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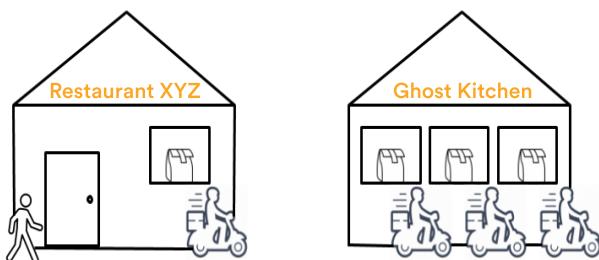
# Designed for Delivery

How ghost kitchens can increase profitability for restaurants while ensuring quality  
by Lillian Zhang

# Overview

Ghost kitchens are a growing service based on the rise of delivery apps and the demand for delivered food. These kitchens operate solely to fulfill delivery orders and are used by both established restaurants and by “virtual restaurants”. Also known as virtual brands, these are restaurants whose menus only exist online: with no storefront, they rely on ghost kitchens to create their product, which is then delivered through an online delivery app (Grubhub, DoorDash, etc.).

Ghost kitchens come in one of three forms: commissary, popup, and satellite. Commissary ghost kitchens are the most popular model, allowing a number of food concepts to exist under one roof. Popups are built into established restaurants and exclusively prepare delivery food; satellite kitchens are transportable ghost kitchens, set in shipping containers or trucks to be moved as necessary<sup>1</sup>.



As the world's population trends more and more towards ordering in or ordering ahead, the demand for delivery puts pressure on restaurants to manage in-store and delivery orders. Commissary ghost kitchens are an ideal solution because they minimize the costs traditionally associated with opening a restaurant. For instance, ghost kitchens have no need for wait staff or furniture/fixtures. The lower upfront cost of money and time allows a restaurant to realize operations quickly, and chefs can adapt as demand changes.

Though they miss walk-in traffic and face high competition on delivery apps<sup>2</sup>, virtual restaurants can be a way for restaurants to scale in a region. Ghost kitchens take advantage of dense populations in urban areas and college campuses to maximize customers within an delivery radius for optimal freshness.

# Key Players

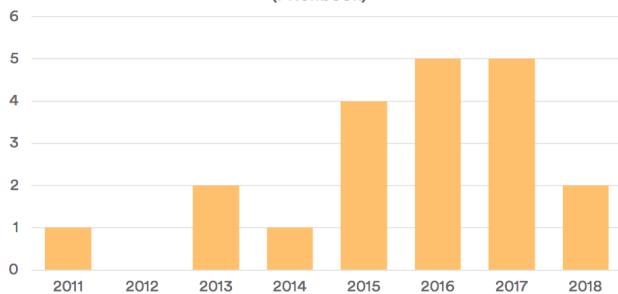
In the ghost kitchen industry, startups are an attractive investment because they have so much potential to grow. With nearly \$48 billion USD invested in ghost kitchens, various companies spread across America are leasing kitchen space.

Kitchen United has 14 commissary-style locations operating or launching soon in the United States, with 10+ food concepts at each. The company charges a monthly membership fee which includes rent, equipment, data analytics, and bookkeeping support<sup>3</sup>.

Kitchen Podular<sup>4</sup> creates “pod” satellite ghost kitchens starting around \$150k. These pods can be moved as needed and customized to each restaurant’s needs. Kitchen Podular specifically looks to fill unused real estate with aesthetic-conscious, sustainably-made pods, in places like Las Vegas, NV.

Established delivery app services are also deeply involved. DoorDash Kitchens opened operations in 2020 in Redwood City, CA<sup>5</sup>, and UberEats has partnered with Taster in Paris since 2018 to deliver for virtual restaurants<sup>6</sup>. The U.K. based Deliveroo<sup>7</sup> has worked with satellite kitchens, marketed as “Editions”, since 2017. For these delivery apps, integrating the kitchen space into their business model is another way to dominate the delivery market.

Number of Ghost Kitchen Companies Founded  
(Pitchbook)



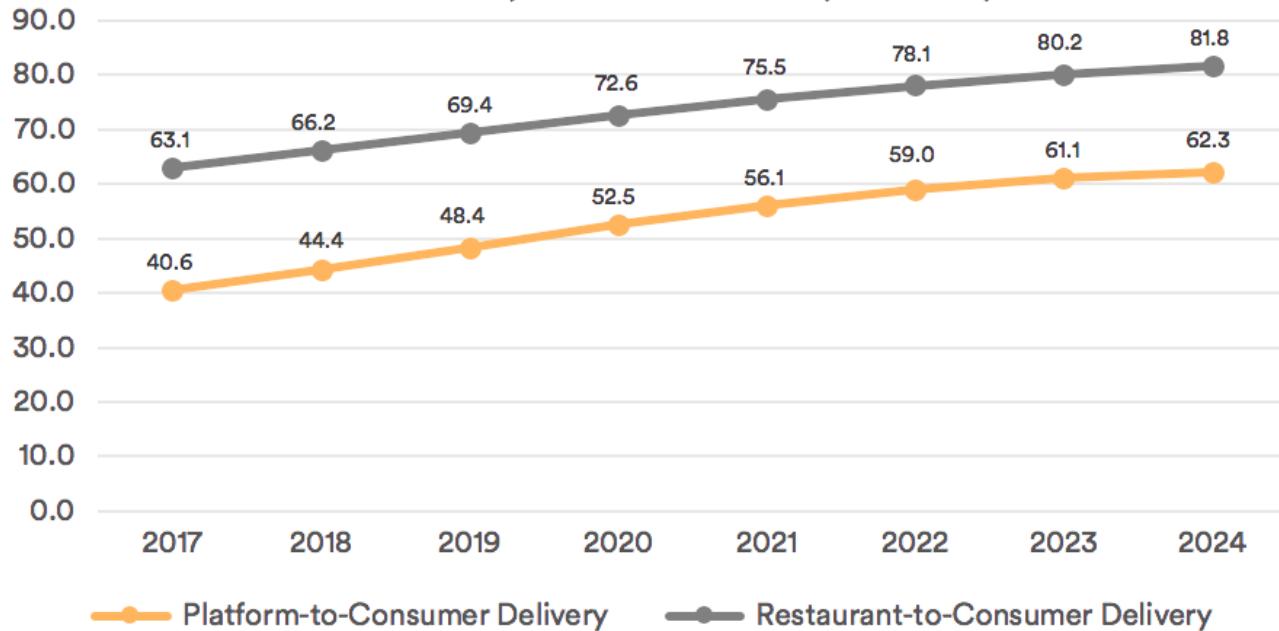
<sup>1</sup> Marston, Jennifer. "A Rough Guide to Ghost Kitchens, According to Chowly CEO Sterling Douglass.", Jan 21, 2019.

<sup>2</sup> "Guide to Ghost Kitchens (2020): All You Need to Know.", Feb 3, 2020.

<sup>3</sup> "Kitchen United".

<sup>4</sup> Ollinger, Catherine. "A New Kind of Ghost Kitchen is Building the Future of Flexible Food Service.", Oct 29, 2019.

## Users in the Online Food Delivery Market in millions, United States (Statista)



## Characteristics

Right now, the restaurant industry is in a state of disruption. With the adoption of site delivery, like Sweetgreen Outposts, and order-ahead apps, on demand service is increasingly common and expected. While restaurant specific user numbers are predicted to increase over the next few years (above), ghost kitchens resolve the difficulties of opening a delivery arm for small businesses. Established restaurants in ghost kitchens include Sweetgreen, Chick-fil-a, and junzi kitchen<sup>8</sup>.

A key component of the rise in ghost kitchens is the rise of food delivery overall. With delivery sales projected to grow 12% annually over the next five years<sup>9</sup>, and at least 60% of American consumers ordering delivery twice a week<sup>10</sup>, ghost kitchens provide the opportunity for entrepreneurs to enter the market. By decreasing buildout and labor costs, it is much easier to start a restaurant over a shorter timeframe. As such, there are a number of restaurant-owned ghost kitchens, like Cassia and Zoku Sushi, both located in New York City<sup>11</sup>.

## Changes in the Industry

Previously, the opportunity for ghost kitchens to also provide delivery services was seen as a potential revenue source. However, the shutdown of Maple<sup>12</sup> in 2017, a New York based ghost kitchen, proved that delivery services were such an expense that revenue could not make up for. Another spin on the integrated delivery idea was the Zume Pizza<sup>13</sup> solution, which promised an all-in-one ghost kitchen and delivery system. Their food products, pizza, actually decreased in quality because of their proposed business model. These two examples fully cemented that delivery services are best managed by established apps. Ghost kitchens, being a cost-cutting business, do not benefit from building their own fleet of delivery runners and drivers. It's simpler and cheaper to integrate with existing apps to get food to customers.

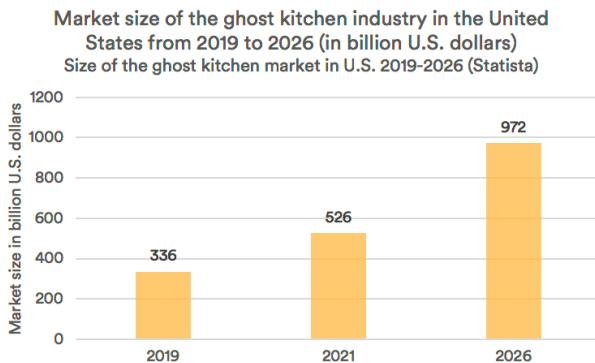
<sup>5</sup> Canales, Katie. "DoorDash is Preparing an IPO, here's what it's Like Inside its Silicon Valley Ghost Kitchen, a 'WeWork for Restaurants' that Allows Tenants Like Chick-Fil-A to Focus on Food Delivery."

<sup>6</sup> Dillet, Romain. "Taster Creates Restaurants for Deliveroo and UberEats.", Jun 27, 2018.

<sup>7</sup> Bradshaw, Tim. "The Start-Ups Building 'Dark Kitchens' for Uber Eats and Deliveroo.", May 21, 2019.

# The Future of Ghost Kitchens

The future of ghost kitchens is predicted to be fruitful; as urban areas continue to expand, the density of customers will feed the demand for hot, fresh food. With kitchen software solutions developing, the ease to which ghost kitchens can operate will increase as well. Currently only 11% of the global population has access to an online food delivery platform<sup>14</sup>; tapping into this demographic is a great potential for ghost kitchen growth to keep with demand.



Another new feature of the industry is ghost kitchen specific solutions, such as those provided by Galley Solutions<sup>15</sup>. They have created a platform that can track grocery orders, supplies, and menus to shave down on food and food waste costs. This could greater draw investor and customer interest.

Metropolitan area parking lots and garages<sup>16</sup> are seeing fewer customers, which opens space for satellite kitchens to take up. Real estate development firms are interested in exploring ghost kitchens as well; while the square footage used per tenant/restaurant is limited, many companies can be put in one building.

Ghost kitchens will also soon come into conflict with city councils. In New York, the city council has considered whether ghost kitchens will contribute to mom and pop and brick and mortar stores shutting down<sup>17</sup>. Additionally, keeping ghost kitchens in line with health standards is a difficult task; allergen contamination is a great concern.

In the future, ghost kitchens may be limited in their degree of operations because of these concerns. This is yet another instance of innovative business models being ahead of the legislation that could regulate it.

Various venture capital funding rounds have contributed to the emergence of multiple ghost kitchen companies. Once growth has been established, it is possible that one company could acquire others in order to connect the various ghost kitchen locations across the United States. This would create a larger network more comparable to international food delivery heavyweights, such as Rebel Foods from India, or KitOpi from Dubai<sup>18</sup>.

## Conclusion

Ghost kitchens provide a real opportunity for entrepreneurial, creative chefs to bring their flavors to life. In the restaurant industry, the barriers to entry are great: reputation, prior experience, high overhead costs, etc. Ghost kitchens are turning that on its head, by minimizing labor costs, storefront maintenance, and equipment. Paired with the increased reliance on delivery apps to obtain food, ghost kitchens are the solution to creating greater efficiency in an age-old restaurant industry.

Venture-capital backed startups are currently seeing excited and positive publicity as funding rounds seem larger and larger. At the same time, existing delivery apps are implementing their own ghost kitchens. By cutting out the storefront aspect of the restaurant, ghost kitchens can make the dine-at-home experience far more streamlined and accessible for the their many hungry customers.

<sup>8</sup> "Emerging Spaces: Ghost Kitchens."

<sup>9</sup> "Emerging Spaces: Ghost Kitchens."

<sup>10</sup> CBSNewYork. "Ghost Kitchens' Popping Up all Over New York City.", Feb 7, 2020.

<sup>11</sup> "Guide to Ghost Kitchens (2020): All You Need to Know.", Feb 3, 2020.

<sup>12</sup> Romeo, Peter. "A Leading 'Ghost Restaurant' Shuts Down.", May 8, 2017.

<sup>13</sup> McBride, Sarah. "SoftBank's \$375 Million Bet on Pizza Went Really Bad Really Fast.", Feb 13, 2020.

<sup>14</sup> Singh, Sarwat. "The Soon to be \$200B Online Food Delivery is Rapidly Changing the Global Food Industry.", Sep 9, 2019.

<sup>15</sup> "Galley Solutions."

<sup>16</sup> ---, "Travis Kalanick just Announced He's Leaving Uber's Board to Focus on His Business Pursuits. here's a Look at His Secret 'Ghost Kitchen' Startup that's Backed by \$400 Million from Saudi Arabia"., Dec 24, 2019.

<sup>17</sup> Dai, Serena. "NYC's Rise in 'Ghost Kitchens' Will Face City Council Scrutiny.", Jan 24, 2020.

<sup>18</sup> "Emerging Spaces: Ghost Kitchens."