



Comprehensive Analysis of Ride-Hailing Evidence from Uber and Lyft

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Abstract. With the rise of the e-service industry, online car-hailing has become very popular. This study investigates and comprehensively analyzes why Lyft is not on par with Uber in the US. Through the analysis of the past three years, that is, since the epidemic, compared with Uber, the shortcomings exposed by Lyft are not only the inevitable loopholes in the policy security currently existing in the car-hailing industry, but also in emergencies. The judgment is not decisive enough, and there is a problem with the allocation of personnel by the management. At the same time, some relevant suggestions are given to Lyft in the analysis sections and conclusion. This study provides the implication for investors and implied same industry.

Keywords: Uber · Lyft · Business structure · Financial analysis

1 Introduction

With people's dependence on mobile phones, more and more things can be solved by mobile phones. Today, people are also using their mobile phones to hail taxis, which brings new changes to the transportation sector. Uber is one of the major ride-hailing apps in the United States. It matches passengers with the right driver through an electronic platform. At the same time, passengers can reserve vehicles on their mobile phones through the APP and track vehicle information in real time. In addition, the platform also provides different levels of services according to customer needs, such as four-person sedan, six-person SUV, Mercedes-Benz BMW Extreme series. By analyzing the industry situation of uber, we explore how the car-hailing should develop in Chinese market.

The paper can be organized as follows: Sect. 2 is some economic analysis by using business models; Sect. 3 analyze the financial information from annual reports; Sect. 4 is discuss these two analysis models; Sect. 5 is the conclusion for the whole research. Finally, from this research, we will go through the leader company Uber and analysis its financial and business situation to find how Lyft can improve its business.

2 Business Analysis

2.1 PESTLE Analysis

First of all, let us understand the overall macro situation of the car-hailing industry through this analysis.

2.1.1 Political Factors

As ride-hailing gradually expanded its global business, ride-hailing began to expose policy problems in different countries. Here we take uber as an example, because uber is an outstanding leader in the car-hailing industry. Since Uber uses a model in which private cars participate in the operation, in theory, at least in China, private cars are not allowed as a commercial tool, which is an illegal operation. At the same time, the safety of passengers cannot be guaranteed. In the United States, Uber drivers do not need to use their own name to qualify for a vehicle, and due to legal reasons in the United States, different states have their own different audit methods. Therefore, it is difficult to achieve a unified standard for safety. At the same time, there are many different policy between countries. The company maintains operations in Munich and Berlin, offering very limited services designed to address German regulations. Like Sweden, UberPop disappeared completely, but in Germany, UberX (licensed drivers) survived only in Munich [1]. Meanwhile, a study by Swedish Radio last year showed that three in 10 of its drivers did not pay taxes. France's interior minister also stopped Uber's business [2]. Uber's CEO made a statement on the above issues. In response to the differences in politics and laws in different countries, uber proposed to set up emergency buttons such as 911 in the app to screen and check the driver's background, and share procedures such as setting personal routes, and actively cooperate with governments in various regions. Therefore, we can see that the car-hailing companies are also actively dealing with the problem, and the current attitude is still actively cooperating.

2.1.2 Economic Factors

The current economic environment for ride-hailing is very good. It belongs to the representative of emerging industries and is the product of the sharing economy. In this market that requires taxis, car owners provide idle cars to meet the needs of passengers, and passengers give owners a certain return in money. This kind of sharing economy has been sought after and loved by many people. At the same time, it is worth mentioning that Uber, as the leader in ride-hailing software, is very reasonable in terms of speed and price. It has to be said that due to the emergence of online car-hailing, the market for many means of transportation has been greatly affected. The most serious here is the taxi industry. Typically, regulations for taxi services include control of entry, licensing and performance requirements, financial responsibility standards, and a price cap for journeys [3]. Meeting these requirements is costly, which is reflected by the usually higher prices of traditional taxi services [4]. Therefore, due to the price, people clearly prefer ride-hailing The New York Times reports that this past July in 2017, Uber witnessed an average of 289,000 rides per day, whereas yellow cabs only managed 277,000 [5]. According to the report, it is not difficult to see that the average number of passengers

per person of Uber, as the giant of online car-hailing, has exceeded that of taxis in several years ago.

2.1.3 Social Factors

More and more things can be done through the Internet, and even the most important money can be transferred through online zelle and paypal payments, so the “networking” of taxis will naturally become a trend. The emergence of online car-hailing has brought a new form of life to society. The working hours will also be more random. There is no fixed commute time, and his appearance is more like a part time job. In addition, there is no age limit for this job, and there is no concept of retirement in the business planning of online car-hailing. Also, it will take more care of people who have reached driving age but have not yet started work and the elderly who have retired. At the same time, since passengers can see the appearance of the driver in advance, there will be a lot of discrimination. According to a sample survey of 1,000 rides in Boston, “white” drivers were twice as likely (10%) as “African American” drivers to cancel their rides [6]. (5%; Ge et al. 2016, 12) In addition, passengers are generally more cautious when confronting male drivers than when confronting female drivers. This is also an unavoidable point of contention.

2.1.4 Technological Factors

There are two basic technologies that uber used for its business. One is called cloud computing technology. Basically, it provides the car-hailing industry with basic vehicle and driver information, geographic location information, empty car information, service quality reputation assessment information, as well as information such as e-hailing service reservation, order dispatch, response, service and driver service quality evaluation. This not only provides a basis for standardizing industry management and integrating industry resources, but also enables the taxi industry to have a stronger and more flexible market adaptability. The other is called location based service. When customers use the app, they can see the position of the driver and themselves to check the distance before they get a ride. And during the drive, they can find their routine and position at any second with this kind of service to make sure they are safe (Fig. 1).

2.2 SWOT Analysis

By analyzing the situation of the entire industry, you can see Uber’s marketing in detail.

2.2.1 Strengths

There are few competitors in the market, the main competitor is only lyft. At the same time, Uber’s price will also change according to the time and weather. In the morning and evening rush hour, the price of the fare will be increased, so as to get the maximum profit. After all, at that time, the vast majority of people were still willing to pay high prices to go to work early and go home quickly. In the face of bad weather, such as rain and snow, the price of Uber also increases surprisingly. At the same time, Uber uses

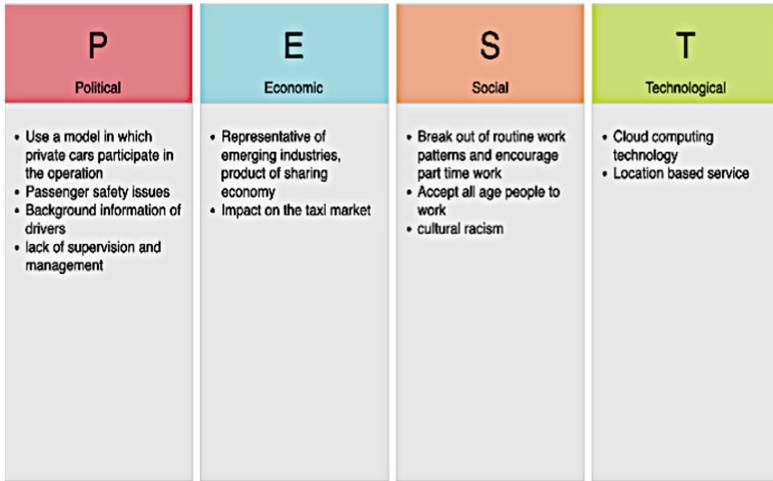


Fig. 1. PESTLE analysis in ride-hailing

private cars, which are lower in cost than ordinary taxis, so as to further obtain more high profit.

2.2.2 Weaknesses

Every company in this online car-hailing industry has basically no difference in the services they launch, so it is difficult for Uber to be unique for a long time. For example, Lyft has launched a service similar to his, which is to book a taxi. At the same time, the vast majority of the entire online car-hailing industry, including uber, uses private cars, which means that local government departments cannot be sure that the car has become a commercial tool. Regulatory authorities all over the world are facing the challenge how to react to Uber and other sharing economy platforms. Proponents of restrictive regulation approach argue that Uber drivers benefit from unfair competitive advantage, which puts a huge pressure on traditional taxi drivers [7]. This will be involved in some management system disputes.

2.2.3 Opportunities

The opportunity of Uber is the short waiting time. Compared with traditional taxis, passengers cannot know when an empty taxi will arrive, maybe ten or fifteen minutes. But now with Uber, riders can book a taxi or opt for an ad hoc option that only takes a few minutes. Compared with other online car-hailing platforms of the same type, what Uber needs to improve is the occupancy rate of drivers. In the early stage, a higher profit is used to share the driver, attracting new drivers to enter Uber's platform, ensuring that passengers match the driver's time, forming a good cycle, and maintaining the relationship with passengers. Compared with other online car-hailing platforms of the same type, what Uber needs to improve is the occupancy rate of drivers.

2.2.4 Threats

A possible threat to Uber is uncertainty. The first is uncertainty about the future. For example, when the law notices the loopholes in online car-hailing, will it introduce new policies? This will have a lot of impact on Uber. The second is driver uncertainty. RBC Capital Markets analyst Brad Erickson cautions that there are signs that Uber (ticker: UBER) and Lyft (LYFT) are seeing driver supply affected by the recent spike in fuel prices [8]. Therefore, we could know that driver shortage can be affected by any kind of fluctuation from external environment like price of fuel. Also, since drivers can sign up for Uber to pick up and drop off passengers at any time, there is a lot of mobility for drivers. If the driver is not divided enough, it is easy to reduce the passenger flow and thus affect the profit of the entire company.

3 Financial Analysis

Then it is also an online car-hailing, why the leading company Uber can be so successful, compared to Lyft, which also occupies the US market, is slightly inferior, we can think from a financial perspective.

3.1 Profitability

We compare the profit gap between the two companies. We mainly look at it from three directions, namely Gross Margin, Operating Margin and EBITDA Margin.

3.1.1 Gross Margin

From the graph, we can clearly see that Uber has been in a leading position for the past five years. From 2017 to 2020, the difference between Uber's revenue and the operating costs corresponding to revenue is far greater than that of Lyft, which proves that more value is added through Uber than Lyft. However, as can be seen from the data in 2021, Uber's gross profit has decreased. Some analysts pointed out that the possible reason is that there is a shortage of drivers. The competition between Uber and Lyft is not just about more passengers but also about the number of drivers. So we can guess that the reason for the decline in Uber's gross profit and the increase in Lyft's gross profit in 2021 is likely to be due to balancing the markets on both sides. But the report also said that after the Uber epidemic, the company spent more than \$250 million to lure drivers back. Meanwhile, Uber CEO Dara Khosrowshahi said the company hopes to expand its driver base beyond 2019 levels to meet anticipated demand [9]. So Uber will once again show the same trend (close to 50%) as 2019, when Uber has invested heavily in competing for driver resources (Fig. 2).

3.1.2 Operating Margin

In the operating margin graph, we can see that both companies have negative operating margins. We can see that the two companies do not have a good control of costs, but it is worth mentioning that Uber's operating profit margin is relatively small compared to

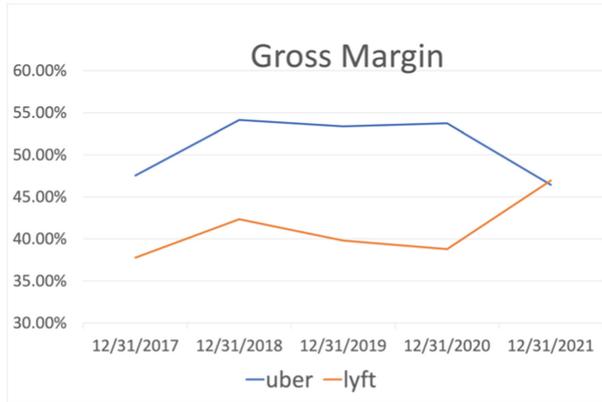


Fig. 2. Gross Margin between Uber and Lyft

Lyft. Although it can be seen from the chart that there was a great impact on the online car-hailing industry when the epidemic came, but in the three years from 2019 to 2021, we can see that Uber's losses have decreased year by year, and even reached One of Uber's best operating margins in nearly five years - 20%. However, when we look at Lyft, in the second year after the epidemic, that is, in 2020, its operating profit margin has dropped even more, and it did not have an acceptable loss until the third year of the epidemic. This shows that Lyft is slow to deal with urgent financial shocks. Uber's management team has 11 people, but Lyft has only 5 people. By looking at their management team, we can see that it is difficult for Lyft to make a comprehensive judgment in the face of the impact of the epidemic, because they only have specific person related to finance and business. According to the blog, Since the Covid19 pandemic hit, Uber has aggressively shifted its "people" ride sharing model to food delivery via Uber Eats and its acquisition of Postmates for \$2.65b in July [10]. We can know the management team from Uber find an alternative way to face the recession in the pandemic. However, Lyft didn't do any new actions on it in a fast speed (Fig. 3).

3.1.3 EBITDA Margin

We can see that Uber's EBITDA margin in 2018 and 2021 is positive, which shows that the company is in a better management state. But in 2019 and 2020, we can see that Uber's cash flow is relatively poor due to the impact of the epidemic. Unfortunately, the EBITDA margin calculated from Lyft's annual data sheet has always been negative. As mentioned above, its management team clearly has loopholes, and the management team is not staffed enough to actively adjust the strategic plan (Fig. 4).

3.2 Capital Structure

In addition to looking at the situation of these two companies in terms of profits, we can also look at the company's asset structure. Here we mainly introduce three aspects, namely the debt ratio, the debt-to-equity (D/E) ratio, and the capitalization ratios.

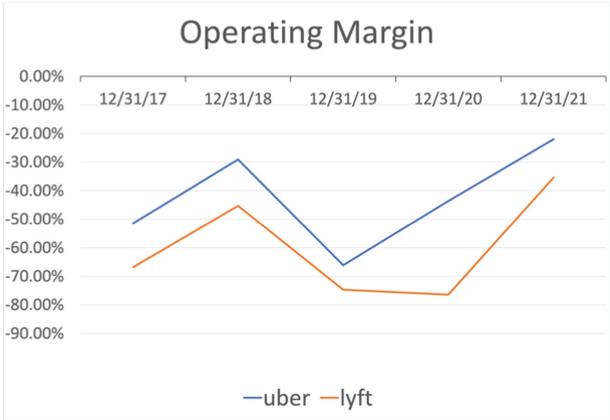


Fig. 3. Operating margin between Uber and Lyft

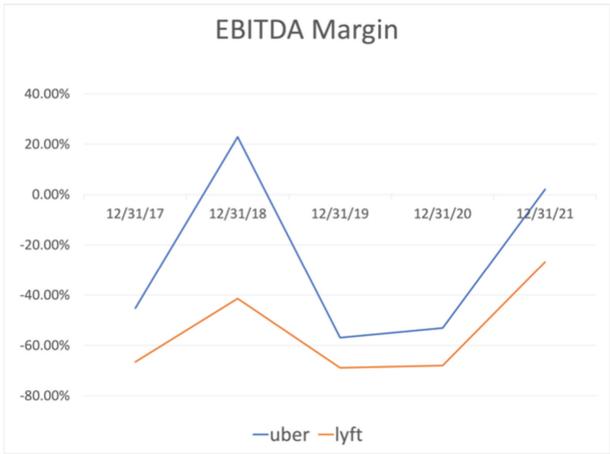


Fig. 4. EBITDA Margin between Uber and Lyft

3.2.1 The Debt Ratio

The debt ratio is calculated by debt/asset. Through calculation, we can see that in the past three years, the debts of the two companies have not exceeded the percentage of assets. In other words, there is no possibility of going bankrupt by not being in debt so far. At the same time, it can also reassure creditors that the company can repay its debts normally, and can also lend money to the company with confidence (Fig. 5).

3.2.2 The Debt-To-Equity (D/E) Ratio

In the debt-to-equity ratio, if the ratio is higher than 1, which means the debt is greater than the asset, it is a higher risk. However if it is lower than 1, which means the asset can repay all the debt, it is a relatively safe risk. From the chart, we can see that the

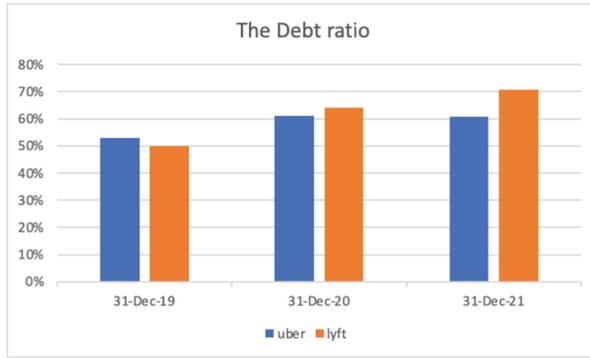


Fig. 5. The Debt ratio between Uber and Lyft in current three years

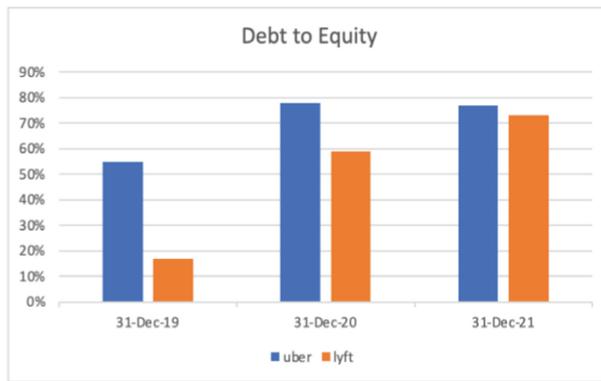


Fig. 6. Debt to Equity between Uber and Lyft in current three years

investment risk coefficient of the two companies is not very high, and they are relatively safe companies. That is to say, the debts of the shareholders of these two companies can be completely offset by equity. But no matter which company their ratio is improving after 2019, in other words they may have debt problems after a while (Fig. 6).

3.2.3 The Capitalization Ratios

3.2.3.1 Long-Term Debt to Capitalization

$$\text{Long - term Debt to Capitalization} = \frac{\text{Long - Term Debt}}{\text{Long - Term Debt} + \text{Shareholders' Equity}}$$

From the picture, we can see that the ratio of both companies has not reached 50%, which means that the current probability of bankruptcy of the company is small. And from the current point of view, it can be said that the current financial status of the two companies is very good, and the long-term debt is less than half, and there will be no financial weakness (Fig. 7).

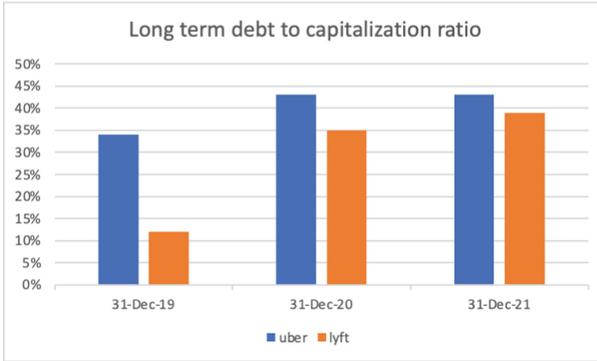


Fig. 7. Long Term Debt to Capitalization between Uber and Lyft in current three years

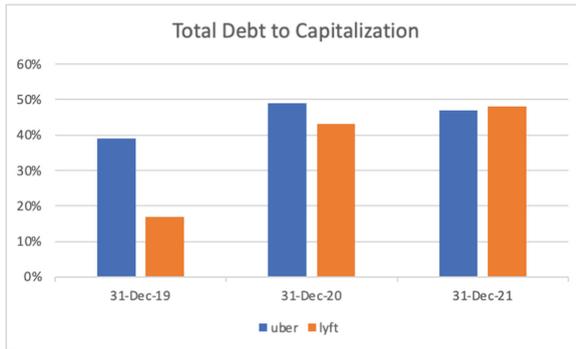


Fig. 8. Total Debt to Capitalization between Uber and Lyft in current three years

3.2.3.2 Total Debt to Capitalization

$$\text{Total Debt to Capitalization} = \text{Total Debt} / (\text{Total Debt} + \text{Shareholders' Equity})$$

If the ratio is higher, the company is funded by debt rather than equity, which means higher liability for debt repayment and greater risk of loan forfeiture if debt is not repaid in a timely manner. Fortunately, even during the epidemic, the two companies did not have problems with their debts, and there was no situation where the capital chain could not be closed, and the debts were still controlled within half (Fig. 8).

4 Discussion

Through the PEST analysis in business models, we can know that the current online car-hailing market is still a developing process, which is reflected in four aspects, from the imperfect management exposed in the legal and political system, and the market imbalance between transportation, unable to solve the inter-personal racial problem that

appeared on the mobile phone software, and the limited technology system. At the same time, not only analyzing the current situation of the industry, but also SWOT analysis can clearly tell us the advantages, disadvantages, future opportunities and existing risks of Uber as a leading online car-hailing enterprise from four dimensions. Lyft can learn from Uber's variable price in the same way, and increase its efforts to break Uber's future opportunity, which is the time for online car-hailing - lack of drivers, preemptively occupy the market, and vigorously develop itself. In addition, as Uber's number one competitor, Lyft can choose to attract customers by ensuring the safety of passengers with the greatest efforts. Because online car-hailing is operated by private cars, there are bound to be dangerous factors to a certain extent, which is also a major problem that Uber currently has. If Lyft can solve this problem, it could lay the groundwork for growth in contrast to Uber in business.

By analyzing from a financial point of view, there is no problem with the asset structure of the two companies, especially in terms of debt. Both companies have a very good grasp of debt, especially the ratio of the past two years in 2020 and 2021 is almost no difference. But why is Lyft not as successful as Uber? The reason lies in their profitability aspect. Uber and Lyft have seen big differences in Gross Margin, Operating Margin and EBITDA Margin in recent years. By comparing the data, it can be concluded that although there are external factors such as the epidemic, Lyft's management team will be much slower in dealing with emergencies than Uber. We can clearly see from the picture that the impact of the epidemic will end slowly until 2021.

5 Conclusion

As a new product in this era, online car-hailing not only facilitates passengers to take taxis online at any time, but also saves drivers the time to drive aimlessly to find passengers. Uber is a more successful ride-hailing company than Lyft, which also competes in the US market. Its business model and marketing approach are worth learning from Lyft. Through our business analysis and financial analysis, we can see that Lyft has a big problem with profitability. Lyft has the same risks as Uber in terms of claims, both in the safety category. However, there is a wide gap between the two companies in gross margin, operating margin and EBITDA margin. The reason is that Lyft has too few managers and too slow processing time, so there is a clear gap between Lyft and Uber. It is worth mentioning that the data used is only in the 3–5 year range, so it is not possible to look at the two companies in the 10 year range with the current conclusions. Affected by the epidemic in recent years, the degree of data reference is limited. But if the epidemic continues, the data in recent years will help us study the future development trends of Uber and Lyft, such as cash flow, whether there is a bankruptcy risk, and we can also study how much external influences (such as the 2019 outbreak) does the two companies can withstand.

References

1. Kathleen Thelen. *Regulating Uber: The Politics of the Platform Economy in Europe and the United States*. Perspectives on Politics, 2018. <https://www-cambridge-org.proxy.cc.uic.edu/core/journals/perspectives-on-politics/article/regulating-uber-the-politics-of-the-platform-economy-in-europe-and-the-united-states/DFE30511CEB3281E40CBFDFFA56110E0>
2. WP Company. *France's interior minister calls for end to uber - and rioting by taxi drivers*, The Washington Post, 2015. https://www.washingtonpost.com/business/economy/frances-interior-minister-calls-for-end-to-uber--and-rioting-by-taxi-drivers/2015/06/25/9f863408-1b78-11e5-ab92-c75ae6ab94b5_story.html
3. Geradin, D. Should uber be allowed to compete in europe? and if so how? George Mason University Legal Studies Research Paper Series (2015). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2615530
4. Silverstein, S. *We did the math: Is uber really cheaper than a taxi?* Business Insider. 2014. <https://www.businessinsider.com/uber-versus-taxi-best-deal-cheaper-2014-10>
5. Warkerkar, T. *Uber surpasses yellow cabs in average daily ridership in NYC*. Curbed NY. 2017. <https://ny.curbed.com/2017/10/13/16468716/uber-yellow-cab-nyc-surpass-ridership>
6. Yanbo Ge, Christopher R. Knittel, Don MacKenzie & Stephen Zoepf. *Racial and Gender Discrimination in Transportation Network Companies*, National Bureau of Economic Research. <https://www-nber-org.proxy.cc.uic.edu/papers/w22776>
7. Kristóf Gyódi. *Uber vs Licensed Taxi Drivers: A War Between Technological Standards*. WTyoturk ing Paper DELab UW. 2017. https://www.delab.uw.edu.pl/wp-content/uploads/2017/09/WP_2_2017_K.Gyodi_.pdf
8. Savitz, E. J. *Uber and lyft stock are sliding. there's a driver shortage*. Uber and Lyft Stock Are Sliding. There's a Driver Shortage. Barron's. 2022. <https://www.barrons.com/articles/uber-lyft-stock-driver-shortage-51647883733>
9. Person, & Tina Bellon, N. B. *Uber makes first operating profit as driver shortage eases*. Reuters Technology. 2021. <https://www.reuters.com/technology/uber-posts-first-small-adjusted-profit-ridership-rises-delivery-gets-more-2021-11-04/>
10. Patrick Wheeler, Joe McDonald, *Uber, lyft face serious challenges to their business models*. Center For Digital Strategies. 2020. <https://digitalstrategies.tuck.dartmouth.edu/uber-lyft-face-serious-challenges-to-their-business-models/>

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