



**Eagle Alpha**

# **COVID-19 Report**

Using Alternative Data to Track the Impact of the  
Coronavirus

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Edition 1 – 26<sup>th</sup> March 2020

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# Executive Summary

## Purpose Of This Report

This report is the first in a series of reports published by Eagle Alpha on the use of alternative data to track the impact of the Coronavirus. The purpose of this report is to provide buyside funds, private equity firms, corporates, governments and central banks with examples of how alternative data can be leveraged for timely insights.

## Use Cases

The demand for alternative datasets has surged since the outbreak of the Coronavirus. Eagle Alpha has sought to outline a selection of use cases for the most sought-after categories of alternative data, by region and frequency of the dataset.

**Region considerations:** Coronavirus first broke and impacted the Chinese markets but the impact was soon felt across Europe and the US. The selection of use cases in this report have been chosen to demonstrate how alternative data can be used to address the macro-economic impact and spread of the virus itself.

**Frequency:** This report will address the benefits of alternative data over traditional data for its timeliness in tracking the coronavirus outbreak, the immediate impact and potential recovery. The selection of case studies featured in this report feature datasets with high frequency and short latency in the data.

## About Eagle Alpha

Established in 2012, Eagle Alpha is the pioneer connecting the universe of data. Its clients view Eagle Alpha as a strategic data partner. The firm's data solutions are used by data buyers to make data-driven investment and business decisions and data vendors to gain access to qualified buyers of data.

As a first-mover in the space, Eagle Alpha has developed unique data know-how, a network, processes, technologies, and solutions which we refer to as the Data Machine. The Data Machine connects both sides of the market, data sources and data buyers and solves key industry challenges:

- Challenge for vendors: gaining access to qualified buyers of their content. The Data Machine delivers lead generation, faster time to market, market penetration, and access to new customer segments such as private equity and corporates.
- Challenge for buyers: figuring out the type of data content they need and where to obtain it from. The Data Machine provides data discovery, dataset prioritization, data quality test results, and advice on how to derive value from datasets.

**Emmett Kilduff**

CEO, Eagle Alpha

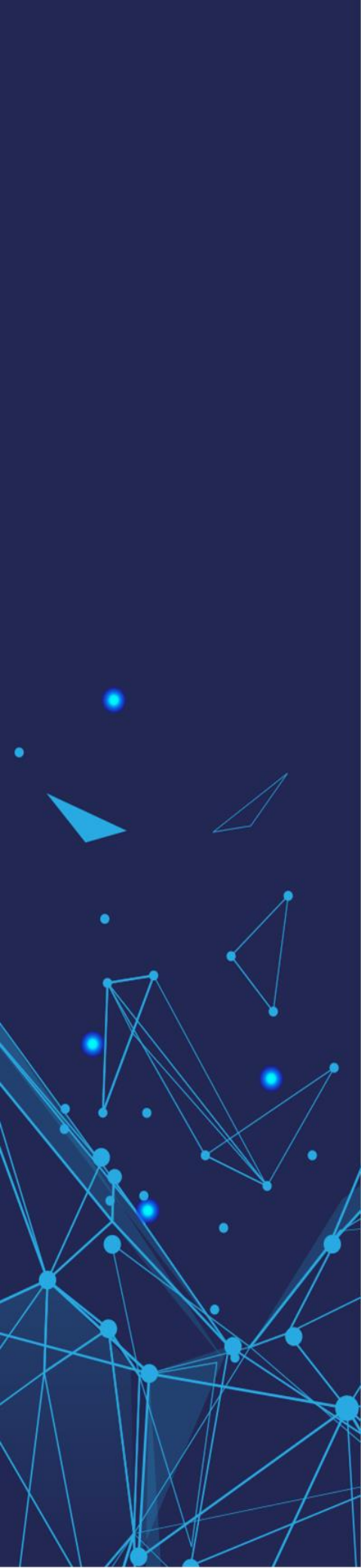


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# Section 2

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## Alternative Data for Timely Insights

## Definition And Benefits

Alternative data is non-traditional data that can be used by buy-side firms, private equity firms and corporates (where it is more commonly referred to as “external” data) to make data-driven investment and business decisions. In addition, we are seeing increased interest from central banks and treasury departments in recent weeks.

### Adoption

Alternative data users were once limited to quant funds but it's not just buy-side firms that stand to benefit from the surging availability of alternative data sources. Very soon alternative data users included other financial services firms and verticals including private equity and corporates.

### The Data Revolution

The rise of alternative data in the last decade has been driven by the “Data Revolution”, a period of gains in productivity due to the massive insights that can be gained from data. According to J.P. Morgan, this “data revolution” can be attributed to three main aspects:

- (1) developments in cloud computing,
- (2) advances in data science, and
- (3) a supply of new datasets.

These new datasets come from two main sources: new companies being set up to monetize data, and corporates that have “exhaust” data which they are looking to monetize.

### Benefits

Alternative data is relevant to several different asset classes, e.g. equities, credit investors and macro (including fx and commodities) and is also relevant to both public and private markets.

*Ken Griffin, the CEO of Citadel said:*

“Our ability to leverage big data effectively in our investment processes is critical to our success as a firm.”<sup>2</sup>

There is a growing trend of private equity firms hiring data scientists, such as Blackstone, who created a team that focuses on data science, big data and advanced analytics, led by Matt Katz, who was hired from Point72 Asset Management.<sup>3</sup>

As more and more corporates begin to utilise data in their market approach, there has been unprecedented levels of spending on external data. In a Gartner survey of 196 companies worldwide, conducted in 2017, almost half of companies reported that they were using external data.<sup>4</sup>

The rise of the CDO (Chief Data Officer) also demonstrates the emphasis that corporates are beginning to place on the use of data.

## Definition And Benefits cont'd

### Alternative Data Categories

There are over 1,200 datasets in Eagle Alpha's database from all around the globe. That makes it the largest alternative data database in the world. We hired a Mandarin-speaking data hunter in 2017; there are now approximately 200 datasets covering China in our database. This has proved a valuable asset as clients seek to track the impact of COVID-19 on the Chinese market.

Eagle Alpha was the first company to create a taxonomy of alternative data sources. There are 24 alternative data categories and 2 traditional data categories in our database (Fig.1). Many of these are relevant to firms tracking the coronavirus situation and how economies are reacting, e.g. supply chain, satellite, geo-location, business insights, such as airline data, employment and app usage. As of March 26<sup>th</sup> 2020 there are 64 alternative datasets in our database that are specifically relevant to COVID-19. This number increases every week.

### Timely Tracking with Alternative Data

With the outbreak of the Coronavirus globally it became clear that traditional data and methods weren't timely enough to track the impact on the markets, individual companies (public or private) or sectors with many companies telling the markets they would be abandoning their forecasts for Q1 and full year as early as March.

With alternative data you can track impacts more timely than traditional data sources. Across Eagle Alpha's entire database the frequency of alternative datasets is as follows:

**Daily: 59%.**

**Weekly: 7%.**

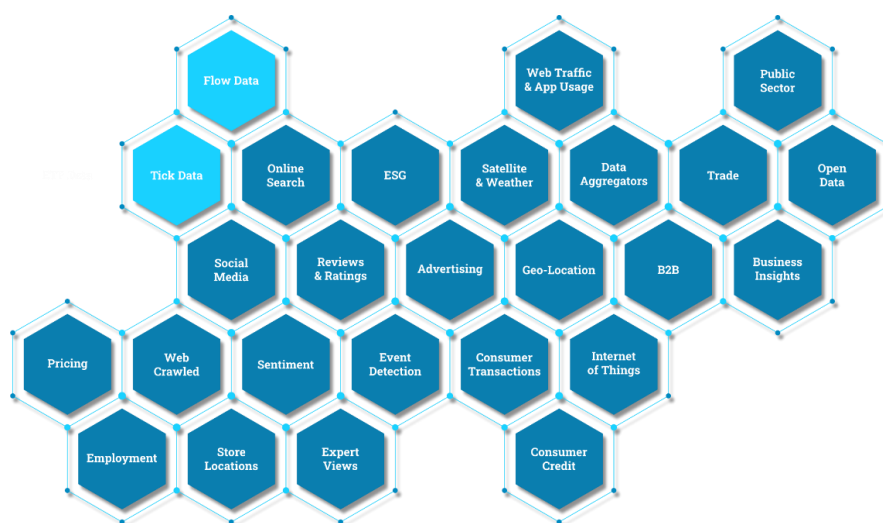
**Monthly: 15%.**

### Demand for Alternative Data in the Wake of COVID-19

There has been a massive increase in requests for alternative data to try to gain insight into the impact coronavirus is having on the markets (both public and private markets). Not long after the virus broke investors were on the hunt for alternative data to track coronavirus shock ("Investors hunt for alternative data to track coronavirus shock", FT.com)<sup>5</sup> and track recovery ("How investors are using 'alternative' data to track China's recovery from coronavirus", Market Watch).<sup>6</sup>

In the seven and a half years that Eagle Alpha has been serving alternative data buyers there has never been one topic which has dominated clients' requests in this way. These requests are coming from all regions, America, EMEA and APAC. Over 65% of clients are currently requesting datasets that are related to the coronavirus.

Figure 1: Data Categories – Traditional and Alternative Data Taxonomy



Source: Eagle Alpha



# Section 3

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## Use Cases

## Introduction

As of March 2020, there were 1,200 datasets in our database across 26 categories. Based on our dialogue and knowledge we have identified the most relevant categories for tracking the impact of COVID-19. In this section, we outline 16 of the 26 categories we see as particularly relevant to COVID-19.

Note: some datasets span more than one category.

## Overview

Due to the landscape resulting from the coronavirus, alternative data is uniquely positioned to help buy-side firms, private equity firms and corporates answer certain questions, such as:

- “Is the Chinese supply chain coming back online?”.
- “What happened to inventory build during logistics shutdown?”.
- “Are Chinese consumers active? Is spending coming from online or physical retail sources?”.

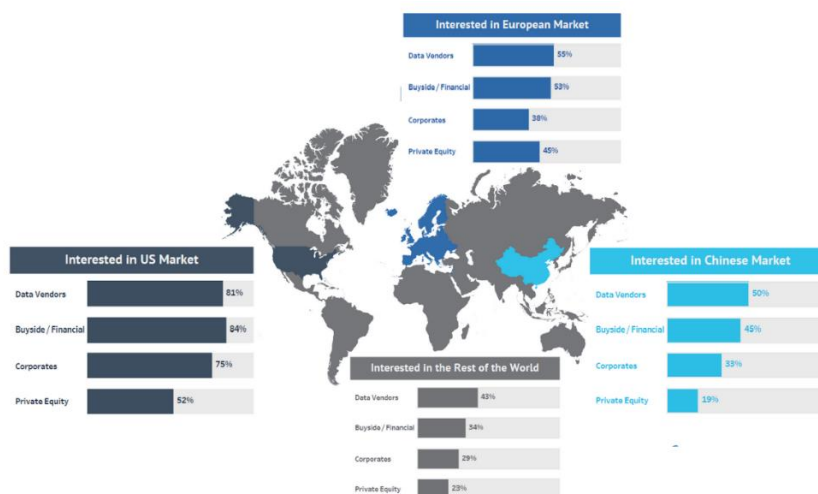
- “Are consumers getting on flights/travelling?” and “What is happening in other countries hit by coronavirus, e.g. Italy/South Korea?”.

- Are hotel/airline bookings recovering outside China?”.

Our selection of use cases look to address the regional interest demonstrated by data buyers (Figure 2) but also add relevance for each vertical, at a high level:

- Buy-side are requesting data to help with risk and to identify alpha opportunities.
- Corporates are trying to track the supply chain impact, conduct detailed competitor recovery
- Private equity firms are looking to measure the impact on the supply chains of portfolio companies, to understand the macro impact and to figure out the impact on consumer spending.
- Governments and central banks are looking to track the macro economic impact and recovery.

Figure 2: Data Buyer Interest By Region



Source: Eagle Alpha



# Coronavirus: Relevant Categories of Alternative Data

## 1. App Usage & Web Traffic

Web browsing traffic, both online and mobile, can be used to estimate company revenues, particularly if the web pages providing purchase confirmations are tracked. Mobile app usage data tracks the number of downloads and time spent using apps. It has been used to gauge the popularity of social media platforms, mobile games, media providers, e-commerce platforms, financial services, travel and lodging providers, software products and other consumer services and products. Trends in mobile app reviews can also help clients evaluate product success.

Country specific data can provide insights into product adoption internationally. Clients can also track services embedded in apps such as payment providers and advertising services. App usage and web traffic data are frequently volatile and, in many cases, a more accurate signal can be provided by consumer transaction data.

## 2. B2B

A variety of data aggregators offer datasets about enterprise B2B commerce, including supply chain analytics. Some of these datasets are relevant for a range of industries, such as datasets that monitor enterprise-level internet browsing activity and Alibaba's B2B trade index. Other datasets provide niche information, such as databases of industrial materials and databases of oil contracts and drilling concessions.

## 3. Business Insights

A heterogeneous group of datasets that provide unique insights into companies. One example is datasets that track intercorporate business connections. Other data providers track credit quality-related business activity and/or apply machine learning techniques to large quantities of aggregated data in order to identify companies at risk of failing. Natural language processing algorithms applied to corporate communication text data also falls in this category, as does patent data and real estate data.

## 4. Web Crawled

Web crawling is a means of aggregating price, social media, ratings/reviews, employment and store location data via a computer program that requests information from public URLs. Web crawling is also employed to monitor corporate websites for changes such as buildout of website structure that reflects strategic initiatives, increased content in certain product lines, increased blog activity, promotional campaigns, and geographic expansion.

Web crawling can be used to monitor niche e-commerce sites and sites that offer specific services such as solar installations or software services. Information on government filings can sometimes be best accessed via web crawling. Data can be collected in-house or by companies that specialize in customized data collection. Datasets containing historical crawled data have been accumulated by web crawling companies and data aggregators.

## 5. Consumer Transactions

This data can come from a variety of sources and can provide merchant level transaction data (e.g. retailer, airline, service provider), product-level purchase data (e.g. food, beverages, electronics) and macro-level data. Some data sources, such as credit card transaction data, represent a large user base. Other data sources involve smaller panels, such as 2% of consumers, yet still provide reliable signals.

Consumer transaction data is frequently used to estimate quarterly revenue growth as the data is available before quarterly corporate earnings are released. However, consumer transaction data can also be used by clients to gain insights into consumer purchasing behavior. Examples include the rate of product adoption, trends in purchases of “premium” products, the effects of promotions and discounts, customer demographics and co-purchase behavior. In addition, payment processing data, such as usage of PayPal and Square, are frequently identifiable in consumer transaction data.

## 6. Data Aggregators

Technological innovation has allowed aggregators to collect data from disparate sources and aggregate that data in a format that is helpful for clients. Aggregators may mine the deep web or carry out timely analysis of government filings and releases. Other aggregators operate exchanges, or platforms, where datasets may be purchased. Other examples are news aggregators, intermediaries with multiple data feeds and litigation datasets.

## 7. Employment

Listings of job postings can be used to evaluate corporate strategy and direction, industry growth rates, and demand for specific skills. For example, is the demand for candidates with experience in Tableau, or Google AdWords, growing or plateauing? Another data provider tracks changes in corporate employees allowing clients to identify companies with high employee turnover rates or companies with strong salesforce growth. A further example is IRS, which can be accessed and parsed for valuable company insights.

## 8. Open Data

A tremendous amount of data is becoming available as open data. CKAN, Comprehensive Knowledge Archive Network, is a non-profit registry of open data. CKAN prepares data and provides access to data in ways that make that data more discoverable and usable. The CKAN data management platform is in use by numerous governments, organizations and communities around the world. Examples of open data that are relevant to clients include:

- Open Charge Map API allows users to access data on locations of electric vehicle charging stations.
- The Wayback Machine provides a historical archive of internet pages which may be useful when backfilling data for a web crawling program.
- The GDELT Project provides a platform that continually records the world's news media from nearly every corner of every country in print, broadcast, and web formats, in over 100 languages, and provides a historical archive of news media content.

## 9. Online Search

Consists of data collected by search engines regarding the frequency of terms searched. Google search and Baidu are the largest providers of search data. Numerous academic studies have been published establishing that data regarding the volume of online searches can be used as an indicator of economic activity, as well as an indicator of consumer interest in a product or topic. Furthermore, these studies show that the best indicators are generally built with data from a basket of terms as opposed to a single term or a small number of terms.

Complex data science techniques are used to determine the most indicative search terms and the most effective model for combining those terms into an indicator. Online search data has more than 10 years of history and is available in a timely fashion. It is notably broad in its topic coverage.

## 10. Event Detection

Alerts to breaking news from major news wires or social media sources allow clients to react before news is fully discounted in asset prices. Other events monitored include government filings and weather.

## 11. Social Media

Data from social media platforms can be used to analyze consumer trends, reception of product launches, brand popularity, customer satisfaction, product sales promotions, social and political movements, and corporate/customer engagement. Brands with a growing number of unique individuals engaging with that brand on social media have shown to have favorable sales momentum and brand strength is frequently a driver of stock prices.

## 12. Geolocation

Location data derived from mobile devices can yield timely information on visitation trends. Common industry applications include amusement parks, retailers, restaurants, hotels, travel, transportation and REITs. In addition to observing the levels in foot traffic, this data can be used to identify the impact of promotions and weather events. Cross brand loyalty and regional idiosyncrasies may be identifiable. Geolocation data providers receive location data from mobile app owners, Bluetooth beacons and sensors.

## 13. Pricing

Aggregated pricing data of goods and services for both businesses and consumers is now more readily available than it has been in the past. This data can provide insights into corporate revenues and industry competition. Alternative measures of inflation have been developed using web crawled pricing data. This category also includes real estate sales, leases and rentals.

## 14. Trade

Clients leverage new non-traditional trade datasets for the balance of payment estimates, insights into major commodity markets, indications of national competitive advantages and indications of consumer strength. Stock focused strategies use trade data to gauge sales of companies whose products can be linked to imports/exports of specific goods and to analyze supply chain activity. Trade data can also be used to gauge the activity of transportation companies and publicly traded ports.

## 15. Sentiment

Scoring of news feeds and social media posts by sentiment and novelty is a popular data source due to its relatively longer history and columnar time series structure. Sentiment scoring may be applied to investor commentary, consumer attitudes toward products and brands, or mainstream news feeds. Sentiment data providers, in addition to mapping articles to entities such as government agencies and publicly traded companies, may provide additional scores relating to topic novelty, relevance, price impact estimate, and momentum. Real-time sentiment analysis of earnings calls is also gaining popularity. Sentiment data can be applied to factor models or used ad hoc in momentum and contrarian trading strategies.

## 16. Satellite & Weather

The interpretation of satellite images into data or intelligence is useful to clients on many fronts. It has been used as a data source for models that track industrial production, particularly in developing countries where there is scarce timely information. It can be used to track activity at mines, construction sites, plants, and retail locations. Satellite data is also used to estimate oil and gas inventories and production. It has been found to accurately predict the quality of agricultural harvests. In addition to satellite, drone imagery is being utilized with increased frequency.



# Section 4

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## Eleven Case Studies

## Introduction

In this section, we present eleven case studies for some of the 16 categories that we see as particularly relevant to COVID-19. These case studies are based on Eagle Alpha’s proprietary datasets and tools as well as third party datasets.

Case studies #6, #7 are based on datasets available on Eagle Alpha’s COVID-19 dashboard See Section 5 for more detail.

Our goal is to showcase studies relevant to a number of verticals including buy-side, private equity and corporates and demonstrate a variety of non-traditional data types.

For many of the case studies, information is provided directly from the data provider and Eagle Alpha may not have backtested the data or fully audited the backtesting results provided.

## Coronavirus Alternative Data Use Cases

Use Case	Data Category	Key Takeaway	Frequency	Lag Time	Page Number
1	Geo-Location	Geolocation data can be used to monitor and analyse footfall to selected points of interest (POI) to gauge any impact on consumer spending.	Daily	1-2 Days	16
2	Job Listings	At the time of COVID-19 outbreak the data vendor performed a job listing analysis on large companies operating in China.	Daily	Daily	17
3	Geo-Location	Geolocation data can be effectively used to track footfall at locations relevant to investor research questions.	Daily	1-2 Days	18
4	Web Crawled	EasyJet bookings in the first half of March are trending 40% behind March 2019 levels, whereas Ryanair bookings are down 20% over the same period.	Daily	1-2 Days	20
5	Reviews & Ratings	45% of consumers polled are either very or extremely concerned about COVID-19. Over 50% of Amazon, Macy’s Walmart and Target customers have said they will change their shopping behavior as a result of the virus.	Monthly	2 Weeks	21
6	Social Media & online content	Skype is still the dominant player on online conversation of working from home, but Zoom has seen the biggest increase in conversation since the COVID-19 outbreak.	Daily	Daily	22

## Coronavirus Alternative Data Use Cases

Use Case	Data Category	Key Takeaway	Frequency	Lag Time	Page Number
7	Job Listings	Air Freight & Logistics, Department Stores and Hotels, Resorts & Cruise Lines are amongst the sectors to see the greatest fall in job listings since the COVID-19 outbreak.	Weekly	Weekly	23
8	Business Insights	Flight schedule cancelation and flight departures from different regions of the world can be used to gather an estimate of an impact on specific airlines.	Real-time	Daily	24
9	Business Insights	This vendor has built indicators for over 1000 companies and sectors across the economy.	Monthly	2 weeks	25
10	Online Search	Google search data can be used as a proxy for consumer preference and a demand indicator.	Weekly	2 Days	26
11	Data Aggregator	Hyatt's China business is down 90% according to the offline transaction data.	Varys by dataset	Varys by dataset	28

# Case Study #1

## Key Takeaway

Geolocation data can be used to monitor and analyse footfall to selected points of interest (POI) to gauge any impact on consumer spending. Data frequency on a daily basis can quickly show the decline in traffic to Macau. This has implications for all the casino companies operating on the island.

## Dataset

Geolocation data is data collected from mobile phones, app data and SDK data. This dataset has over 5 billion daily foot traffic measurements across over 1 million geofenced with history ranging back to 2015.

- Geolocation data can be used by investors to monitor traffic trends as a proxy for consumer spending.
- The data can also be used for competitive analysis by corporates and private equity.

## Case Study

A chart showing a time series in late 2018 and early 2019 shows how foot traffic increases for all the major casino's around the time of lunar New Year in China. In early February 2019, denoted on the plot on the left, traffic picked up as would be expected over the holiday period.

The plot on the right shows footfall for the late 2019 and early 2020 period. As can be seen, footfall trends to Macau's casinos fell off shortly after the outbreak of the virus. This is denoted on the plot by the red line. It can also be seen that for the 2020 lunar New Year, which began on January 25<sup>th</sup> footfall was already in decline. The decline in footfall contrasts to the spike that would be expected and compares to the spike seen in 2019.

The contrast between the two years offers a good example of how geolocation data can be used to monitor consumer activity. This use case can be extended into other consumer driven applications.

Figure 3: Casino Traffic in Macau Around Chinese New Year 2019 and 2020





## Case Study #2

### Key Takeaway

At the time of COVID-19 outbreak the data vendor performed a job listing analysis on large companies operating in China. Large Chinese and western companies began to reduce job openings. The economic impact from the virus was quickly evident, although company actions would help with expense control.

### Dataset

This dataset tracks the content of reviews given to companies by their current and former employees. Data is also available on employee count as well as employee satisfaction metrics. Tracking this data can inform on the fundamental health of a company, as employees frequently know what is happening before the general public and media.

- Investors can use the data to assess company growth and other fundamental metrics.
- Similarly, private equity firms can use employee data to source non-public enterprises and small fast-growing entities for potential investment.
- Corporations can use the data for competitive purposes.

### Case Study

The data vendor performed an analysis on 729 large companies in China in the immediate aftermath of the outbreak of COVID-19. Some of these 729 companies are very large employers with some of the top ten including Apple and Tencent.

For the week ending January 13, 2020, the 729 companies combined had 102,000 job openings. Two weeks later, that number fell to just under 53,000. The ten largest companies reduced listings by 25,000. Tencent, the largest employer in terms of new job listings, scaled back openings by around 13,000 cumulative listings in that week.

Total job listing in early 2020 declined below 2019 levels (Fig 4). Using the January and February period, to take account of Chinese New Year, job listing declined below prior year levels. Job listing also declined substantially from strong growth levels seen in the July to December timeframe.

Figure 4: Job listings in China January 2019 to February 2020



## Case Study #3

### Key Takeaway

Geolocation data can be effectively used to track footfall at locations relevant to investor research questions. In the case of the COVID-19, footfall traffic can be used to monitor consumer activity at hotels, amusement parks and other areas where consumer spending could be impacted.

### Dataset

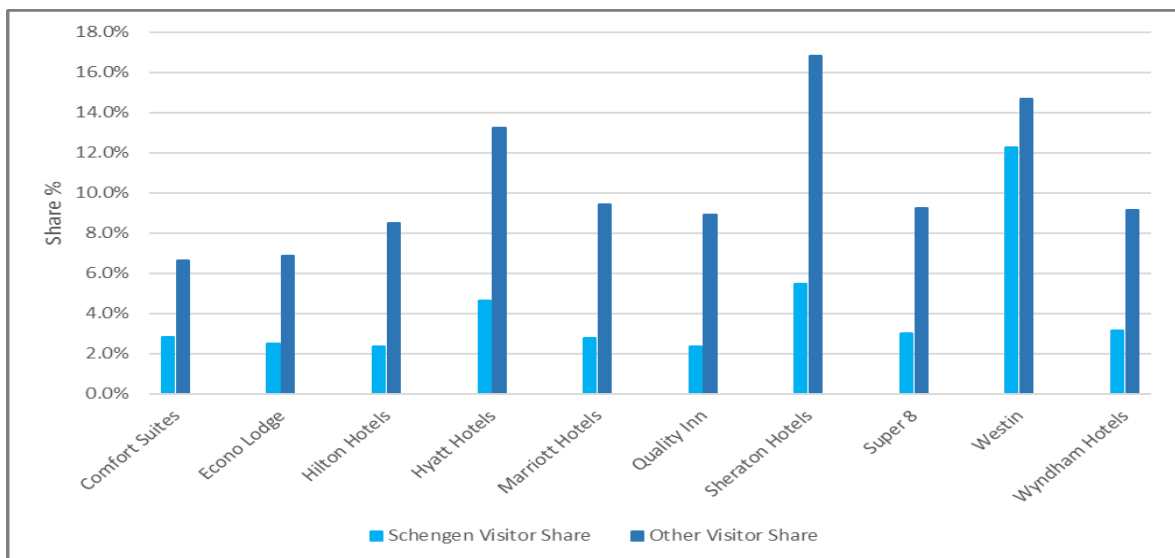
Geolocation data is data collected from mobile phones, app data and SDK data. Some vendors use WiFi to enhance data with points of interest (POI) and dwell time statistics. Data can be granular to day of the week and time of day. Datasets can be large and cumbersome to work with may need domain knowledge.

### Case Study

In early March 2020 the US government banned flights from mainly EU Schengen countries to the USA. The Schengen area is a collection of 26 countries in Europe and in 2019 represented between them almost 11m visitors to the USA. This will have a significant impact on revenue for the US hotel industry. Some hotel chains will be impacted more than others by the travel ban. Geolocation data can be used to examine the proportion of hotel guests from EU-Schengen countries as a share of all guests for US hotel brands. Non-EU travel is also disrupted due to COVID-19 and the geolocation data can also be used to examine this cohort of hotel guests.

As seen in figure 5, EU and other countries make up a considerable percentage of US hotel guests. Westin has the most exposure to non-US guests, followed by Sheraton and Hyatt. Travel disruptions are likely to have a disproportionate impact on revenue for these companies due to COVID-19.

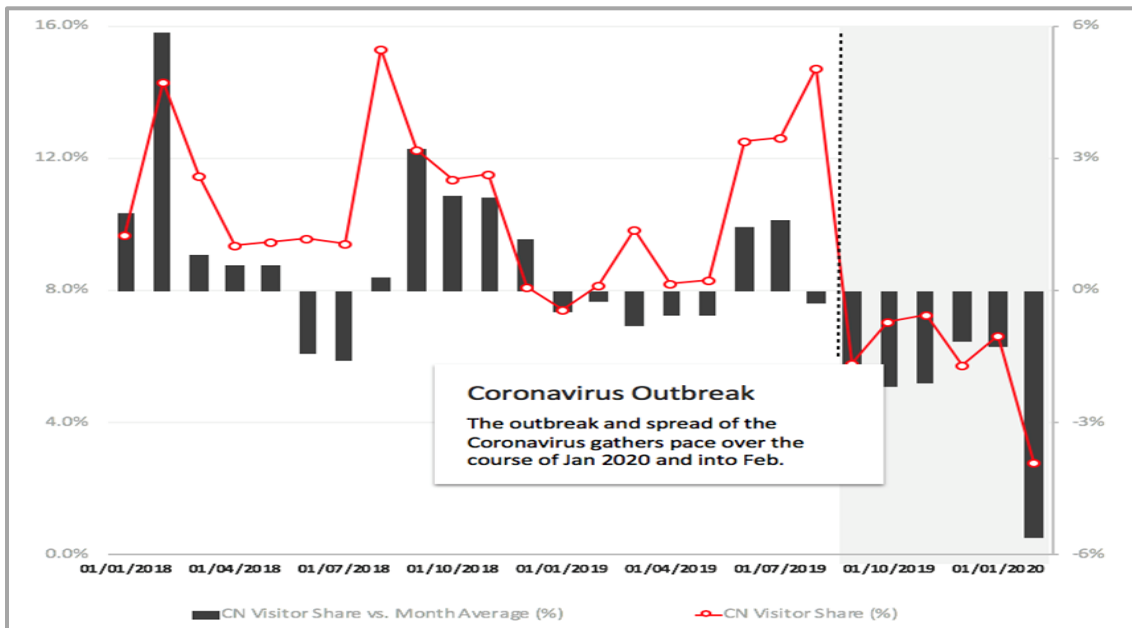
Figure 5: US Hotel Share of Non-US Guests



Geolocation footfall data can also be used to monitor activity at shopping malls, theme parks and other significant locations where people might gather to shop or engage in leisure activities. One use case is shopper activity at outlet malls. In this particular example the data vendor examined footfall of Chinese visitors to a well know shopping outlet in the UK (Bicester Village). Chinese shoppers are an important part of total spending at these outlets, particularly for luxury goods..

This could impact luxury goods companies such as Gucci and Michael Kors. After the initial impact of COVID-19 the data could also be used to inform an opinion on whether Chinese consumers had resumed travel and other economic activity. As can be seen in figure 6, the impact of COVID-19 on the outlet mall in the UK was quickly felt at the onset of the virus outbreak. This data can be used to inform investor decisions for individual companies and also any larger macro economic disruptions.

Figure 6: Footfall of Chinese Visitors to Well Know Outlet Mall in the UK



# Case Study #4

## Key Takeaway

EasyJet bookings in the first half of March are trending 40% behind March 2019 levels, whereas Ryanair bookings are down 20% over the same period.

## Dataset

The vendor collects transaction server data from a global panel who have opted in to participate and share their data. Panelists are both consumers and businesses.

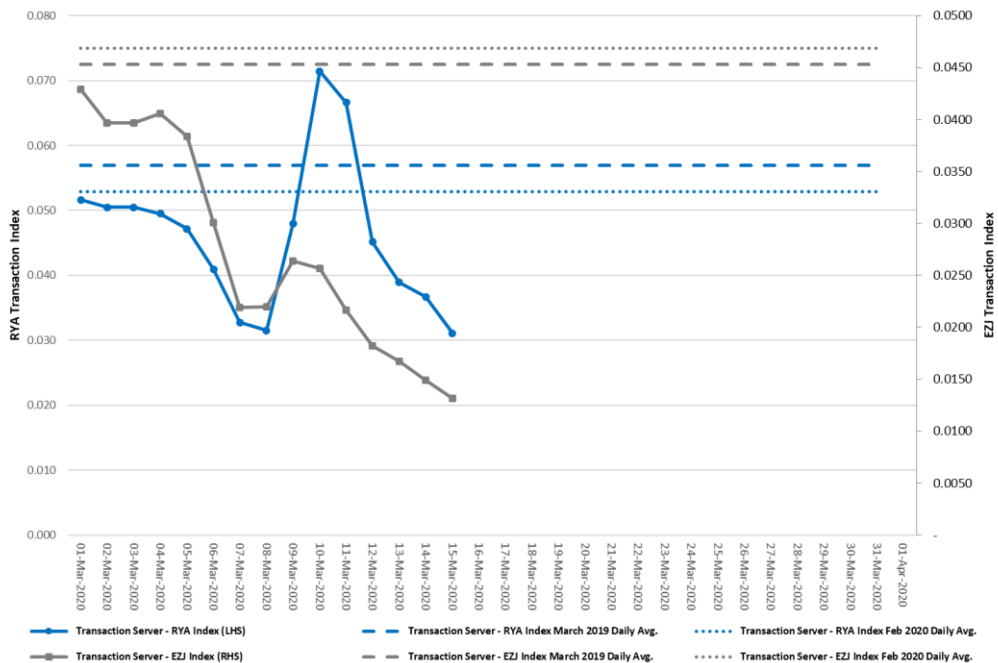
- Relevance for Buyside: Timely and granular insights into consumer and B2B companies.
- Relevance for PE: The vendor’s approach could be used to track private companies.
- Relevance for Corporates: competitive and market intelligence.

## Case Study

The airline industry has been one of the hardest hit sectors as a result of the COVID-19 outbreak. Transaction data enables analysts to track daily bookings for European low-cost operators Ryanair and easyJet with a one-day lag.

From the data we can see that both operators entered March trending close to the average booking rate for the full month of February this year, and only marginally behind the levels of March 2019. However, the impact of the COVID-19 outbreak on bookings can be clearly seen from the chart below. In the first half of March Ryanair bookings are trending 13% behind the average level for February this year and 19% behind March 2019. Meanwhile easyJet’s bookings are averaging 41% behind February 2019, and 39% the average level of March 2020.

Figure 7: Ryanair and EasyJet Transaction Indices



## Case Study #5

### Key Takeaway

45% of consumers polled are either very or extremely concerned about COVID-19. Over 50% of Amazon, Macy's Walmart and Target customers have said they will change their shopping behavior as a result of the virus.

### Dataset

The data is derived from a monthly poll of over 7,000 respondents in the US balanced to the US Census data. There is over 18 years of historical data available.

- Relevance for PE and Buyside: understand consumer behaviour and attitudes towards brands and major events.
- Relevance for Corporates: competitive or market intelligence.

This dataset is available on Eagle Alpha's COVID-19 dashboard. See Section 5 for more detail.

### Case Study

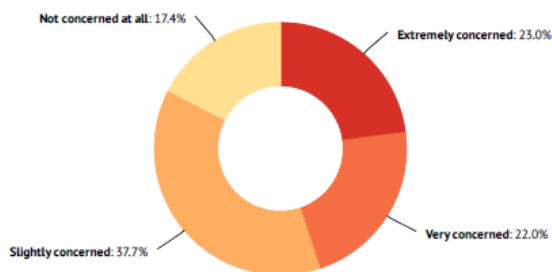
In its most recent consumer poll, this vendor asked consumers about their concerns with regards to the COVID-19 pandemic and the related cancellation of major events.

The findings showed that 45% of consumers polled are either very or extremely concerned about COVID-19, with 17% of consumer not concerned at all.

52% of respondents said they will change their shopping behavior as a result of the pandemic. Segmenting these respondents according to where they shop most frequently, we can see that the Kohl's shopper is least likely to change their shopping behavior, followed by Kroger and JC Penney shoppers. Over 50% of Amazon, Macy's Walmart and Target customers have said they will change their shopping behavior as a result of the virus

Figure 8: Growth in Online Job Listings Data

Share of US Population 18+ by Level of Concern About the Coronavirus



#### Reaction by Retailer: I'm not considering changing my shopping behavior at this time

% of shoppers, adults 18+

Retailer	2020M3
1 Kohl's	57.8
2 Kroger	55.1
3 JC Penney	54.7
4 Target	49.2
5 Walmart	49.1
6 Macy's	48.5
7 Amazon	46.8

## Case Study #6

### Key Takeaway

Skype is still the dominant player on online conversation of working from home, but Zoom has seen the biggest increase in conversation since the COVID-19 outbreak.

### Dataset

The Eagle Alpha/Brandwatch Social Media dashboards enables users to build custom dashboards on web and social media data. Users can analyze consumer conversation, sentiment and demographics. The platform combines 100 million web sources e.g. blogs, forums, Twitter and Instagram.

- Relevance for Buyside: Track consumer attitudes towards major brands.
- Relevance for PE: One-off projects on unlisted companies.
- Relevance for Corporates: market or competitive intelligence.

This dataset is available on Eagle Alpha’s COVID-19 dashboard. See Section 5 for more detail.

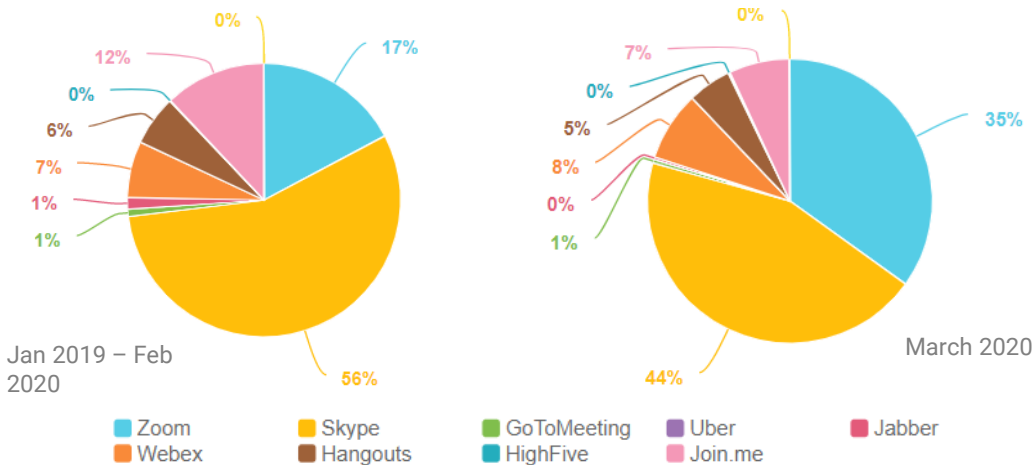
### Case Study

Using the Eagle Alpha/Brandwatch Social Media dashboards we analyze online conversation on the topic of working from home. The Analysis incorporates almost 730k mentions from the beginning of 2019 to 11<sup>th</sup> March 2020, 88% of which comes from Twitter with the reminder predominantly from forums.

The analysis shows Skype as the most popular tool in online conversation of working from home, with March 2020 at 44% of conversation. However, this is behind the 56% share it achieved from January 2019 to Feb 2020. Zoom has been the main beneficiary of the increased focus on working form home, increasing its share of conversations from 17% pre crisis to 35% in March 2020.

The analysis also indicated that San Francisco and Seattle have seen the greatest spike in conversation of working from home since the COVID-19 outbreak, when compared to a baseline period of Jan 2019 to Feb 2020.

Figure 9: Online “working-from-home” conversation



## Case Study #7

### Key Takeaway

Air Freight & Logistics, Department Stores and Hotels, Resorts & Cruise Lines are amongst the sectors to see the greatest fall in job listings since the COVID-19 outbreak.

### Dataset

A job listings dataset that is sourced exclusively from company websites and is refreshed daily. Statistical backtesting has proven the relationship between the data and company performance and is also highly correlated with employment centric macroeconomic indicators.

- Relevance for Buyside: Better understand management strategy by track hiring trends.
- Relevance for PE: Identify small private companies who are accelerating hiring.
- Relevance for Corporates: lead gen – understand who is hiring in your industry.

This dataset is available on Eagle Alpha’s COVID-19 dashboard. See Section 5 for more detail.

### Case Study

Analysis of the job listings data indicated that active job listings for the S&P 500 in the 3 days to March 10th were down 2.6% from a baseline level of January 2019 to February 2020 but are actually up 3.4% compared to March 2019.

Digging deeper uncovers a massive divergence in trends by sector. Although total job listings are down only 2.6% baseline, there was a decline of between 30% and 50% for sectors such as Air Freight & Logistics, Department Stores, Hotels and Resorts & Cruise Lines. Health Care Facilities is the sector with the greatest increase in job listings, up 56%.

There are also notable regional disparities in the trends. The greater Las Vegas area has seen an 8% decline in active job listings in the three days to 10th March 2020 when compared to the period from January 2019 to February 2020. Greater Los Angeles and Sacramento areas have also seen a significant decline in active jobs over the period, both falling 6%.

Figure 10: Growth in Online Job Listings Data

S&P 500	Deviation from Baseline	
	Full Year 2019	Mar-19
Select Sectors		
Air Freight & Logistics	-53%	-55%
Hotels, Resorts & Cruise Lines	-42%	-48%
Department Stores	-33%	-44%
<b>Sector</b>	<b>-2.6%</b>	<b>3.4%</b>

Regions (All companies)	Deviation from Baseline	
	Full Year 2019	Mar-19
Select Regions		
Las Vegas-Paradise, NV	-8%	-9%
Los Angeles-Long Beach-Santa Ana, CA	-6%	0%
Sacramento-Arden-Arcade-Roseville, CA	-6%	3%

## Case Study #8

### Key Takeaway

Flight schedule cancellation and flight departures from different regions of the world can be used to gather an estimate of an impact on specific airlines. In a time of crises or forced cancellations the data can also be used to gain an understanding of overall economic activity and consumer sentiment.

### Dataset

The data vendor provides a broad range of aviation data products, including fleet analytics, APIs, data streams, and customized data to meet specific requirements. The dataset includes flight and trip information, information on fleets and market insights. Accurate flight by flight data can be used to analyze utilization levels.

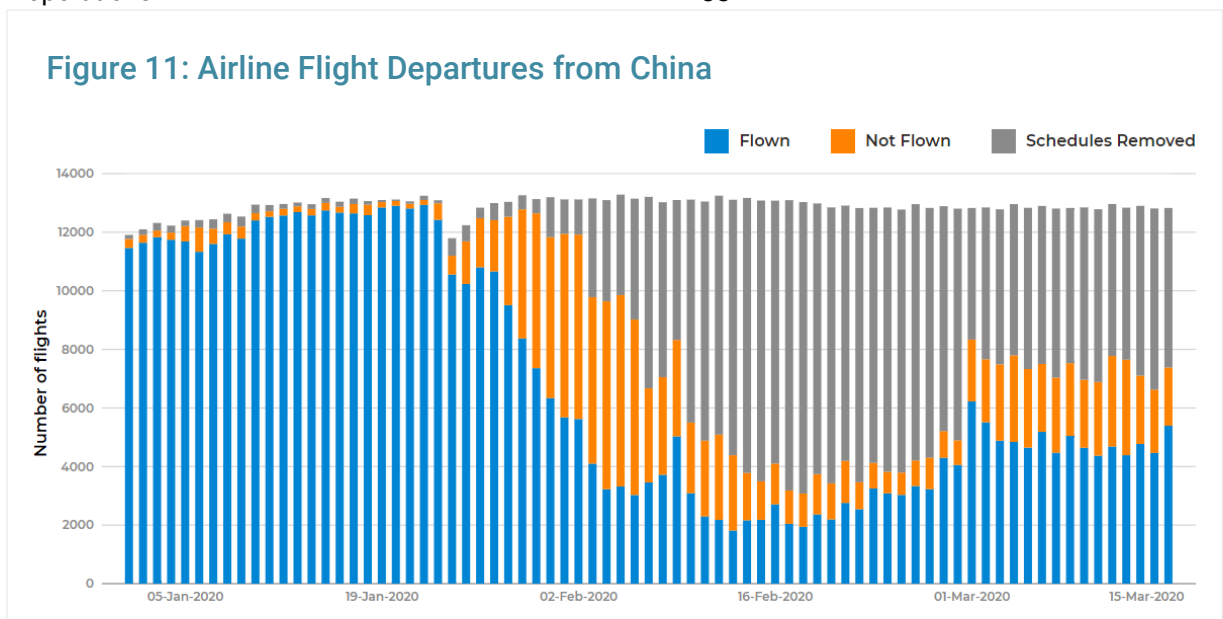
- Investors in public companies can use the data to measure the impact of utilization on airline companies and companies with peripheral exposure to airlines.
- Companies or corporations that count airlines as customer can similarly find the data insightful for their business and supply chain operations.

### Case Study

The dataset vendor examined flight departures, cancelled flights and flights removed from the schedule in China from January 1<sup>st</sup> 2020 to March 15<sup>th</sup> 2020. On January 23<sup>rd</sup> the Chinese government announced that the city of Wuhan would be locked down. The impact of this could be seen immediately in the flight data for China (Fig 11).

Flights flown collapsed by 83% from January 23<sup>rd</sup> through the middle of February. Flights flown recovered slowly in mid-February but remained 64% below pre-crisis levels on the 9<sup>th</sup> of March. Scheduled flights removed stood at only 2.5% of flights before the virus outbreak. This percentage increased dramatically though February and stood at 64% on March 9<sup>th</sup>.

The impact from flights not flown and removed can be easily monitored with this dataset and provides an estimate for any given airline. The dataset is also applicable to other geographic regions. The data vendor also provided information on Italian flights when that country struggled with COVID-19 in March 2020.





## Case Study #9

### Key Takeaway

This vendor has built indicators for over 1000 companies and sectors across the economy. This technology indicator for Apple can be used to monitor iPhone production levels in advance of company reporting. The first two months of 2020 are relatively healthy, despite the impact of COVID-19.

### Dataset

The dataset measures activity in relation to sectors or companies in segments of the global electronics supply chain. Through web scraping, data is collected on products, inventories, lead times and pricing. Data provided is from a variety of manufacturers, assemblers, equipment suppliers and distributors from a number of different countries. All data is collected from public, freely-available sources which may be used for commercial purposes.

- Investors can use the data to monitor the health of the global tech supply chain by company or sector.
- Corporates can analyze the data in relation to the demand indicators and competitive dynamics and market share growth.

### Case Study

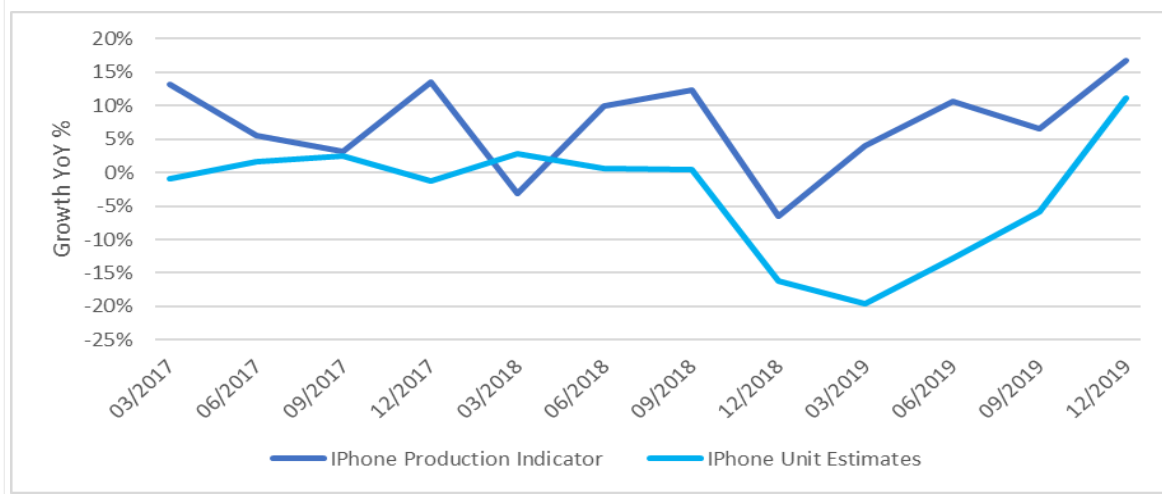
This data vendor has over 1000 supply chain indicators that can be applied to companies across a wide variety of sectors. The technology supply chain indicators can be applied to the semiconductor market, PC and smartphone markets, amongst others. In this particular case the supply chain indicator is for production of Apple's iPhone. The indicator has tracked iPhone quarterly unit sales for several year (Fig 12). Data through year end 2019 has tracked closely with reported revenue and estimates of unit sales.

For the first two months of the 2020 the indicator is up 5% on a year over year basis. We use the average of January and February to account for the impact of the Chinese New Year, which can fall in January or February in any given year.

Two month Indicator Change		
2018	2019	2020
-3%	0%	5%

With 0% growth for the first two months in 2019 the 5% growth in 2020 is relatively positive giving the supply chain disruption from COVID-19.

Figure 12: Apple iPhone Production Supply Chain Indicator



## Case Study #10

### Key Takeaway

Google search data can be used as a proxy for consumer preference and a demand indicator. In the case of the COVID-19, consumer search interest declined significantly for US restaurants and QSR brands in early March 2020.

### Dataset

Online consumer search data from Google Trends can be downloaded to build an index of popular search terms. Search terms can be used as a proxy for consumer demand and also brand positioning on a relative basis.

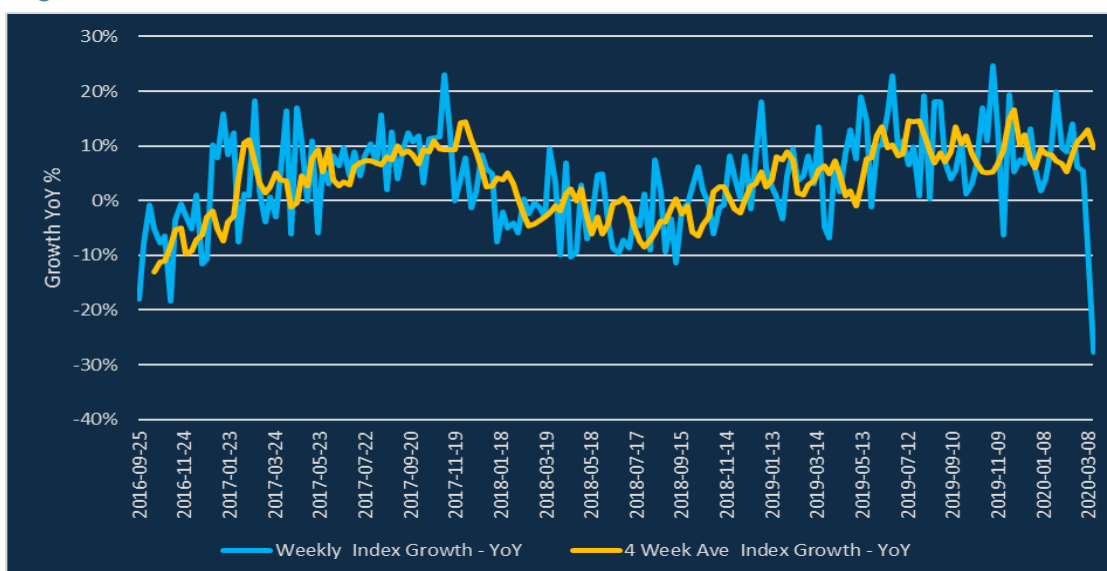
- Investors can use the data to track revenue metrics and consumer acceptance of new products.
- Corporates and private equity firms may find the data particularly informative of competitive positioning and to track emerging products.

### Case Study

The Eagle Alpha's COVID-19 dashboard utilized Google Trends data during the outbreak to monitor consumer search interest across retail and restaurant stocks in the US. This view of the dashboard was built using weekly search data for US restaurant and QSR stocks such as Starbucks and Chipotle. An index of relevant terms was then constructed for the whole sector. This index is shown in the chart below (Fig 13).

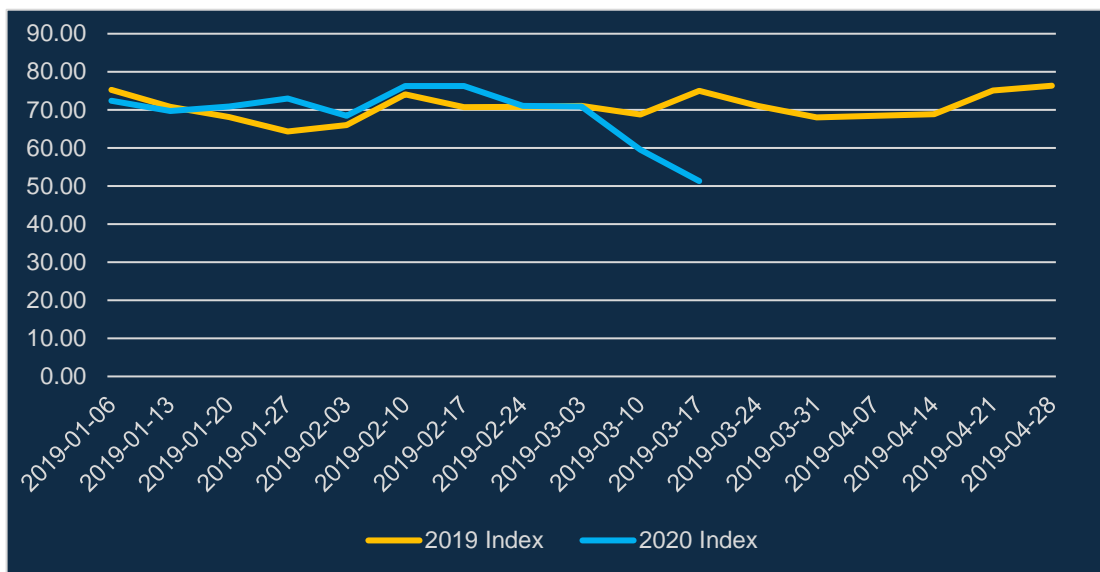
The weekly index had been performing quite well in early 2020, when compared to the prior period in 2019. The four-week average of the index (orange line) had been trending higher in January and February. However in the first two weeks of March the index declined sharply. The second week of March was particularly week. This was when the potential impact of the virus became more apparent in the US. As a proxy for demand these trends are negative for the restaurant stocks. The index can be used to monitor any rebound in consumer sentiment towards the restaurant companies in future periods.

Figure 13: Restaurant Search Index



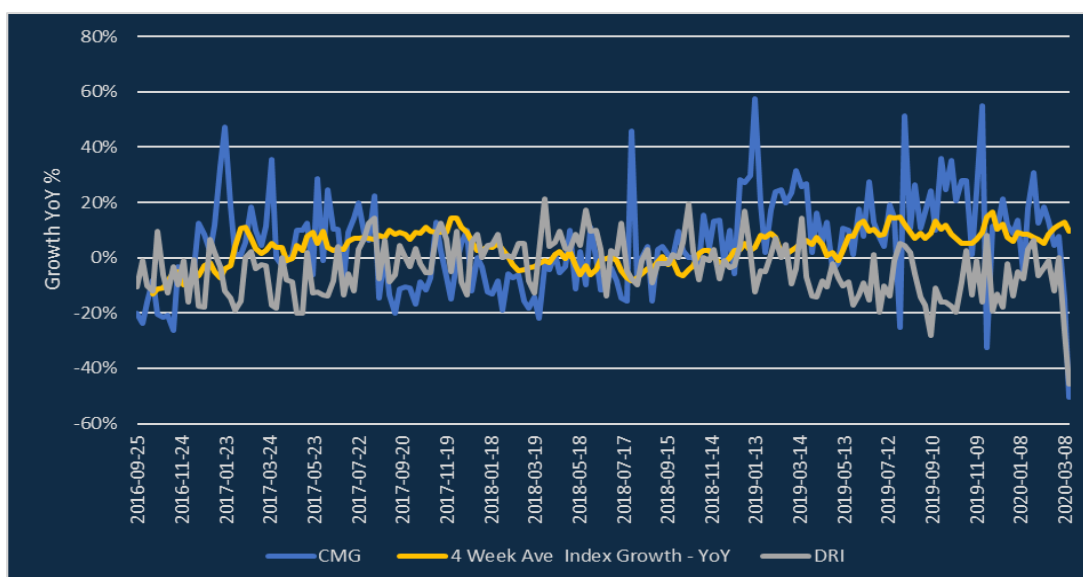
Another view of the index can be seen in figure 14, below. On this plot it is evident how the 2020 index had been outperforming the 2019 index in the early part of the year, but then fell below 2019 trends in early March.

**Figure 14: Restaurant Index Rebased to First Week of January**



The COVID dashboard can be decomposed to show how individual tickers are performing relative to the total restaurant index. The chart below (Fig 15) shows how the weekly performance for Chipotle (CMG) and Darden Restaurants (DRI) are performing versus the four-week average of the index. DRI had been underperforming the index for many months, while CMG had been outperforming on a weekly bases. The search index for both companies declined dramatically in March 2020.

**Figure 15: Four Week Restaurant Index – Weekly Index for GMG & DRI**



## Case Study #11

### Key Takeaway

Hyatt's China business is down 90% according to the offline transaction data.

### Dataset

This vendor provides diverse alternative data sources on China markets with a broad data coverage of 200 major companies across the following sectors: e-commerce, education, hotels, consumer brands, social media, theme parks, live streaming, mobile applications, online video, and gaming. The vendor's research is powered by diverse alternative data sources including; web scraping, geo-location and telecom/app dat.

All of these data sources are ideal to monitor economic and consumer activity that can be applied across investment, corporate and private equity.

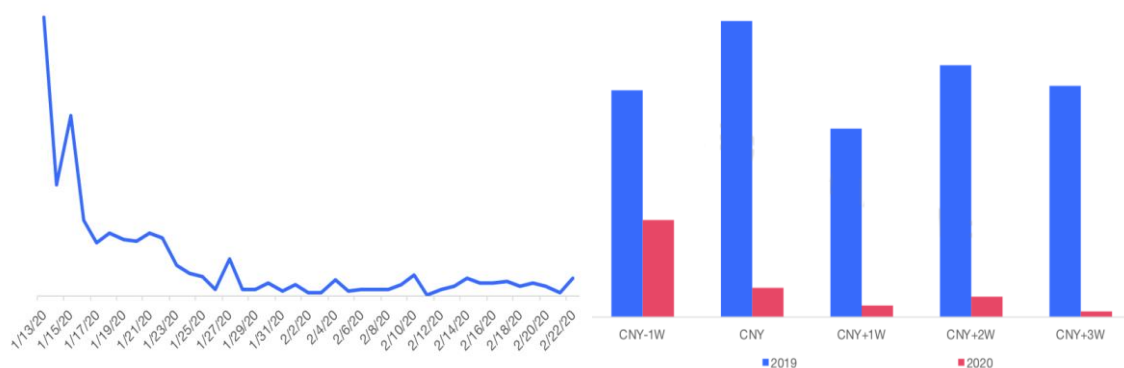
### Case Study

In China, the dramatic spread of the Covid-19 has brought unprecedented impact, leaving streets empty while people stay home and stay online to both work and kill time.

The vendor has launched its COVID-19 impact tracking project with a series of real time data analysis across different sectors.

According to the vendor's offline transaction data collected on the daily basis, Hyatt's business in China took a hit this year during and after Chinese New Year when compared with a similar period last year, in-line with official disclosure that Hyatt's China business is down 90% in February from the Covid-19 outbreak.

Figure 16: Hotel Authorizations by Hyatt China





# Section 5

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## Eagle Alpha's Solutions



# Pioneers Connecting the Universe of Data

## About Eagle Alpha

Established in 2012, Eagle Alpha is the pioneer connecting the universe of data.

Eagle Alpha was one of the first companies to recognize the value of alternative data sources. “Alternative” data is non-traditional data that was first adopted by hedge funds over 10 years ago. In the years that followed an explosive increase in the supply of alternative datasets enabled the emergence of new data companies whose primary source of revenue is data monetization. Very soon alternative data users included other financial services firms and verticals including private equity and corporates (who refer to it as “external” data).

In our opinion at the start of 2020, alternative data reached its inflection point and became mainstream. At this point it was clear; the word “alternative” should fall away. It is no longer about non-traditional (alternative) data versus traditional data. It’s just data.

Eagle Alpha has been investing in connecting data vendors and buyers since its inception, in the process building trusted relationships with both sides of this marketplace. As of February 1<sup>st</sup>, 2020, Eagle Alpha partners with over 1,200 data vendors and data buyers across the buy-side, private equity and corporates. Our database of datasets is spread across 26 categories: 24 non-traditional data categories and 2 of the traditional categories.

Our unique breadth of datasets, knowledge of the industry and client relationships have cemented Eagle Alpha as the global leader and strategic partner in the data space. Eagle Alpha partners with industry leaders to continue to shape the industry:

- J.P. Morgan, lead sponsor of our data conferences
- FISD, member of this buy-side association
- Lowenstein Sandler, partner with this US law firm
- Simmons & Simmons, partner with this UK law firm



# Eagle Alpha

## COVID-19 Data Conference

The World's First COVID-19 Conference  
Focused On Alternative Data

Data Buyers from Buyside, Private Equity,  
Corporates and Government.



Mar 31st 2020



Virtual Conference

Register at  
[www.eaglealpha.com/covid19-  
march-2020/](http://www.eaglealpha.com/covid19-march-2020/)



# Eagle Alpha

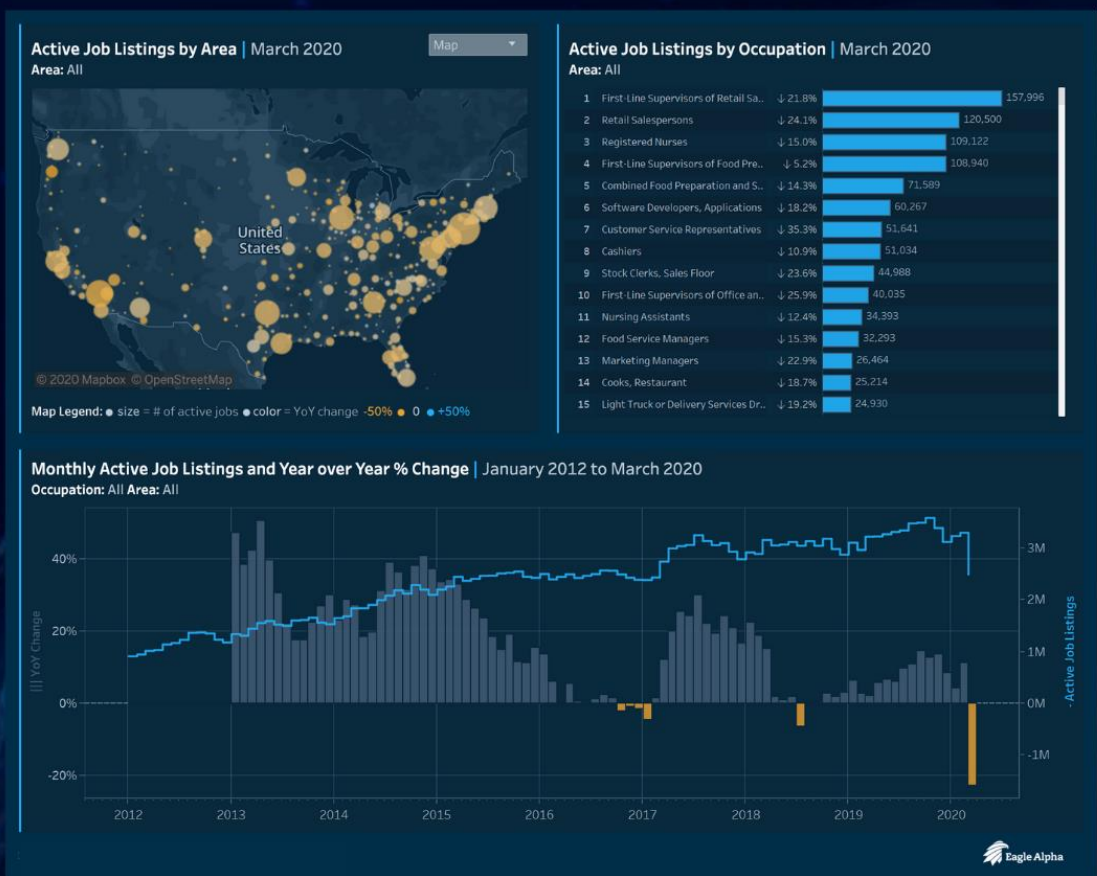
## COVID-19 Dashboard

Eagle Alpha has built a dashboard specifically for COVID-19

The dashboard uses datasets with high frequency data (Daily/Weekly)

Dashboard views can be used to monitor consumer and economic activity

Clients can subscribe to individual dataset or dashboard views



To find out more contact  
[enquiries@eaglealpha.com](mailto:enquiries@eaglealpha.com)



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Emmett founded Eagle Alpha in 2012. Previously, he was an investment banker with Morgan Stanley. Morgan Stanley was the first investment bank to create a big data team within its research department.



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