



THE IMPACT OF NOVEL CORONAVIRUS ON CHINA'S ECONOMY (LITE)

Macro and Micro Analysis
From the Perspective of Alternative Data

Powered by the Data Lab of



Statement

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Background

Although the US – China relations has become volatile in recent years, China is still deeply involved in the global supply chain and become an important supplier to many international corporations. The Coronavirus has slowed down the Chinese economy as factories could not reopen after the Spring Festival holiday due to the virus prevention and quarantine policy. Ultimately companies in the U.S have been impacted by the outcome and it has been reflected in their stock prices.

On the other hand, since the U.S capital markets is still the top choice for those VC-backed startups in China, there has been a direct impact from the Coronavirus on the populations from a lifestyle change and therefore impact on businesses.

Although Macro data can show the impact of the virus, there will be lag in time for government to collect and publish them. To address our clients' concerns, GTCOM has decided to utilize our capabilities in the alternative data landscape, especially with our comprehensive news and social media coverage as well as our broad partnership with other data vendors from China, to provide deep, thorough, and real time analysis on the impact of Coronavirus on both the Macro and Micro level.

In the first part of the report, we constructed several Macroeconomic indicators based on both public data and alternative data to reflect the impact on industrial sector. In the second part, we analyze the impact of virus on lifestyle change and hence the impact on businesses from media, mobile activity, and industry angles.

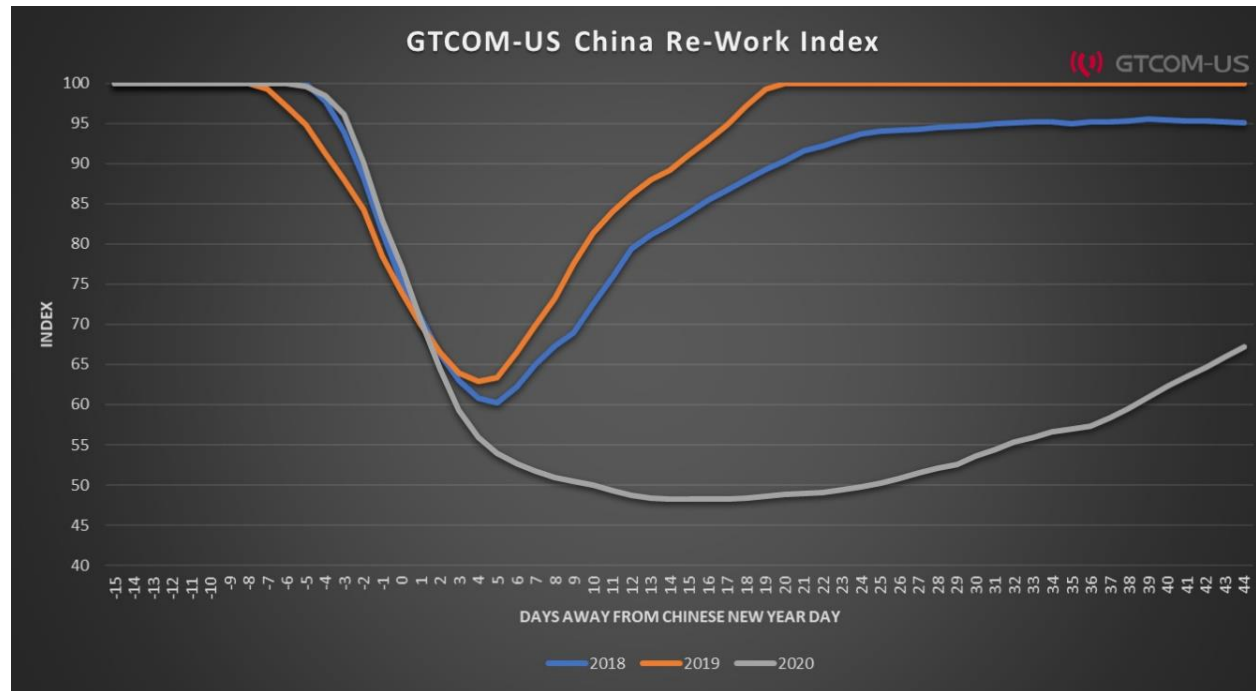
Although the report only covers the impact of coronavirus on China, however, it would be meaningful reference for the U.S and global market as well due to the widespread of the virus in Middle East, Europe and U.S.

PART I: Impact on Macro

Based on our alternative data and quantitative models, GTCOM-US Data Lab construct a unique index named *GTCOM – China's Rework Index (CRI)* to track the impact of the novel Coronavirus on the Chinese economy and the recovery of the Chinese economy from a quantitative perspective of view. CRI is composed of two sub-indices: *Daily Coal Consumption Index (DCCI)* and *Personnel Flow Rate Index (PFRI)*. Moreover, *PFRI* is composed of two sub-indices: *Urban Congestion Index* and *Metro Passenger Transport Index*.

GTCOM-China's Rework Index

As our index shows, up to 03/09/2020 (6 weeks or 44 days after the Chinese spring festival), *CRI* is 67.22, shows that the overall economic activities are only recovered to 67% of pre-holiday level after 44 days since the Spring Festival. During normal years without the epidemic or other special reasons, it only took about 20 days for the economy back to full operation. Next let us see how each sub-index is going.



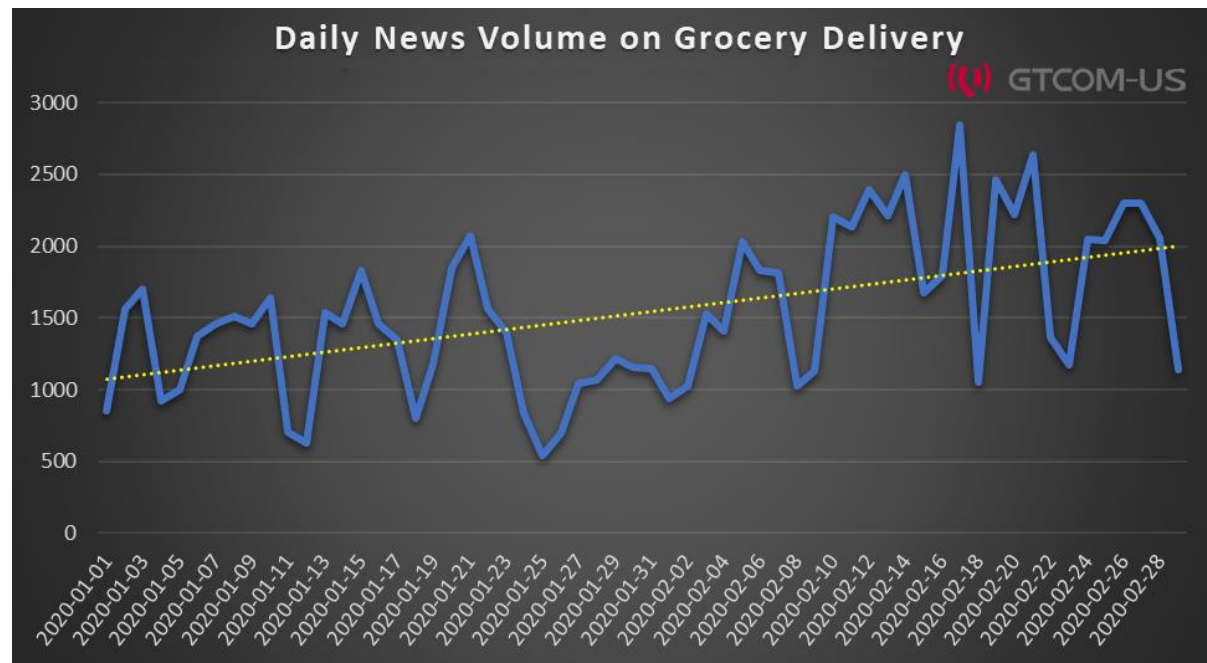
Part II: Impact of Coronavirus on Lifestyle

We analyzed the Macro factors in above section, now we will see the impact of the virus outbreak on people's daily life. The digital transformation of lifestyle and business activities has been going on for several years in China. The epidemic helps accelerate the adoption and market share in several fields.

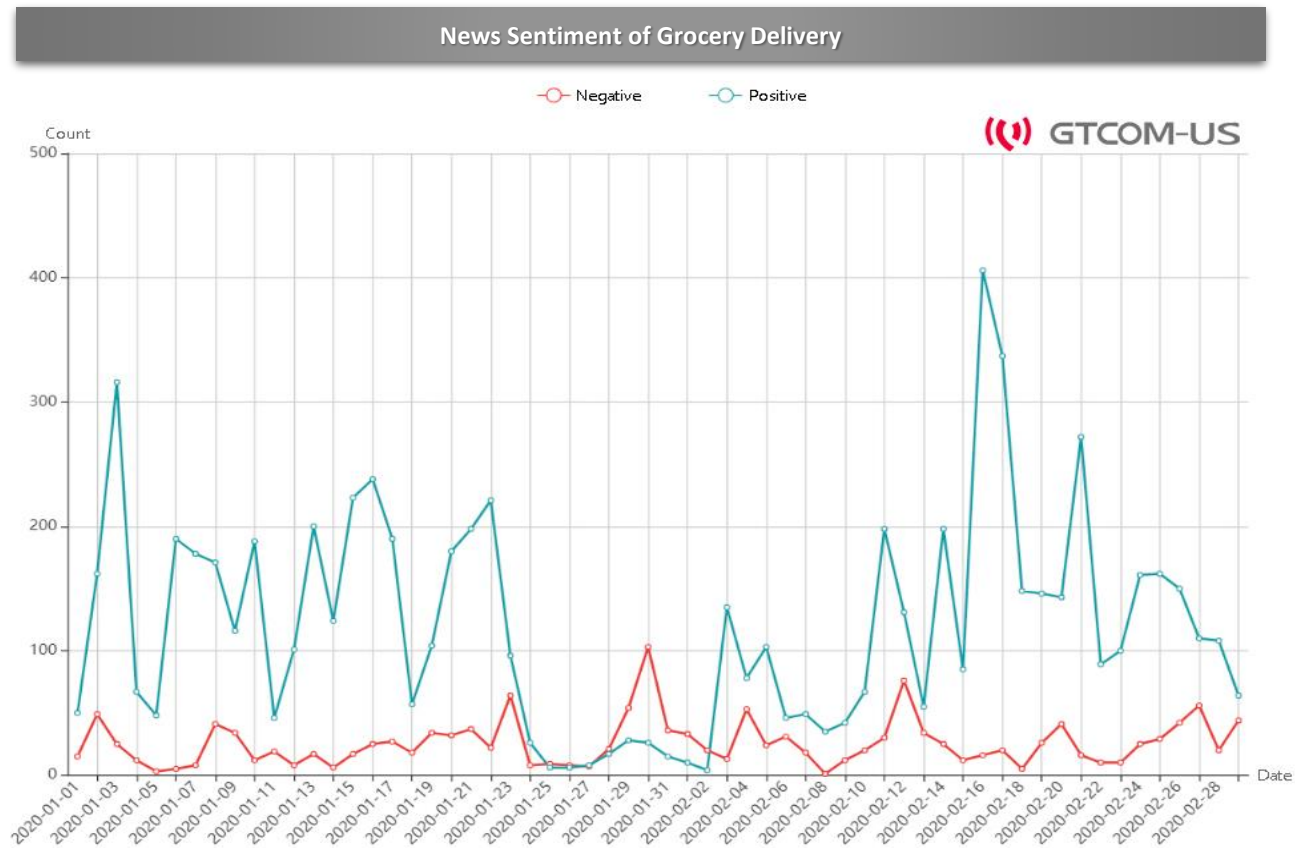
I. Grocery Delivery

One major lifestyle change accelerant caused by the virus we could see from the news and social media is grocery shopping. Due to virus outbreak, people can only rely on traditional and internet-based food delivery service to purchase daily necessities.

The chart below shows the news volume regarding the grocery delivery sector, we can see that the news volume only increased slightly after the Jan.23, the date when Chinese government officially shut down Wuhan.

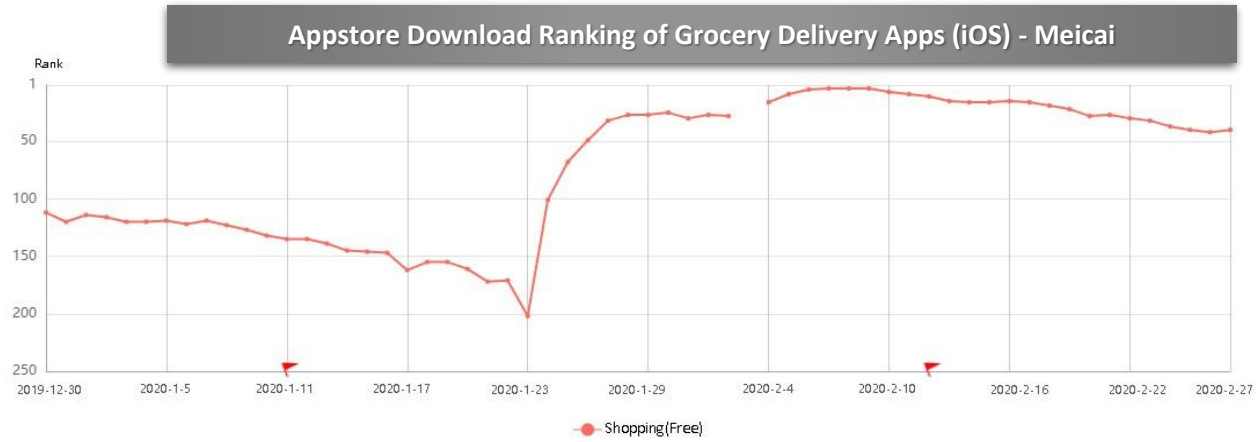


From the graph we can see that the sentiment was always more positive except for few days during the epidemic because the companies could not satisfy the rocketing amount of orders and also caused chaos when trying to enter the quarantined communities.



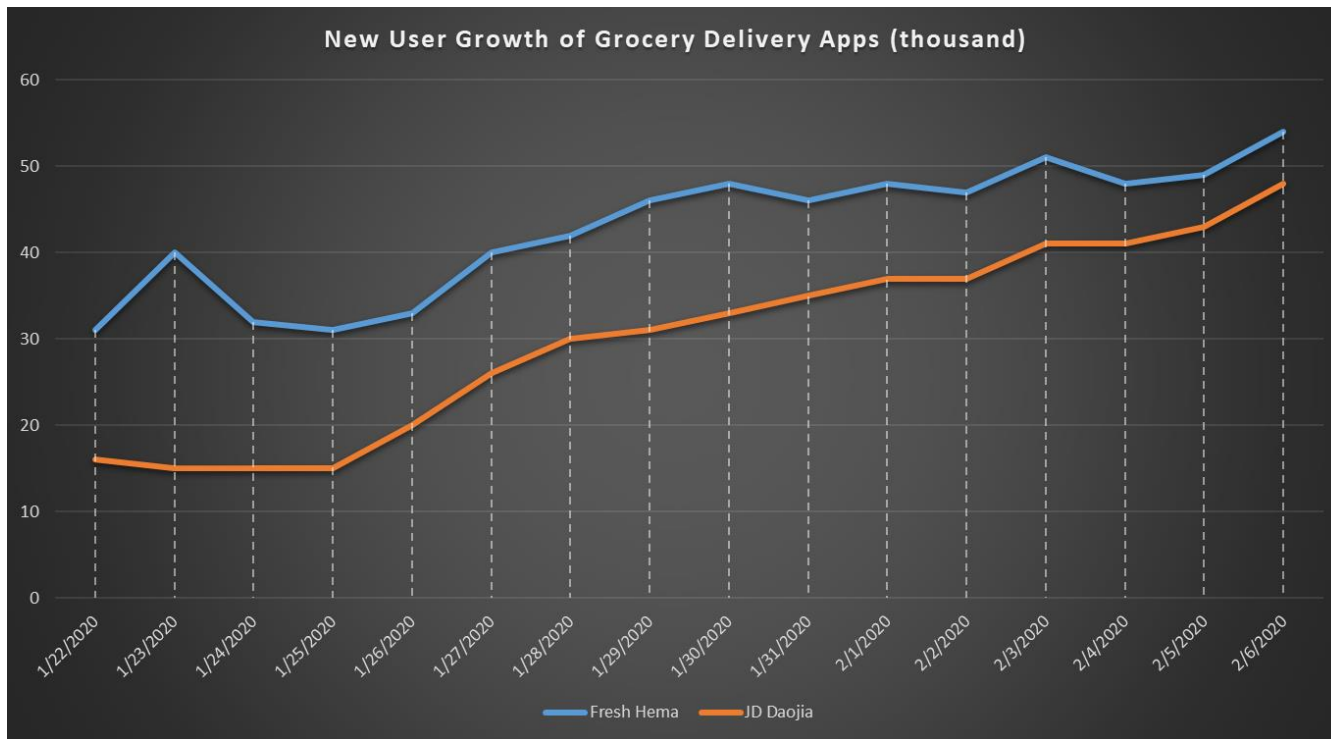
Appstore Performance Ranking

We picked leading companies in the sector and analyzed their Appstore download performance.



Daily New User Growth

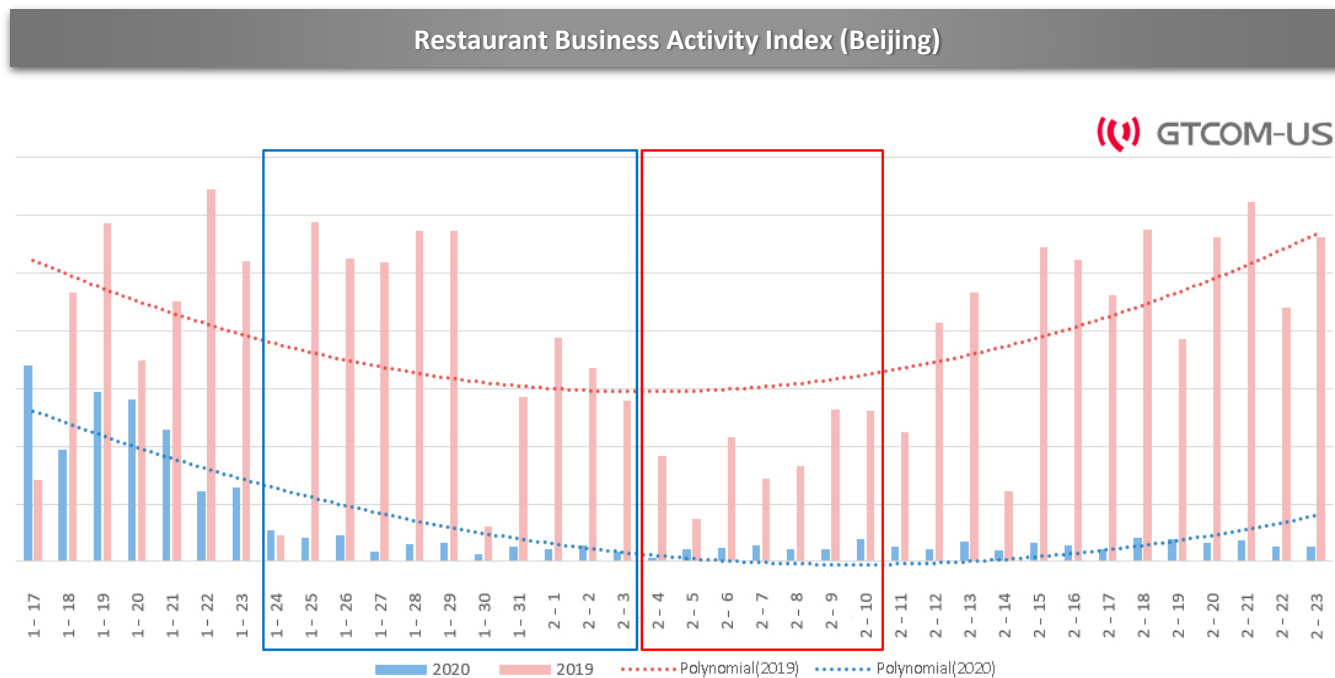
From the daily user increase perspective, we can see that there was a steady increase ever since the Wuhan shutdown; while Fresh Hema spiked on 1/23/2020, JD remained steady in a smooth incline.



Impact on Restaurant Business

While the online grocery shopping was booming and cook at home became popular, the offline restaurants were hit badly by the epidemic. Below is the restaurant business activity index provided by Daokou Fintech. The index is calculated based on bank card transaction data.

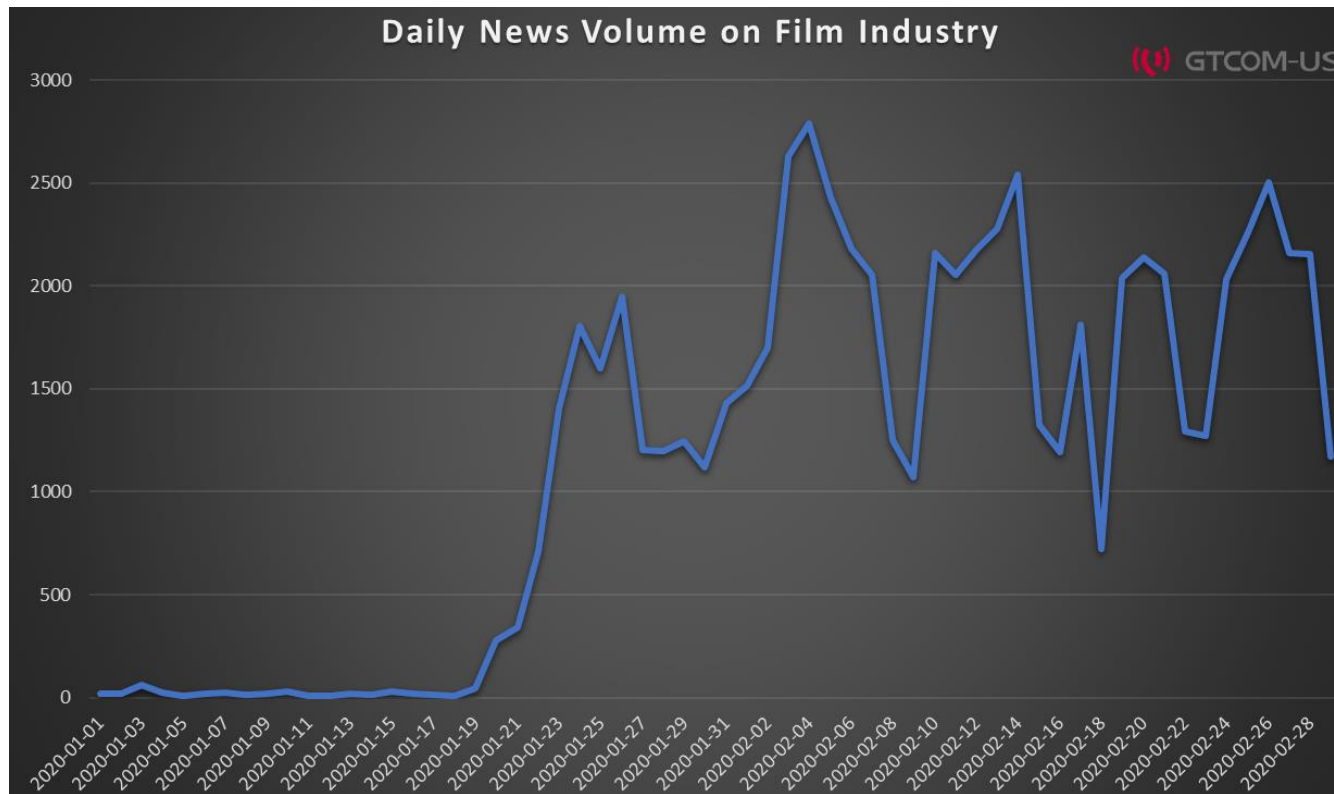
Take Beijing as an example, we can see that the whole industry experienced a drop of revenue during the 2020 spring festival holiday (blue rectangular frame) comparing to the 2020 holiday (red frame)



II. Film and Theater

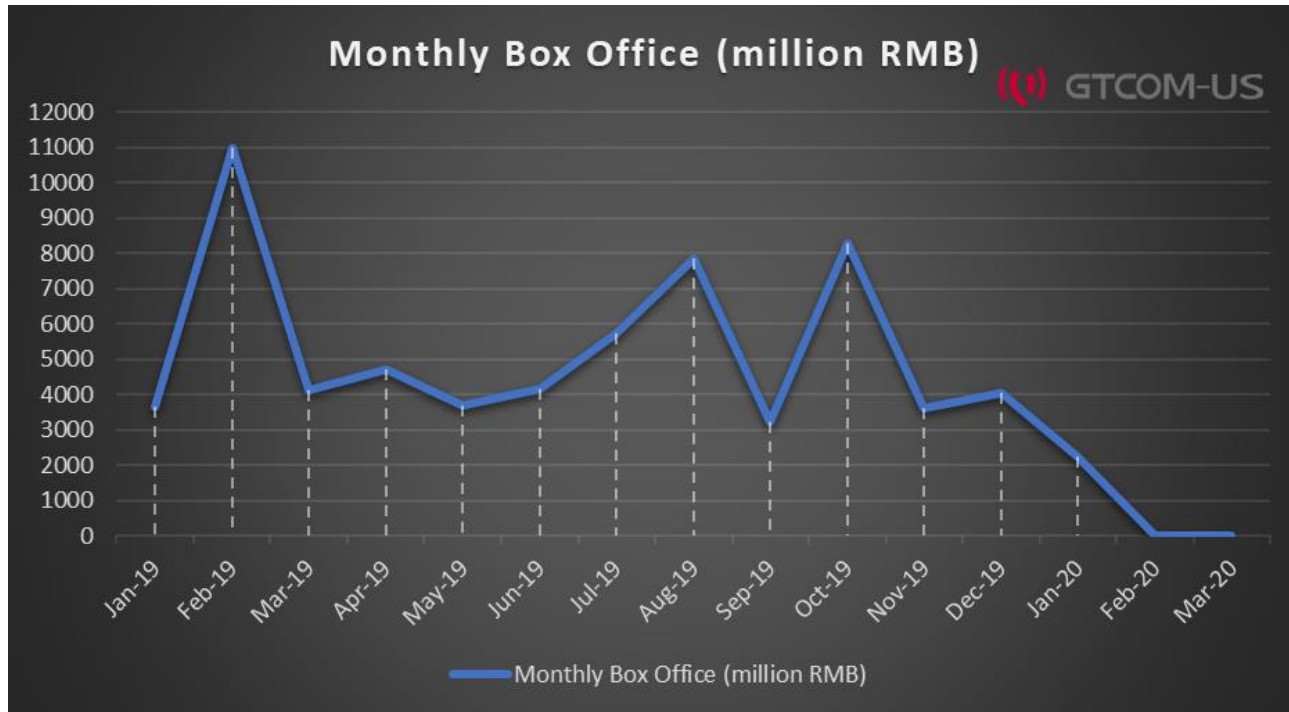
Another change occurred during the epidemic was that people shifted to online entertainment more than before as they could not go out. Take the movie business as an example, although online streaming and short videos are becoming popular, Movie's still play an important role in China's broad entertainment industry. The total box office in 2019 was over 64.2 billion RMB.

From the daily news volume and sentiment distribution, we can see that the whole industry was worried by the virus situation since people would not gather at the theater anymore. The negative emotions were spreading within the industry, while some movies chose to release on a video on demand/internet platform, some just postponed their release date.



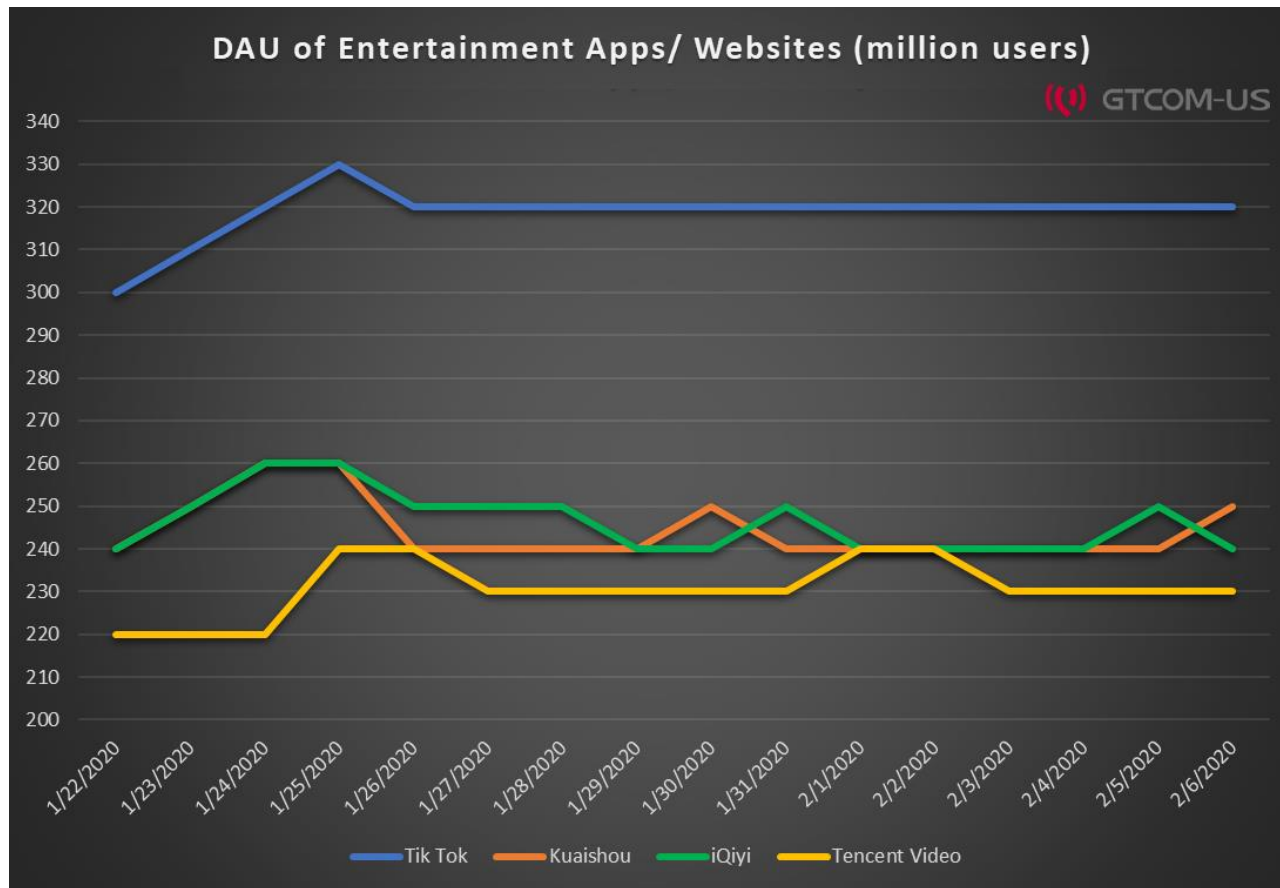
Box Office of China

Chart below shows that the total box office dropped to only a few million RMB nationwide in February and the beginning of March. Due to the virus, this year will be extra challenging for theaters, producers, and publishers.



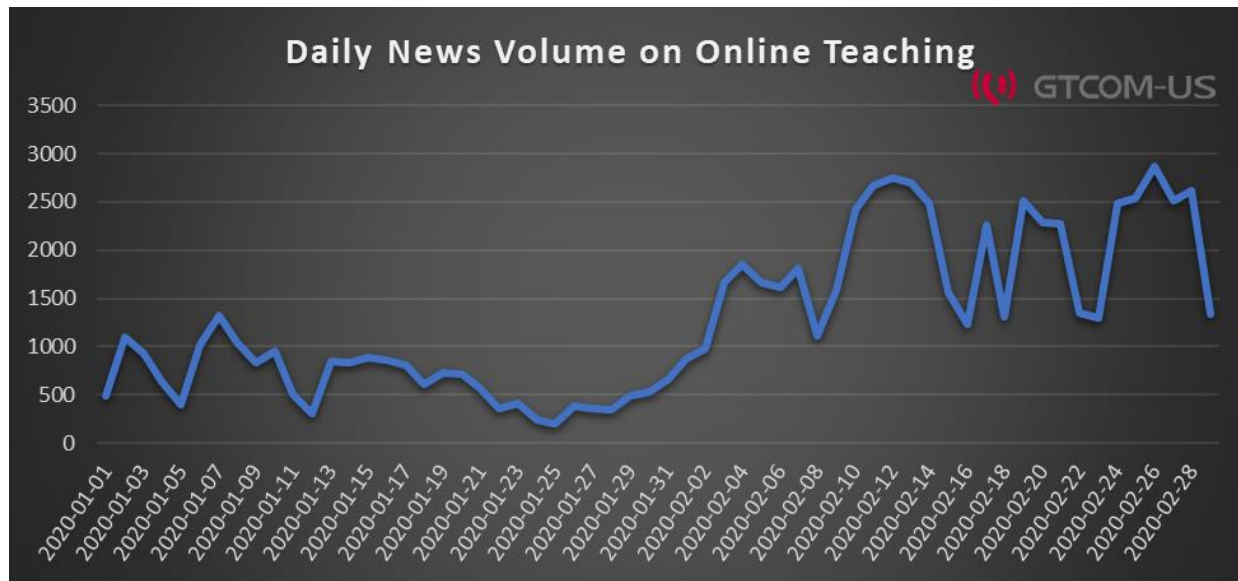
DAU of Entertainment Platforms

While the in-person theaters and movies are suffering from the epidemic, the online platforms are enjoying increased streaming volume as people have no other entertainment options except online video streaming or gaming.



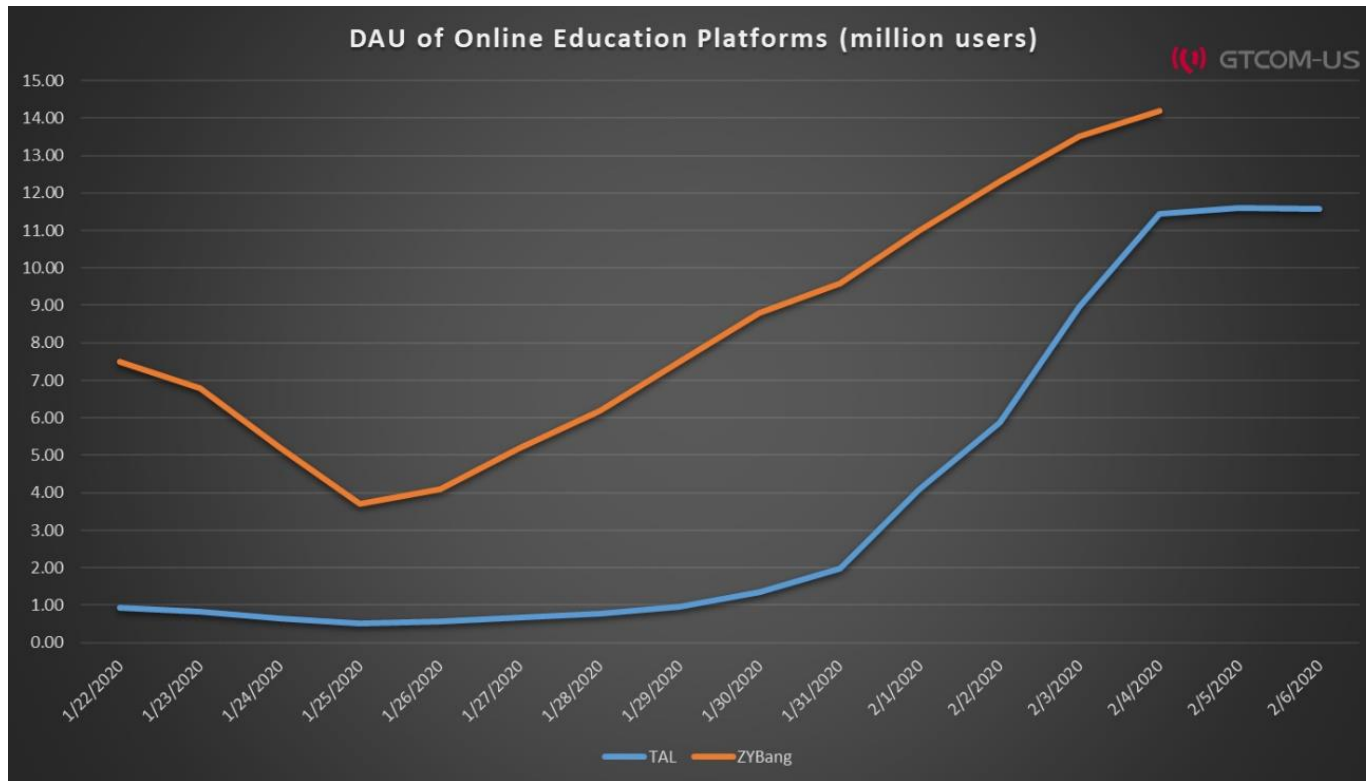
III. Online Teaching/ Education

The third change is about how teachers and students interact with each other. Since schools throughout China postponed the starting date of new semester, they require teachers to use internet tools to live stream the classes. As a result, online teaching / education platforms are highly benefiting from the virus outbreak. We can see from the chart below that the news volume and social media posts jumped after 02/02/2020. The overall sentiment of news and social media are positive.



DAU of Leading Platforms

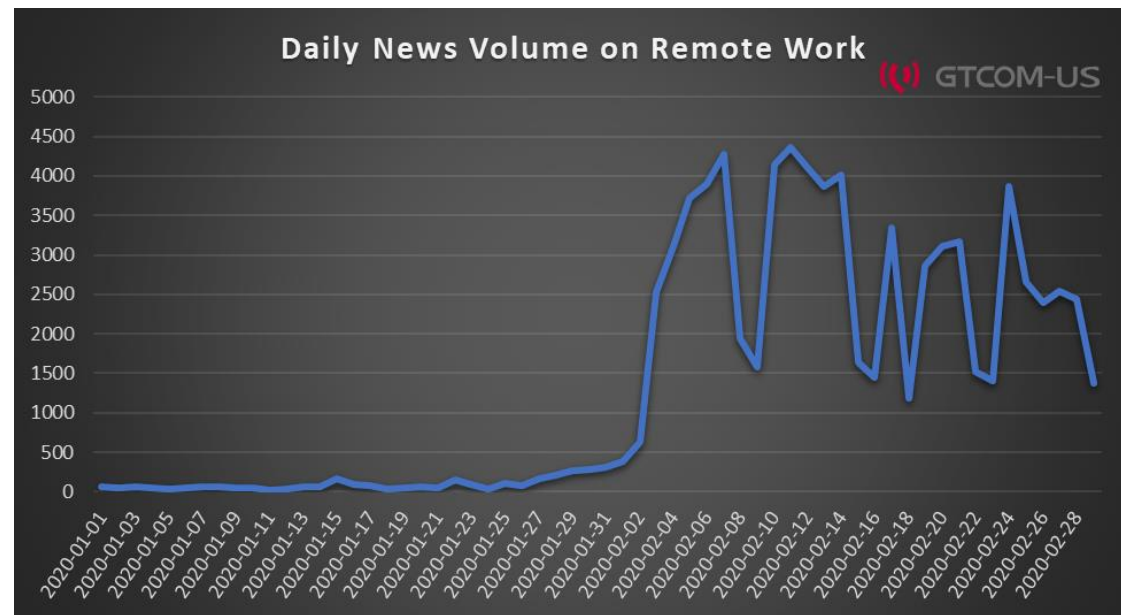
Taking industry leading companies as an example. TAL is public traded in NASDAQ. The DAU of the platform soon jumped from less than 1 million to more than 11 million in few days. A spinoff from Baidu, ZYBang is one of the highest valued startups in the K-12 field.



IV . Remote Work









































The last thing that is dramatically changed by the virus is work collaboration. From our Rework index and Urban Congestion index in the Macro section, we can see that many people are still staying home and started working from home as the companies required. It was rare to work remote before the outbreak in China due to a different working culture that has core values in facetime. Therefore, similar with online teaching, the remote work / work collaboration tools are also boosted by the epidemic.

As we can see from the news volume and sentiment chart, the topic became popular just in few days and brought a lot of media attention and public discussion; while the sentiment is way more positive, it may help draw VC's attention to the startups in this sector.



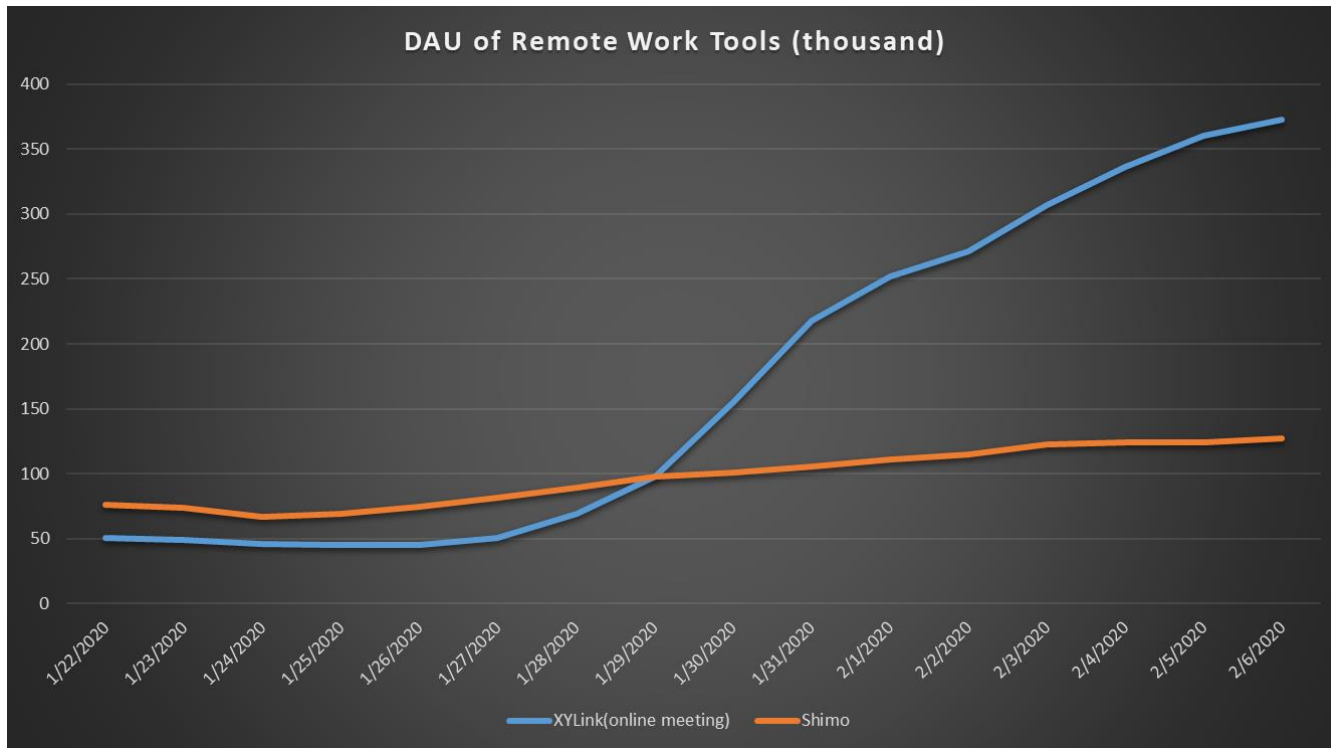
Weekly Download Ranking

The chart below shows the Appstore download ranking cross all sectors. As we could see, DingTalk by Alibaba and Tencent Meeting has ranked No.1 and No.2 in the past week (02/29 – 03/07), while Wechat for Enterprise ranked No.5 constantly in recent 4 days, show more demand as well.

Weekly Appstore Download Ranking for All Sector					
Date/Rank	1	2	3	4	5
Today	 0 DingTalk	 0 Tencent Meeting	 0 TestFlight	 0 Cut-off	 0 Wechat (Enterprise)
Yesterday	 0 DingTalk	 0 Tencent Meeting	 0 TestFlight	 0 Cut-off	 0 Wechat (Enterprise)
03.05	 0 DingTalk	 0 Tencent Meeting	 0 TestFlight	 0 Cut-off	 0 Wechat (Enterprise)
03.04	 0 DingTalk	 0 Tencent Meeting	 0 TestFlight	 0 Cut-off	 1 Wechat (Enterprise)
03.03	 0 DingTalk	 0 Tencent Meeting	 0 TestFlight	 0 Cut-off	 0 Tencent Interact Class
03.02	 0 DingTalk	 0 Tencent Meeting	 1 TestFlight	 1 Cut-off	 4 Tencent Interact Class
03.01	 0 DingTalk	 0 Tencent Meeting	 0 Cut-off	 0 TestFlight	 0 Wesee
02.29	 0 DingTalk	 0 Tencent Meeting	 0 Cut-off	 1 TestFlight	 1 Wesee

DAU of Startup Apps

While large corporations gained from the increasing demand of remote work, smaller firms have also benefited. The DAU of meeting service provide XYLink jumped since 1/31/2020 as people started working at home; while document sharing service provider Shimo only gained moderate DAU growth. However, due to the limited time period we analyzed, we believe that the demand for such services would be higher with time.



Acknowledgement

1. Data Source

The sources of the data come from GTCOM-US and our partners' alternative data, including China online and offline payment data, news and social media data, mobile app data, traffic data, companies' operation data, etc.

2. Disclaimer

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