Effects of COVID-19 on United States Food Industry and Sharing Economy

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Abstract

The COVID-19 pandemic has altered the market such that both supply and demand are less predictable than ever before. U.S. businesses have had to learn to adapt to the rapid influx of demand in unexpected areas while demand slows in others, especially in the food industry. One way to address this is to utilize sharing economy within the supply chain, more specifically in last-mile logistics. Adopting a sharing economy model allows for an intimate working relationship between the company and a worker that can resemble an employee without much of the continuous employment and associated overhead costs. A form of this is independent contractors, who can be brought in rapidly when both supply and demand are high and can cope with the low demand with a reduced consequence to the business. One such example is a third-party app-based service providing the last mile logistics for restaurants. This research investigates the overarching impacts on the restaurant industry of a shift from consumers traveling to sharing economy providing last-mile logistics.

Keywords
Supply Chain, Sharing Economy, Independent Contractors, COVID-19

1. Introduction

The sharing economy has been rising consistently over the past decade. As of September 30, 2020, there are over 4.9 billion internet users worldwide, which has led to a new era of connectivity between people (Internet World Stats, 2021). In addition to this, there are now 3.8 Billion smartphones globally (O'Dea 2021). These facts, paired with the global initiative to reduce the waste of material resources, have led to a dynamic shift from a traditional consumer-based economy to a sharing economic ideology. According to PWC's 2015 study, by 2025 sharing economy in all its sectors is expected to be up to 50% of their relative industries (Ostovitz 2015).

Coming into 2021, COVID-19 is a factor that was not anticipated in the growth of the sharing economy; however, it has exacerbated many of the foundations of what led sharing economy to grow initially. During COVID-19, and particularly the lockdowns that occurred globally, companies began to face a new problem— the inability to reach their users. Particularly in the food industry, as people become fearful of entering the public space, restaurants suffered directly from this lack of sales. For example, the restaurant "886" in New York City saw an over 80% reduction in sales (Ho 2020). These reductions in sales, and a lack of desire for consumers to have in-person interactions, opened the window for the people who had the assets to transport goods (i.e., a car or bicycle) to enter this space to transport food and goods from businesses to peers. This service has allowed consumers and businesses to interact while limiting the total number of people entering restaurants and public spaces. Although this can be vital to the restaurant and grocery stores surviving this pandemic, it comes at a cost. The organizers of sharing economy need to profit as well and will often take cuts of over 30% from restaurants (Rana et al. 2021), which is well over some restaurants' profit margins.

This paper hopes to understand how the increase in the sharing economy due to COVID-19 has affected the food delivery industry and how these impacts may last beyond the pandemic.

The objectives of this paper are to evaluate how the onset of COVID-19 has affected how restaurants utilize third-party food delivery services and to give recommendations to restaurants on how to navigate the contracting of these services. Throughout this paper, we plan to identify how profits for restaurants that utilize food delivery services have changed during the pandemic and gather information on how employees have been affected by these changes to provide realistic advice for businesses that range from local restaurants to corporate chains.

2. Literature Review

One crucial consideration in restaurant success is location, according to Parsa (2011). This area is one of the largest factors in restaurant and food industry success. This is because last-mile logistics are often the most costly and challenging. Generally, the restaurant industry has placed the responsibility of the last mile on the consumer. However, when lockdown occurred, there was no longer a desire nor ability for many people to travel the last mile. Due to these factors, Bloomberg reports that, as of December 2020, over 110,000 restaurants have shut down all operations either permanently or for an extended period (Gonzalez 2020). To address this issue, many food providers looked to the sharing economy to cover the last mile of their logistical planning. There are many companies in this sector. However, this paper looks at three restaurant services and two grocery store services to understand the market.

2.1 Sharing Economy

The sharing economy is a concept that has widely grown in usage, with technology being at the fingertips of our society. To boil it down to its core, the sharing economy can be defined as "the use of technology to facilitate the exchanged access of goods or services between two or more parties" (Miller 2019). Since many applications of the sharing economy rely on widespread technology usage to function properly, it is no surprise that the increase in technology in recent years has boosted the notoriety of companies using the sharing economy model. As of the end of 2020, there are more than 260 million smartphone users in the United States, and in the last 10 years alone has risen by approximately 80% (O'Dea 2021). This propensity of smartphone users has made it easier than ever to connect customers with businesses using sharing economy methods.

The sharing economy has grown in interest over the last 20 years with peer-to-peer digital platforms like YouTube and eBay (Olsen 2015). However, its origins date back much further. According to Stack (2015), sharing economy possibly dates back earlier than 500 CE with the idea of commons as shared public spaces owned by one individual. Stack furthers that the resurgence is not entirely due to the internet either, although it has inevitably helped. Instead, clothing swaps and community teaching has occurred for most of modern history. The internet instead has allowed sharing economy to be shared by far more than the small communities it previously contained.

Sharing economy's growth in research has led to do frequent debate of its meaning. This paper uses seven primary qualifiers to identify services as sharing economy. Peer-to-Peer, Asset Sharing, Asset Non-Ownership, Reputation, Interaction, Fee-Based, and Communication are all the criteria that will be used. Food industry apps, like the ones used below, meet these criteria. These apps are all based on a peer providing the asset creating a service for another peer. Additionally, drivers own their vehicles, and the company only manages reputations and methods of communication. Lastly, these are all tools for the peer to make a profit while being the face and interaction tool between businesses and consumers (Proserpio and Tellis 2017).

2.2 DoorDash

DoorDash is the undisputed champion of the food delivery industry, although its dominance is somewhat recent. The company was founded in 2013 as PaloAltoDelivery.com by four Stanford students who noticed that restaurants in smaller cities and suburbs did not have the same delivery services that larger cities with higher demand did. Just six years later, in 2019, DoorDash had become the largest third-party food delivery provider in the U.S., from a consumer spending measure. It still maintains this market position today. When looking at recent data from the month of January 2021, DoorDash and its subsidiaries accounted for 56% of all U.S. food delivery sales. The company with the next most orders, Uber Eats, came in second place with only 20% (Yeo 2021).

DoorDash seems to have no plan to slow down either. The company began trading publicly on December 9, 2020, at $102 per share. DoorDash, which claims to be a logistics company rather than strictly a food delivery company, is also expanding its reach and potential by purchasing other companies. In just the past three years, DoorDash has made the following acquisitions:

- Caviar, a food delivery service for upscale, urban-area restaurants that typically do not offer delivery
- Scotty Labs, a startup company focused on self-driving and remote-controlled vehicle technology
- Chowbotics, a robotics company best known for its salad-making robot

Additionally, the company recently struck a deal with CVS Pharmacy for same-day delivery of grocery and non-prescription goods. It is also currently hiring warehouse and logistics managers. DoorDash doesn't seem to be leaving the food delivery game anytime soon and may even be changing the industry standard with new ideas and technology soon (Marshall 2020).

2.2 Uber Eats

Uber Eats is a business unit of the gig economy giant Uber Technologies Incorporated. With over 93 million monthly active users worldwide and 73% market share (Yeo 2021) in ride-sharing, Uber is the undisputed category captain in the ride-sharing industry. The Uber Eats business unit specifically eclipsed $1.46 billion in sales in 2018 (Craft 2019).

In terms of Uber Eats' prosperity during the COVID-19 crisis, usage of the service has skyrocketed. With quarantines in place in many of Uber Eats' markets (at least at the start of the pandemic), the company experienced a 10% increase in sales during the first week of lockdown alone, while their ride-sharing business fell considerably (Chiapetta 2020).

2.3 Postmates

Postmates differs from other business to peer food service companies. According to their CEO, it is meant to be an on-demand logistics company, not precisely a food delivery company. This likens their role to that of Amazon, where there are more opportunities for them outside of the food realm. Currently, Postmates is valued at $2.6 billion, with a 2019 revenue of $500 million (Curry 2021). They now make approximately 5 million deliveries per month and are available in 4200 cities. In terms of market share with other food delivery platforms, as of 2021, they were 4th with a market share of 8%.

During the pandemic, Uber bought Postmates for $2.65 billion (Bond 2020). Part of this acquisition is due to Postmates' quality relations with small to medium-sized businesses In addition, Uber requests for rides have gone down significantly since the beginning of the pandemic, while requests for food delivery have skyrocketed.

2.4 Instacart and Shipt

Outside of the restaurant space, grocery delivery apps have seen strong growth during the COVID-19 pandemic as well. According to Reuters, Instacart has more than doubled its valuation to $39 billion over the last 6 months due to increased funding from investors. This growth comes with long-term plans to increase the size of corporate employees as well as prospected growth due to California's proposition to maintain employees as independent contractors (Finance Yahoo 2021). Similarly, Shipt, which is managed under Target Inc., has been valued at an independent worth of $14 billion. Although Shipt functions under Target, it works with other groceries and vendors, and during this holiday season saw an over 300% boom in sales (Hunt 2021). Uniquely compared to the other food delivery services being analyzed, both of these services do not charge the restaurant and instead place a service fee on the customer. The fees vary based on store relationship, delivery time, and membership (Shipt 2021). However, the structure created allows for the customer to be charged for the service rather than the business. The fact that these services function under FOB Origin.

3. Methods

This study's inquiry methods include selected public sales data from the gig economy majors documented above and individual case studies from a family-run restaurant, a small local California chain, and a large corporate chain.

Though this research may have global implications, the case studies utilized are focused on the effects of restaurant sharing economy activity within the United States.

4. Data Collection and Results: Case Studies

4.1 Company A

The first company that we interviewed is an independent, family-owned restaurant based in downtown Modesto, California. According to California's public health guidelines and the Stay-At-Home order released in March 2020, the restaurant was considered as an essential business (N-33-20 2020). However, the restaurant manager needed to stop business for a full work week to adjust to the newly required restaurant operations under public health guidelines.

Before the economic shutdown from the pandemic, Company A's manager stated that most of their sales during peak hours were from customers who worked in the downtown district of Modesto. Customers would pool into the restaurant to dine-in during their lunch break around noon, and the second wave would come in from the customers who would just get off work at around 5 to 6 PM (Company A 2021). With the California Stay-At-Home order, the employees of non-essential businesses who worked downtown would stay at home and consequently no longer purchase food from Company A during their lunch break and after-work hours. The restaurant also received significantly fewer customers in general due to potential customers being required to stay at home. Like most businesses, Company A did not have a contingency plan to address such a drastic change in their work cycle. One of the primary disrupting factors for the food industry was the change in consumer buying habits. Eating out at restaurants declined by 52.3% between March 6, 2020, to March 17, 2020 (Chitgari et al. 2020).

Starting March 19, 2020, Company A exclusively relied on sales through pickup and to-go orders. It also reduced their daily hours of operation by one hour. The restaurant manager stated that they never considered a delivery service and that it was the last resort option. While the manager remained optimistic, the restaurant manager felt financial pressure from consecutive months of revenue decline and eventually had to furlough two workers.

In August of 2020, the restaurant decided to contract with DoorDash, a third-party food delivery service. While DoorDash commissioned 10 percent of each order from the restaurant placed through their app, Company A was able to see an upward trend in their monthly revenue numbers, as shown in Figure 1 below.

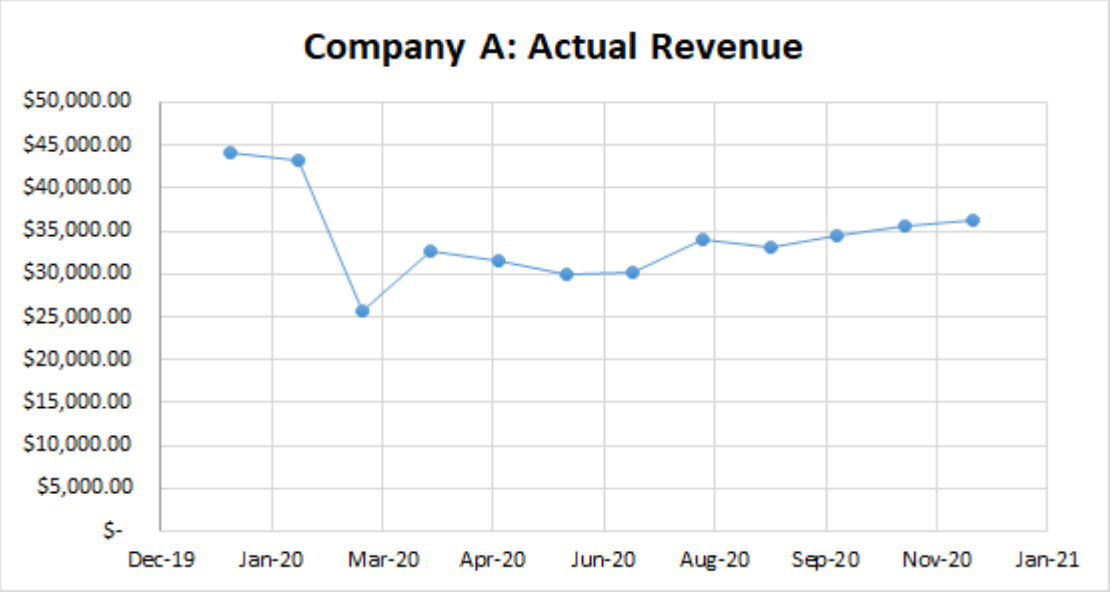

Figure 1: Revenue numbers procured from the manager of Company A

4.2 Company B

Company B is a small, local chain on California's central coast that acts as a bar & grill serving specialty sandwiches and wraps. The restaurant's first location opened in Pismo Beach in 2004 and has remained open ever since. However, their second location, and the focus of this case study, opened in San Luis Obispo at the height of the pandemic in early December 2020. Ever since their opening day, this new restaurant location has had to rely solely on to-go orders.

In 2019, before the COVID-19 pandemic, the California travel industry's GDP was $84.6 billion, and state and local tax revenue generated by travel was $12.2 billion, an increase of 3.4 percent from the previous year. The California tourism industry was booming, and San Luis Obispo County was no exception, with over $2.0 billion generated from travel-related spending (Runyan 2020). As a result of the pandemic and the California Stay-At-Home order, tourism has taken a massive hit. Recent estimates have California losing as much as $72 billion in travel-related spending and more than 600,000 jobs compared to last year's metrics (Symon 2020).

One of the most important aspects of Company B, in the eyes of the owners and managers, is their exceptional customer service and the ability to make their customers feel special in the lively ambiance of their dining room and bar. Before the pandemic, Company B's Pismo Beach location heavily relied on the business that the large population of tourists provided. The storefront and atmosphere of the restaurant were made to be as inviting as possible to attract new customers passing by. The San Luis Obispo location was designed to emulate the first location, almost exactly, in hopes of attracting customers in the same manner by relying heavily on the large tourism industry of California's central coast.

Moreover, Company B is designed to invite and encourage the customer to order their food to be eaten at the establishment. Installments such as a full bar, a coffee bar, live music, and comfortable dining seating are all reasons that, pre-COVID-19, the vast majority of orders made at Company B were "for here" orders. This would prove to be an issue when attempting to open a new location in downtown San Luis Obispo amid a pandemic (Company B 2021).

4.3 Company C

Company C is a large multinational chain of establishments known to serve coffee, tea, juices, and breakfast items. The location focused on in this case study, just one of their tens of thousands of locations, is located in San Luis Obispo. Like many coffee houses, this establishment was a hot spot for individuals to socialize, read, study, or listen to music, before the pandemic. This specific shop was also used more frequently for these purposes than many other locations due to its central location in San Luis Obispo and is surrounded by numerous schools with a young, studious population (Company C 2021).

Company C, like many restaurants and retailers, has been severely affected by the impacts of the COVID-19 pandemic over the past year. For Q1 of the 2021 fiscal year, Company C posted net earnings of $622.2 million. This was for a three-month period that ended on December 27, 2020. When this COVID-19-influenced Q1 is compared with Q1 from a year ago, net earnings are down 29.7%. Additionally, the net revenue in Q1 of the 2021 fiscal year was $6.7 billion, a 4.9% decrease from the same quarter a year ago. When broken down into product type, it is observed that beverages sold in-store accounted for 63% of total revenue, while food comprised 17% of the total. All other items such as packaged and single-serve coffees and teas made up 20% of total revenue. It is evident from these numbers that Company C relies heavily on customers entering the store and ordering drinks.

Company C has stated that the numbers from Q1 still reflect a continued recovery from the effects of the pandemic and sit-down dining restrictions. The coffee chain has also said that nearly all store locations have reopened after being closed for reasons related to the pandemic. Many of the ones that closed and reopened, however, are struggling to return to the operating capacity that they once were able to accomplish (Farley 2021).

5. Results and Discussion

5.1 Company A

Adapting to the COVID-19 pandemic meant there would be changes in each of the companies' daily operations. Company A is a restaurant that has a fundamental consumer interaction of only dine-in, to-go, and pickup orders for over twenty years of operation. It started using DoorDash to make up for the declining monthly revenue and because of their lack of labor resources to implement their own delivery service.

While Company A has seen an upward trend in their revenue numbers since the adoption of DoorDash's delivery service, as exhibited in Figure 2 below, the restaurant manager adamantly insists that he would not keep using DoorDash once COVID-19 restrictions on dine-in restaurants are lifted. He expressed how the 10 percent commission fee for each order is costly and claims that DoorDash is only a temporary measure. When a customer orders directly from the restaurant and skips the use of third-party delivery services, they can avoid paying a service fee to that delivery service. Therefore, ordering directly from the restaurant will also keep independently-owned restaurants that are struggling to stay open during the pandemic, such as Company A, from costly commission fees on every order.

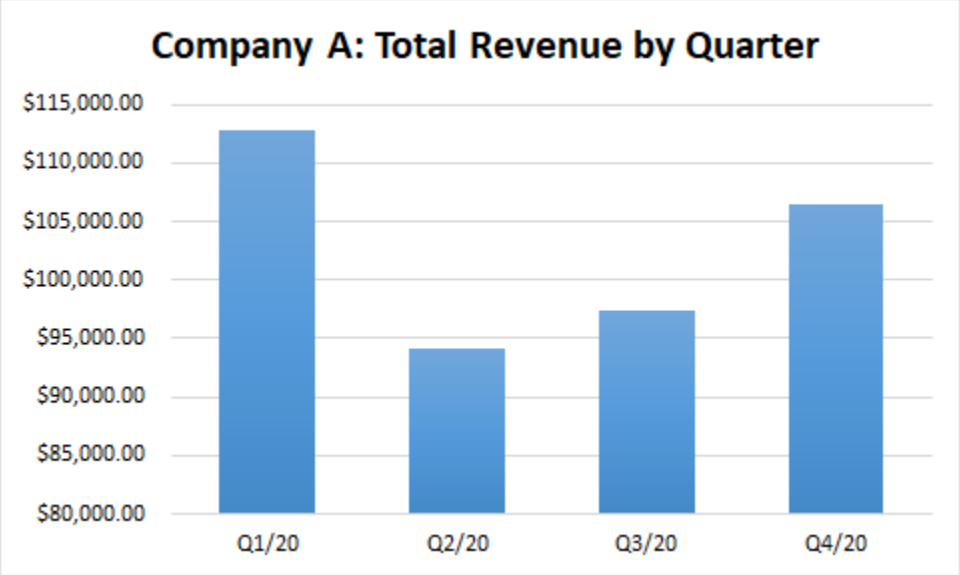

Figure 2: Company A's total revenue by quarter procured from the manager

5.2 Company B

As previously discussed, Company B is a restaurant that depends on California tourism and the consistency of in-house orders. It is no surprise, then, that when the new location opened in San Luis Obispo in early December of 2020, it did not do as well as management had hoped. Their business was slow from the very beginning, and their sales numbers were tiny compared to the Pismo Beach location. The managers observed that since individuals are supposed to stay home during these times, there were simply not enough people walking past the restaurant to be encouraged to try it. Additionally, since people never saw the restaurant, this means they most likely did not know it existed in that new San Luis Obispo location.

The restaurants' managers and owners realized they needed to make some sort of change to increase their sales. The solution was to begin to offer their food on the food delivery service app, DoorDash. This was extremely beneficial to the restaurant because firstly, by being on the DoorDash app, Company B is getting exposure as potential customers scrolling through their options may see their restaurant for the first time. Additionally, by creating an online delivery

customer base, Company B created a new customer base that would potentially come to eat inside the restaurant once restrictions were lifted.

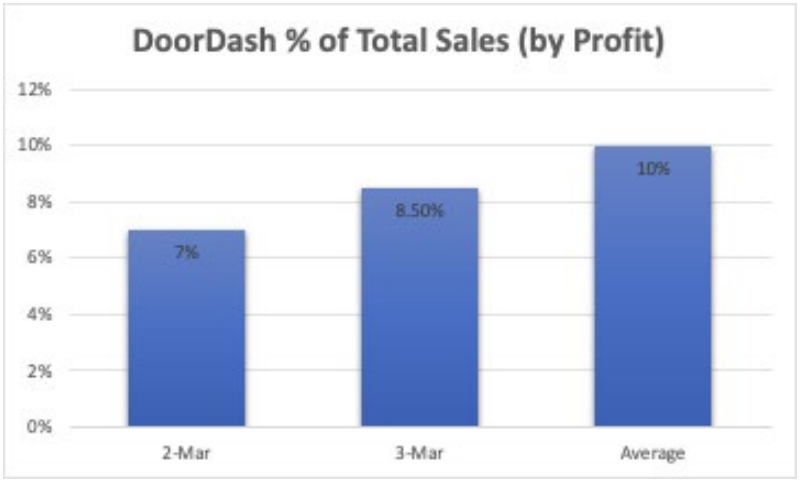

Figure 3: Percent of total sales for which DoorDash is responsible at Company B

As can be seen from recent sales data in Figure 3, DoorDash accounts for a boost in profits of 10%, on average. The managers mentioned how on rainy or harsh weather days, they usually see a noticeable spike in DoorDash orders that will account for around 15% of the total sales for that day. A trend that cannot be observed from these graphs, however, is in the increase in dine-in customers. Ever since the transition into a red tier lockdown in San Luis Obispo County, which lifted the sit-down dining restriction in restaurants, Company B has seen a massive influx in customers visiting their restaurant. From conversations with customers, the managers have realized that many of these new in-person customers were previously customers exclusively on DoorDash. Another benefit of using DoorDash for Company B is that the manager can choose at any time to turn off the app and stop offering their food online. This comes in handy when the restaurant gets busy with in-person customers and there is no longer a need to supplement their sales with DoorDash orders. As COVID-19 cases continue to decline, the manager of Company B believes they will use the app less and less as they get more customers that opt to dine in the restaurant. He acknowledges the usefulness of a tool like DoorDash, however, and hopes to continue to use it in some capacity for the foreseeable future (Company B 2021).

5.3 Company C

Per discussion with a seasoned employee at Company C's San Luis Obispo location, the establishment always had a constant stream of in-person customers prior to the pandemic. After the California Stay-At-Home order and the restriction of eating in restaurants, however, this pool of customers was completely prohibited from entering the establishment. This location was able to slightly adjust by completing to-go orders and having customers pick up their orders curbside, but this method was not as profitable or enticing to customers as their previous model.

The San Luis Obispo location of Company C was able to implement Uber Eats into their business model to take in more orders during these times of lackluster sales. The use of Uber Eats allowed customers, who were instead having to go about their daily lives at home, to still have that familiar beverage they longed for. This model worked well for Company C in the beginning, but it ultimately became more of a burden than an aid once the indoor dining restriction was lifted in San Luis Obispo county.

Once San Luis Obispo county entered red tier status and allowed customers to eat in restaurants again, this coffee shop saw a large influx of in person customers. The number of in-person customers is now similar to pre-pandemic numbers. The only difference is that the company is still taking Uber Eats orders. The employees agree that it is now difficult to keep up with both regular orders (in-store and mobile) and Uber Eats orders. As displayed in Figure 4, it

is estimated that Uber Eats makes up 10% of all orders at this location, which may not seem significant, but that is 10% more orders than the employees can handle at times. Unfortunately, unlike Company B, Company C is unable to turn off their services on the app when they get busy due to the company's exclusive partnership with Uber Eats. Because of this, at the busiest times, Uber Eats can hurt this establishment and slow down its operations, rather than helping it increase profits (Company C 2021).

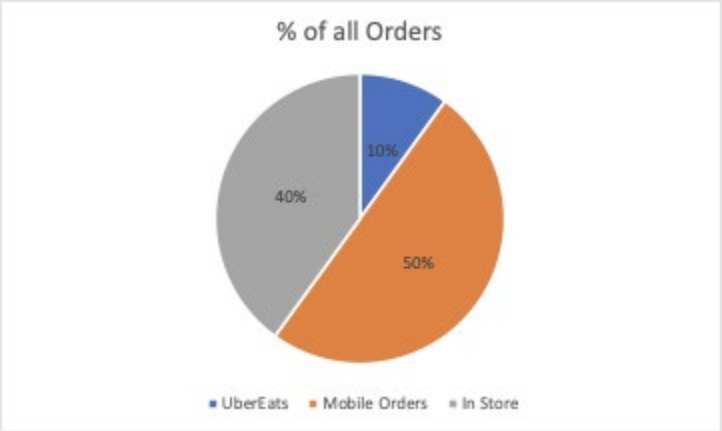

Figure 4: Breakdown of ordering method tendencies at Company C's San Luis Obispo location

5.4 Proposed Improvements

To address the price gouging that has impacted restaurants that faced closure if they could not make any more sales to address fixed costs, we have devised three overarching methods. The first proposed solution is to address the gouging by using government oversight to limit service fees. Since many restaurants had no choice but to use these services, if legal actions are taken to cap fees below the 30% seen by some companies, their margins can be more protected, especially during the pandemic. This, however, does not address the fact that the service provider still needs to be paid for sharing their resources. To address this, it is reasonable to use freight terms similar to FOB Origin. Since the delivery is a service for the customer and is not an agreement between restaurant and customer, the customer is the most eligible to pay. Originally, the method used by delivery apps was to split the cost so consumers would begin paying less for a service that targets a desire and not a need. Once the pandemic began, this desire became a need, for the original strategies are no longer valid in the market. Another way to address restaurants' challenges is to increase the usage of service on/off switches. This choice allows restaurants to choose to focus on dine-in customers as countries begin to transition back to indoor dining. In a sharing economy, resources must be shared when both parties desire and benefit from the service. Allowing restaurants to temporarily opt-out of completing third-party app orders allows these companies to exist as more clearly defined sharing economies and less as traditional last-mile logistical services.

5.5 Validation

One method to properly validate these recommendations is to research the effects of existing cities and states that have imposed a service fee cap on third-party delivery apps. For example, in Washington state, Governor Jay Inslee mandated a 15% service fee cap for these delivery companies, with an 18% total fee maximum. Though these apps claim that their considerably higher service fees are necessary to cover operating costs and keep the app online, Inslee argues that the impact of high service fees during the pandemic disproportionately impacts restaurants (Inslee 2020).

Many restaurant owners found relief from the razor-thin margins under which they were operating before implementing this cap. Going from a service fee of 30% and above to a 15% cap helped cut many restaurant's fees to delivery services in half and is still crucial in keeping many of these businesses afloat (Soper 2020).

That said, delivery apps have found a way to make up for the lost revenue with new city-based fees that are charged directly to the consumer. For example, in Portland, Oregon, Uber Eats implemented a $3 "Portland Fee" after the city implemented a 10% service fee cap. Though this does increase the total cost of the order, the burden is placed entirely on the consumer, which aligns with our third overarching recommendation and thus keeps the price-gouging activity away from the restaurants that are suffering most (Bailey Jr. 2020). This appears to be a more sustainable solution than forcing heavy service fees on restaurants alone, and we may see this shift in payment structure stay relevant for the near future.

6. Conclusion

Looking at each of the three main parties involved (restaurants, delivery services, and customers), we can see how COVID-19 has affected the relationship between them. Mainly, the power has shifted towards food delivery services instead of the restaurants, allowing these services to set high fees on restaurants without much opposition. If customers continue to order food virtually, this will continue to happen. This harms these restaurants and their employees, as shown through the somewhat negative responses towards food delivery services seen from our case study interviews. However, as the number of COVID-19 cases declines, we can then expect more orders to be placed in-person.
Along with this, with cities across the United States implementing service fee caps on delivery services, we predict restaurants will run on higher margins as the pandemic ends. This shift will likely cause profits for food delivery services to dip. However, as seen before the pandemic, these services will likely still maintain a solid footing in the U.S. economy.

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