses matching any listing on the City’s database of restaurant inspection grades.[[72]](#footnote-72) Julie Menin, former commissioner to the Department of Consumer Affairs, said her office found that restaurants were using unregistered names and false addresses. She explained, “Some people might be illegally operating from their home, and delivering to people in complete contravention to department of health regulation.”[[73]](#footnote-73) Grubhub responded to this incident, saying they were working to address the issue and remove inaccurate restaurant listings.

1. **CONCLUSION**

As ghost kitchens have become increasingly popular across the country and in the City since the NBC investigation in 2015, the Committee on Small Business seeks to discuss how ghost kitchens are currently being regulated and inspected in New York City. The Council looks forward to hearing from ghost kitchen operators, third-party delivery platforms, local small business owners, and advocacy groups about their concerns. The Council also looks forward to hearing about the steps SBS and DOHMH have taken to address the fears of small business owners, as well as any policies implemented to ensure that small businesses have the necessary resources to succeed.

1. Mike Isaac and David Yaffe-Bellany, *The Rise of the Virtual Restaurant,* The New York Times, (August 14, 2019) <https://www.nytimes.com/2019/08/14/technology/uber-eats-ghost-kitchens.html> [↑](#footnote-ref-1)
2. Jennifer Gould Keil, *NYC restaurateurs setting up ‘ghost kitchens’* New York Post, (October 6, 2019) <https://nypost.com/2019/10/06/nyc-restaurateurs-setting-up-ghost-kitchens/> [↑](#footnote-ref-2)
3. Whitney Filloon, *Uber Eats’ Path to Delivery Domination: Restaurant Inception,* Eater, (October 24, 2018), <https://www.eater.com/2018/10/24/18018334/uber-eats-virtual-restaurants>  [↑](#footnote-ref-3)
4. *Id.* [↑](#footnote-ref-4)
5. Maggie Hennessy, *Are Ghost Kitchens the Future?* QSR Magazine, (July 2019), <https://www.qsrmagazine.com/technology/are-ghost-kitchens-future>  [↑](#footnote-ref-5)
6. *Id.* [↑](#footnote-ref-6)
7. Richard Barkham Et. al. *2019 U.S. Food In Demand Series: Restaurants,* CBRE Research, (November 13, 2019), <http://cbre.vo.llnwd.net/grgservices/secure/US%20Food%20in%20Demand%20Restaurants%20November%202019.pdf?e=1580227024&h=921d142a16987e8b83de8d99d3cdeb8c> [↑](#footnote-ref-7)
8. Erika Adams, *High-Profile NYC Restaurants Are Moving into Soho’s New ‘Ghost Kitchen’ for Delivery Only,* Eater NY (Aug 26, 2019), <https://ny.eater.com/2019/8/26/20833153/zuul-kitchens-opening-sweetgreen-junzi-sarges-soho-nyc> [↑](#footnote-ref-8)
9. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-9)
10. REEF Kitchens operates differently than other ghost kitchen operators, converting shipping containers to commercial kitchens spaces [↑](#footnote-ref-10)
11. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-11)
12. Tim Bradshaw and Shannon Bond, *Travis Kalanick Secretly Ramps Up Kitchen Venture after Uber Exit*, Financial Times, (Feb 14, 2019), <https://www.ft.com/content/282a2382-304c-11e9-8744-e7016697f225> [↑](#footnote-ref-12)
13. *Supra* note 9. [↑](#footnote-ref-13)
14. *Travis Kalanick sets sights on Europe, Asia with new venture*, The Real Deal, (February 17, 2019), <https://therealdeal.com/2019/02/17/travis-kalanick-sets-sights-on-europe-asia-with-new-venture/> [↑](#footnote-ref-14)
15. Jonathan Maze, *Kitchen United Gets Another $40M*, Restaurant Business, (September 19, 2019) <https://www.restaurantbusinessonline.com/financing/kitchen-united-gets-another-40m> [↑](#footnote-ref-15)
16. *Supra* note 9. [↑](#footnote-ref-16)
17. *New Markets Await You*, Kitchen United, <https://www.kitchenunited.com/> [↑](#footnote-ref-17)
18. Jonathan Maze, *Kitchen United Gets Another $40M*, Restaurant Business, (September 19, 2019) <https://www.restaurantbusinessonline.com/financing/kitchen-united-gets-another-40m> [↑](#footnote-ref-18)
19. Whitney Filloon, *Uber Eats’ Path to Delivery Domination: Restaurant Inception,* Eater, (October 24, 2018), <https://www.eater.com/2018/10/24/18018334/uber-eats-virtual-restaurants>  [↑](#footnote-ref-19)
20. Hudson Riehle and Melissa Wilson, *Harnessing Technology to Drive Off-Premises Sales*, National Restaurant Association, (2019)<https://www.restaurant.org/Downloads/PDFs/Research/research_offpremises_201910>. [↑](#footnote-ref-20)
21. This includes online and app-based delivery services established by individual restaurants in addition to the third-party platforms. [↑](#footnote-ref-21)
22. The NPD Group, *Feeding the Growing Appetite for Restaurant Apps*, <https://www.npd.com/wps/portal/npd/us/news/infographics/2018/feeding-the-growing-appetite-for-restaurant-apps/>. [↑](#footnote-ref-22)
23. *Is The Kitchen Dead?* USB Investment Bank, (June 18, 2018), <https://www.ubs.com/global/en/investment-bank/in-focus/2018/dead-kitchen.html> [↑](#footnote-ref-23)
24. Kathryn Roethel Rieck, *Which Company is Winning the Food Delivery War?* Second Measure, (November 21, 2019) <https://secondmeasure.com/datapoints/food-delivery-services-grubhub-uber-eats-doordash-postmates/> [↑](#footnote-ref-24)
25. Hudson Riehle and Melissa Wilson, *Harnessing Technology to Drive Off-Premises Sales*, National Restaurant Association, (2019)<https://www.restaurant.org/Downloads/PDFs/Research/research_offpremises_201910>. [↑](#footnote-ref-25)
26. Richard Barkham Et. al. *2019 U.S. Food In Demand Series: Restaurants,* CBRE Research, (November 13, 2019), <http://cbre.vo.llnwd.net/grgservices/secure/US%20Food%20in%20Demand%20Restaurants%20November%202019.pdf?e=1580227024&h=921d142a16987e8b83de8d99d3cdeb8c> [↑](#footnote-ref-26)
27. *Id.* [↑](#footnote-ref-27)
28. *Id.* [↑](#footnote-ref-28)
29. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-29)
30. *Id.* [↑](#footnote-ref-30)
31. *Id.* [↑](#footnote-ref-31)
32. Peter Romeo, *How DoorDash’s Ghost Kitchen Works,* Restaurant Business, (Oct 16, 2019) <https://www.restaurantbusinessonline.com/operations/how-doordashs-ghost-kitchen-works> [↑](#footnote-ref-32)
33. Jon Quast, *Why ‘Ghost Kitchens’ Are the Next Restaurant Frontier*, Fool, (Apr 25, 2020) <https://www.fool.com/investing/2020/01/25/why-ghost-kitchens-are-the-next-restaurant-frontie.aspx> [↑](#footnote-ref-33)
34. Peter Romeo, *How DoorDash’s Ghost Kitchen Works,* Restaurant Business, (Oct 16, 2019) <https://www.restaurantbusinessonline.com/operations/how-doordashs-ghost-kitchen-works> [↑](#footnote-ref-34)
35. *Id.* [↑](#footnote-ref-35)
36. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-36)
37. Jennifer Marston, *3 Predictions for the Ghost Kitchen in 2020,* The Spoon, (Dec 29, 2019), <https://thespoon.tech/3-predictions-for-the-ghost-kitchen-in-2020/> [↑](#footnote-ref-37)
38. Amir Efrati, *Inside Travis Kalanick’s ‘Bigger Than Uber’ Next Act,* The Information, (Sep 23, 2019), <https://www.theinformation.com/articles/inside-travis-kalanicks-bigger-than-uber-next-act> [↑](#footnote-ref-38)
39. Connie Loizos, *In the heated cloud kitchens race, Kitchen United aims to kill with kindness, here’s its playbook,* Techcrunch, (Nov 19, 2019) <https://techcrunch.com/2019/11/19/in-the-ghost-kitchen-race-gv-backed-kitchen-united-aims-to-kill-with-kindness-heres-its-playbook/> [↑](#footnote-ref-39)
40. *Id.* [↑](#footnote-ref-40)
41. Madison Glaher, *More and More Restaurants are Turning to “Ghost Kitchens” to Cut and Improve Customer Experience,* Delish, (Oct 14, 2019), <https://www.delish.com/food/a29462910/ghost-cloud-kitchen-trend-fast-food-chains/> [↑](#footnote-ref-41)
42. Kate Taylor, *‘Ghost Kitchens’ are Taking over Fast-Food Chains from Chick-fil-A to Wendy’s,* Business Insider, (Oct 12, 2019), <https://www.businessinsider.com/chick-fil-a-wendys-ghost-kitchens-growth-2019-10> [↑](#footnote-ref-42)
43. Julie Littman, *Starbucks Considering Virtual Kitchens in US,* Restaurant Dive, (June 11, 2019) <https://www.restaurantdive.com/news/starbucks-considering-virtual-kitchens-in-us/556640/> [↑](#footnote-ref-43)
44. Alicia Kelso, *McDonald’s Opens 1st Ghost Restaurant in London,* Restaurant Dive, (Nov 4, 2019), <https://www.restaurantdive.com/news/mcdonalds-opens-1st-ghost-restaurant-in-london/566504/> [↑](#footnote-ref-44)
45. Connie Loizos, *In the heated cloud kitchens race, Kitchen United aims to kill with kindness, here’s its playbook,* Techcrunch, (Nov 19, 2019) <https://techcrunch.com/2019/11/19/in-the-ghost-kitchen-race-gv-backed-kitchen-united-aims-to-kill-with-kindness-heres-its-playbook/> [↑](#footnote-ref-45)
46. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-46)
47. Andrew Rigie, *Should Restaurants be Scared of Ghost Kitchens,* Forbes, (Oct 30, 2019), <https://www.forbes.com/sites/andrewrigie/2019/10/30/should-restaurants-be-scared-of-ghost-kitchens/#40ed12477806> [↑](#footnote-ref-47)
48. Amir Efrati, *Inside Travis Kalanick’s ‘Bigger Than Uber’ Next Act*, The Information, (Sep 23, 2019), <https://www.theinformation.com/articles/inside-travis-kalanicks-bigger-than-uber-next-act> [↑](#footnote-ref-48)
49. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-49)
50. Michael Moritz, *The Cloud Kitchen Brews a Storm for Local Restaurants*, Financial Times, (May 21, 2019), <https://www.ft.com/content/5c104e5e-7aea-11e9-8b5c-33d0560f039c>. [↑](#footnote-ref-50)
51. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-51)
52. *Id.* [↑](#footnote-ref-52)
53. *Id.* [↑](#footnote-ref-53)
54. *Id.* [↑](#footnote-ref-54)
55. Michael Moritz, *The Cloud Kitchen Brews a Storm for Local Restaurants*, Financial Times, (May 21, 2019), <https://www.ft.com/content/5c104e5e-7aea-11e9-8b5c-33d0560f039c>. [↑](#footnote-ref-55)
56. *Id.* [↑](#footnote-ref-56)
57. Connie Loizos, *In the heated cloud kitchens race, Kitchen United aims to kill with kindness, here’s its playbook,* Techcrunch, (Nov 19, 2019) <https://techcrunch.com/2019/11/19/in-the-ghost-kitchen-race-gv-backed-kitchen-united-aims-to-kill-with-kindness-heres-its-playbook/> [↑](#footnote-ref-57)
58. *Is The Kitchen Dead?* UBS Investment Bank, (June 18, 2018), <https://www.ubs.com/global/en/investment-bank/in-focus/2018/dead-kitchen.html> [↑](#footnote-ref-58)
59. *Id.* [↑](#footnote-ref-59)
60. *Id.* [↑](#footnote-ref-60)
61. *Guide to Health Eating & Active Living in NYC*, Department of Health, <https://www1.nyc.gov/assets/doh/downloads/pdf/cdp/healthy-eating-active-living-guide.pdf> [↑](#footnote-ref-61)
62. *Id.* [↑](#footnote-ref-62)
63. Including a host or hostess, and wait staff, for example [↑](#footnote-ref-63)
64. Jon Quast, *Why ‘Ghost Kitchens’ Are the Next Restaurant Frontier,* Fool, (Jan 25, 2020) <https://www.fool.com/investing/2020/01/25/why-ghost-kitchens-are-the-next-restaurant-frontie.aspx> [↑](#footnote-ref-64)
65. Ashley Colpaart, *Everything you Need to Know About Cloud Kitchens (aka Ghost Kitchens) in 2020,*  The Food Corridor, (Dec 5, 2019) <https://www.thefoodcorridor.com/2019/12/05/everything-you-need-to-know-about-cloud-kitchens-aka-ghost-kitchens-in-2020/> [↑](#footnote-ref-65)
66. *Is The Kitchen Dead?* USB Investment Bank, (June 18, 2018), <https://www.ubs.com/global/en/investment-bank/in-focus/2018/dead-kitchen.html> [↑](#footnote-ref-66)
67. Hudson Riehle and Melissa Wilson, *Harnessing Technology to Drive Off-Premises Sales*, National Restaurant Association, (2019)<https://www.restaurant.org/Downloads/PDFs/Research/research_offpremises_201910>. [↑](#footnote-ref-67)
68. Andrew Rigie, *Should Restaurants be Scared of Ghost Kitchens,* Forbes, (Oct 30, 2019), <https://www.forbes.com/sites/andrewrigie/2019/10/30/should-restaurants-be-scared-of-ghost-kitchens/#40ed12477806> [↑](#footnote-ref-68)
69. *Supra* note 66. [↑](#footnote-ref-69)
70. John Engel Bromwich, *Farm to Table? More Like Ghost Kitchen to Sofa,* The New York Times, (Dec 24, 2019) <https://www.nytimes.com/2019/12/24/style/ghost-kitchen-food-delivery.html> [↑](#footnote-ref-70)
71. Chris Glorioso, Ann Givens, and Evan Stulberger, *I-Team: Restaurants Use False Identities on Food Delivery Websites*, NBC 4 New York, (Nov 11, 2015), <https://www.nbcnewyork.com/news/local/Seamless-Restaurant-Grubhub-Fake-Eatery-Unregulated-Kitchen-Investigation-I-Team-New-York-City-344708652.html> [↑](#footnote-ref-71)
72. *Id.* [↑](#footnote-ref-72)
73. *Id.* [↑](#footnote-ref-73)