

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF NEW YORK: IAS PART 54

TAXI TOURS, INC.,

Plaintiff,

-against-

GO NEW YORK TOURS, INC.,

Defendant.

GO NEW YORK TOURS, INC.,

Counterclaim Plaintiff,

-against-

BIG BUS TOURS LIMITED, *et al.*,

Counterclaim Defendants.

Index No. 653012/2019

EXPERT REPORT OF STEVEN M. SCHEFFIELD

I have been engaged by the law firm Barton LLP to provide my expert opinion in the above-captioned matter. I am an open-source intelligence and social media forensic expert, and have extensive experience of over 20 years serving in both the U.S. government intelligence community and the private sector. Currently, I am completing my Ph.D. at Clemson University, with my dissertation addressing Global Information Dissemination by Nation States and Non-State Actors. My curriculum vitae is annexed hereto as Exhibit 1.

I have never testified before in any legal proceeding, but my forensic and analytical expertise has been relied upon extensively in both the public and private sectors.

I was part of the team that conducted and supervised the research and deployment of software that led to the two RANE reports, copies of which are annexed hereto as **Exhibit 2**. I

EXHIBIT B

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am fully familiar with and adopt the substance and conclusions contained in these reports. I can attest to the accuracy of the factual and evidentiary basis for these reports, as well as the research methodologies and protocols that were employed in the analysis of the enumerated websites and the published data. All ratings posted for both companies were accurately reflected in the reports presented by RANE.

2023 *KW*
Executed on April 27th, 2003 in Easley, South Carolina.

Steven Sheffield
Steven M. Sheffield



Commonwealth of Virginia County of Richmond

The foregoing instrument was subscribed and sworn
before me on 04/27/2023 by Steven Sheffield.

Kushena J. Woods 7899828
My commission expires: 07/31/2024

Notarized online using audio-video communication

EXHIBIT 1

EXHIBIT B

STEVEN M. SHEFFIELD
116 Brecken Ct, Easley, SC 29642
Phone: 703-504-8409
Steven.Sheffield@prs-analytics.com

SUMMARY OF QUALIFICATIONS

- Over 20 years' experience as an intelligence analyst and more than a decade specifically spent in the field of Open Source Intelligence— Possesses breadth and depth of knowledge on subject
- Excellent oral and written presentation skills used to convey complex concepts to large and diverse audiences – often in combat zones such as Iraq and Afghanistan to personnel facing daily threat
- Conducts research for public and private sector clients on coordinated inauthentic activities conducted on social media; this enables the detection of fraud, disinformation, and other crimes
- Deep knowledge of the OSINT/Publicly Available Information landscape; the art of the possible

PROFESSIONAL EXPERIENCE

* Senior Technologist, 3GIMBALS, USSOCOM	Oct 20 – Present
- Conducted 60+ user interviews and expert consultations to develop 10 year technology road map	
- Regularly interviews end users to create user personas and vignettes to assist in DEVOPS	
- HIGHLIGHT: Conducted four innovation events in 2021-2022; crucial in securing user buy in	
* COGINT Analyst, 3GIMBALS, USNORTHCOM	Oct 19 – Oct 20
- Utilized nontraditional data sets to create analyses of foreign influence operations	
- Team technology evaluator; regularly interviewed and assessed new potential data providers	
- HIGHLIGHT: Contributed to first OSINT targeting package utilized by Mexican SOF	
* Director, Service Solutions, DUNAMI	Apr 14 – Oct 19
- Managed the analysis, user experience research, and training staff for DUNAMI	
- Pioneered use of network analytics for social media monitoring to act as a sensor network – First demonstration was in Northern Canada, Alaska, and Norway monitoring climate change effects	
- Has embedded with client organizations for months long periods to gather user needs	
- Spoke at 2016 IQPC Conference in Abu Dhabi on social media and OSINT in cyber security	
- Explored using social media analytics to make assessments on local demographic trends	
- Develops cutting edge techniques for fusing OSINT and social media network analyses	
- HIGHLIGHT: Consulted with the Dutch National Police as part of a counter-radicalization effort to end ISIS war bride recruitment in the Netherlands; 19 girls saved over a year	
* Site Lead, Circinus LLC, US Army INSCOM	Apr 09 – Apr 14
- Taught analytic methodologies using all source analysis to soldiers preparing to deploy	
- Regularly reviewed intelligence community best practices for new OSINT methodologies; tailored them to student needs; often combining existing techniques or creating new applications	
- HIGHLIGHT: Taught a custom lesson in cross cultural awareness for southern Iraq – Course was cited as assisting the intelligence staff of the 34 th Infantry Division in understanding Shi'a culture	
* Intelligence Officer, 222nd CCS, NY Air National Guard	Jun 07 – Apr 09
- Served as the unit commander's representative in Virginia; helped build organization from scratch	
- Was the first national guardsman to serve as the Director of the NRO's daily threat briefer	
- HIGHLIGHT: Coordinated National Guard support to the shoot down and potential recovery of USA 193 after that payload malfunctioned—Guard support to the operation was flawless	

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STEVEN SHEFFIELD (page 2)

*** Dep Chief, Special Technical Operations, National Reconnaissance Office Oct 05 – Jun 07**

- Wrote initial draft and coordinated edits for NRO contribution to a National Intelligence Estimate
- Learned to use Satellite Tool Kit and other software to fuse data available from various open sources on the internet with NRO technical data for enhanced space situational awareness
- **HIGHLIGHT:** Coordinated complex projects—One was briefed to Congressional committees

*** Chief of Intelligence Operations, 16th Special Operations Wing Feb 03 -- Oct 05**

- Acquired new training and equipment for my personnel, wrote a proposal and several grant requests to obtain the required four hundred and fifty thousand USD needed to achieve our objective
- Briefed and debriefed aircrews on enemy capabilities, political/military situations, local culture, and terrain features of the Area of Operations. Provided predictive analysis of enemy intentions
- **HIGHLIGHT:** Monitored the situation in Liberia using OSINT and SIGINT; warned commander of pending noncombatant evacuation operation before the State Dept issued formal warning orders

Deployed four times as an intelligence officer in support of special operations units across the globe between Feb 03-Apr 09—Was lauded for unique cross-cultural focus of intelligence analysis.

PROFESSIONAL CERTIFICATIONS

Open Source Intelligence Analysis Cert - EAG - Cert ID: jvakroo0ab	2022
Certified Social Media Intelligence Expert - McAfee Institute - Cert ID: 14264624	2020
Professional Certified Investigator – ASIS – Cert ID: 20514	2018

EDUCATION**Formal**

PhD Communication and Information Design GPA: 4.0 - Clemson University	est 2023
M.A. International Relations – GPA: 3.80 - University of Oklahoma	2008
B.A. Political Science – GPA: 3.04 - Clemson University	2000

Advanced Professional Training

INSCOM Structured Analytic Tradecraft Course	2012
INSCOM Advanced Counter-Terrorism Analysis Course	2009
INSCOM Counter-Terrorism Analysis Course	2009
INSCOM Critical Thinking Course	2009
NRO 200: National Reconnaissance Operations	2005
Air Force Special Operations Intelligence Course	2003
Air Force Intelligence Officer Course > Lone Star Warrior Award Winner	2003
Latin-American Orientation Course	2002
Joint Psychological Operations Course	2001
Russia/Central Asia Orientation Course	2001
Small Wars and Insurgency Course	2001

SOFTWARE/DATA SET PROFICIENCY

EXPERT USER: Babel Synthesis, Maltego, SocialNet, Sayari

PROFICIENT USER: Microsoft Office, Salesforce, Confluence, Analyst Notebook, Palantir, Gephi, NodeXL, Google Earth, Hyperion, Hyperion X, Liferaft Navigator, Zignal, Planet Imagery Portal, Adobe Creative Cloud, Bellingcat Toolkit, Babel X, Tableau, HYAS Insight, Venntel, Anomaly 6, FleetMon, DTACT Raven, ArcGIS, Tangles by Cobwebs

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RANE: Privileged & Confidential: Astroturf Campaign

January 28, 2020

Through our analysis, we identified several anomalous events, where the number of reviews and ratings differed substantially from our forecasts. Research identified suspicious and historically anomalous negative review activity from April to November 2019 which may require further investigation. A smaller negative review campaign may have been present in 2018, but it is difficult to determine as the volume would have been low, and there may have been competing review purchases.

During the data analysis, 6,416 reviews from Trip Advisor, Yelp, and Groupon were collected. Due to the statistical significance and large volume of data points acquired, our analysis focused on Trip Advisor. Upon normalizing the data, the data was corrected to identify steady year-to-year volume increases. We then removed fluctuations in review volume between the summer when sightseeing is the most prolific and the winter months when it lags. The forecasts were essential as they enabled us to view sudden bursts of review volume without the influence of the time of year.

The Trip Advisor graph below captures the major trends that are currently being investigated. The graph shows three potential positive review campaigns by the client, as well as one potential negative review campaign by their competitor in 2019. The data also shows that the competitor may have potentially been experimenting with purchasing negative reviews in sets of 5 in July 2018 and December 2018, prior to the larger summer campaign in 2019. Please note that the blue shaded areas of the graph indicate normal levels of activity.

The graph portrays the number of 1-star ratings from users with 0-2 other reviews, some of which have provided location data. Additionally, the graph indicates the number of 5-star ratings from users with 0 other reviews and no given location. The reason for the variation in criteria is that we are likely dealing with two different false review companies. Each company is likely to set different thresholds for the complexity of their false accounts. In this case, the accounts providing negative reviews are slightly more complex, in order to compensate for the increased scrutiny they may face.

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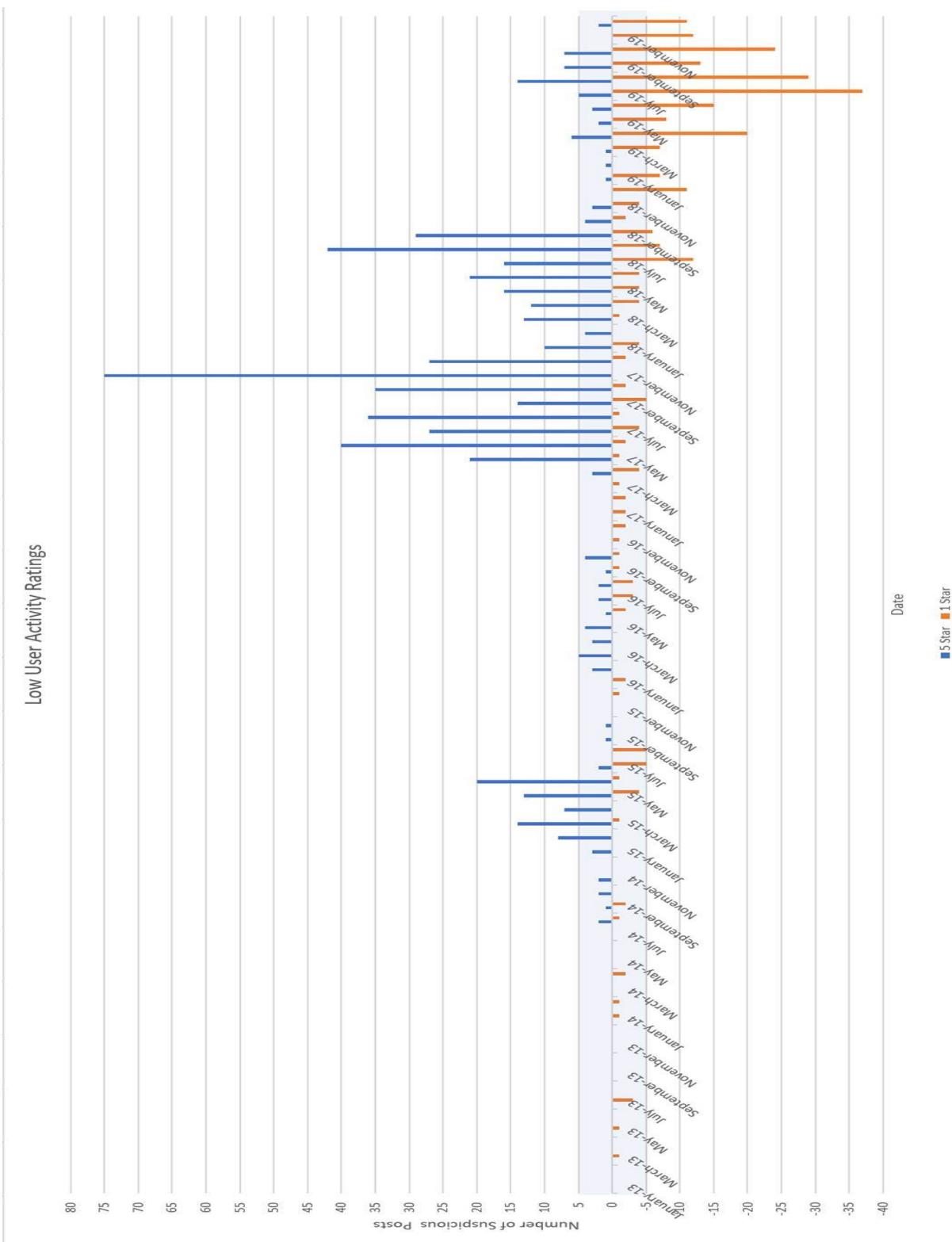


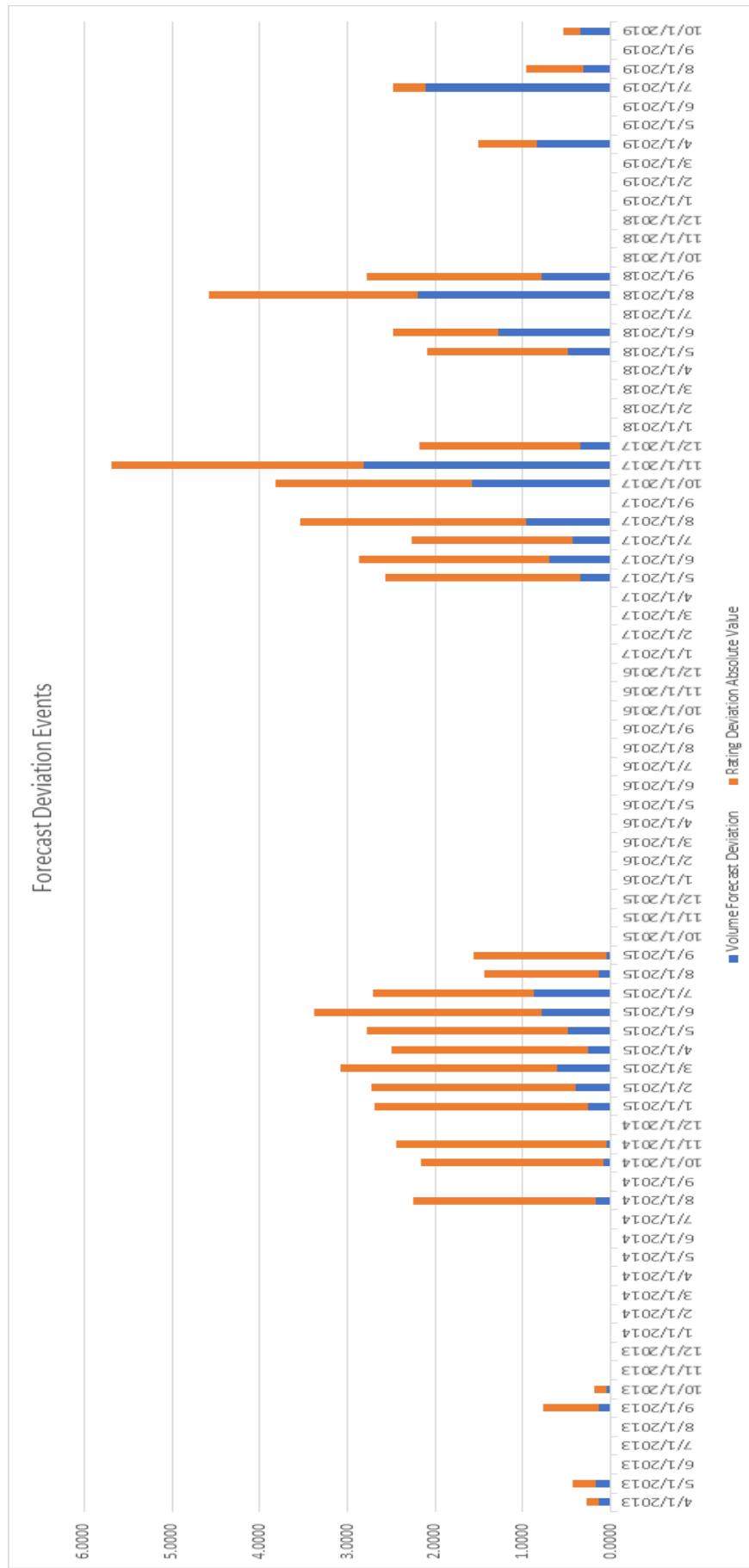
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Furthermore, the graph below highlights the combined deviation from star rating and volume forecasts, which have been adjusted for seasonality and trend. In this graph any bar above zero represents a potentially deceptive review event. Note that while the graph below follows a similar trend as the Low User Activity Ratings graph above, it does not take into account the number of reviews a user has created. As such, the high-volume events depicted below, can be linked to, after accounting for increased tourist activity in the summer months and decreased tourist activity in the winter months, an increase in posts from users which have no or few other user reviews.

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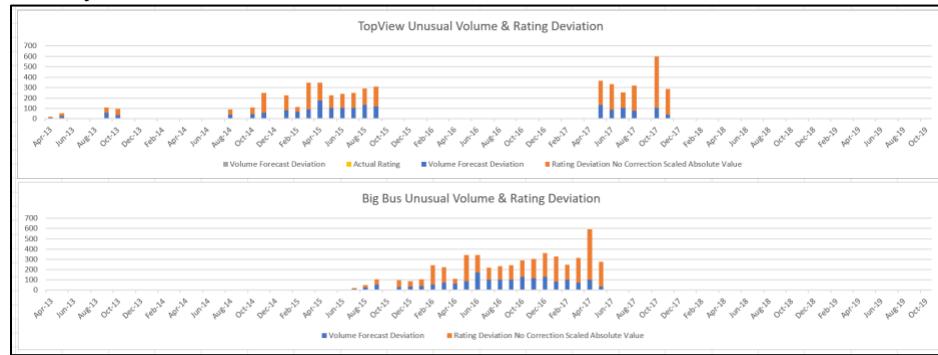
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EXHIBIT B**RANE: Privileged & Confidential: Astroturf Campaign, Phase II**

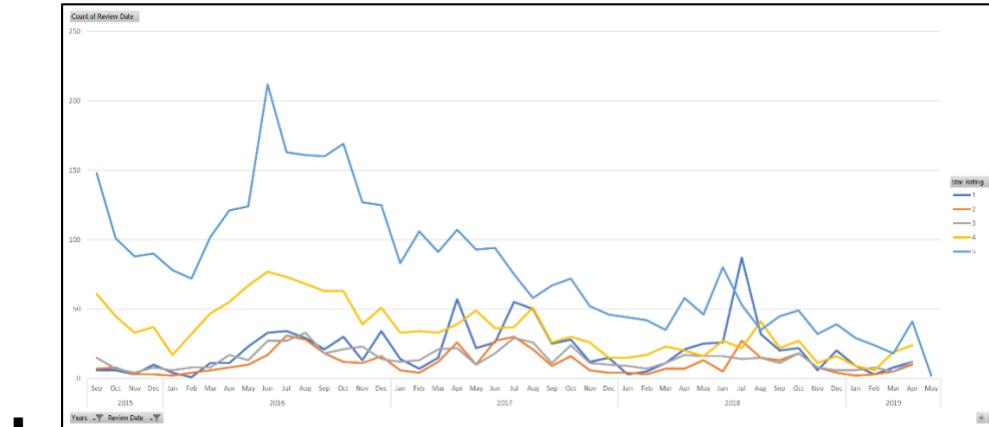
February 4, 2020

- Last week's analysis recap:
 - The first part of this project collected data and created a volumetrically driven approach to interpreting it. We found anomalous events which corresponded with unusual shifts in the average monthly ratings.
 - Our focus going forward will be the negative review events on July and December 2018.
 - The negative event corresponded to a sophisticated user profile, with 1-4 other reviews, the accounts would occasionally indicate their location.
 - We concluded there was enough unusual activity here that it would be fruitful to continue investigating.

- The Big Bus volumetric analysis so far has shown:
 - Unusual 4- & 5-star volume and rating activity from September 2015 to June 2017
 - This unusual activity corresponds with a trough in TopView's unusual review activity



- - Big Bus's deviations were accompanied by an unusually large number of four- and five-star ratings for the same time period.



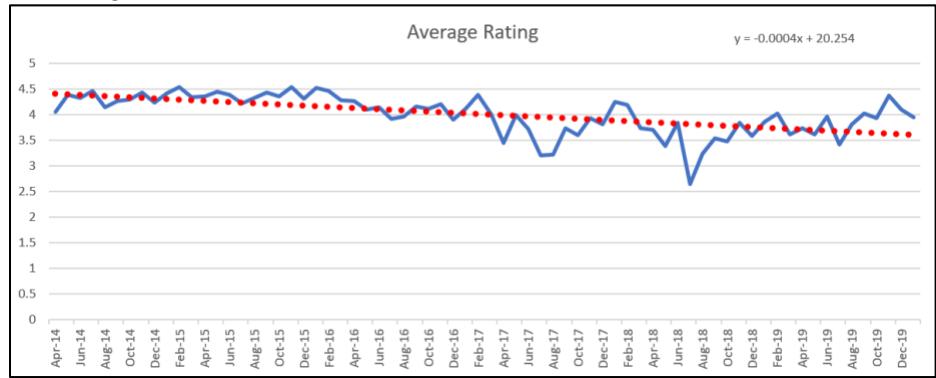
- There is an unusual volume trend showing a substantial and steady decrease in the number peak summer user reviews on Big Bus's trip Advisor from July 2016 to July 2019. The difference in peak summer volume through the decrease is approximately 200 reviews. The direction of the volume trend is the opposite of what we would expect. Normally you would expect to see a steady year by year increase due to

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population increases, and the increased tech literacy of the population. A downward trend may be a signal of manipulation, decreasing ridership, or a decrease in emphasis by tour bus guides to write positive reviews online.



- These two anomalies might suggest that Big Bus ‘front loaded’ reviews on Trip Advisor in 2016, & 2017, to achieve a certain rating. It would then appear that they may have entered a maintenance mode where reviews are purchased only as needed to maintain a certain overall rating.
 - Big Bus’s average monthly rating shows a steady decline which follows the declining volume trend of user reviews.



- Interestingly their average monthly rating dips below the trend during the periods where they may have purchased reviews due to the combination of 1, 2, and 3-star reviews. This begs the question, did Big Bus anticipate a dip in its quality of service during those two summers, and did it attempt to mitigate it by the purchasing positive reviews to prevent harm to its reputation?
- Because it is possible that the signals we are detecting are the result of competition in the industry, we need more industry data to understand what is out of the ordinary and what is not.
- With this data we will be able to more completely account for competitive effects in the marketplace. For example, the number of Trip Advisors reviewing double decker busses in New York should steadily increase over time. If we see a dip in the number of reviews one company gets, we should see those appear under another company. If one company has a large spike in volume comparative to the rest of the industry, that allows us to make a stronger assertion regarding malicious behavior. If every company has a volume dip during the same year, we then know that that was a bad year for the industry and can adjust our models to take that into account.
- Another explanation may be that Big Bus engaged in a review purchasing in response to review purchases potentially conducted by TopView in 2015.

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- This complete data will enable us to make strengthen all of the assertions we make.
The additional open loop sightseeing bus companies to be scraped are:
 - Gray Line
 - City Sightseeing New York
 - Open Loop
 - City Sights NY
- The additional data will require more time to collect and analyze before we can confidently make new assertions.
- We have begun to analyze a handful of users from the potential 2019 negative review campaign. We noticed something interesting when we started reviewing the accounts. When several of the usernames which had a proper first name, followed by a last initial like 'Gonzalo G' were searched for in Trip Advisor, we found pages corresponding to hundreds of empty accounts. The pattern appears to be @GonzaloG1136, @GonzaloG1137, @GonzaloG1138. The sequential numbering, and sheer number of these empty accounts suggests that these are inauthentic. We will spend more time analyzing the accounts in the negative review set to see how many have matching usernames sets.

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 Gonzalo G @GonzaloG1136 0 contributions Follow	 Gonzalo G @GonzaloG1137 0 contributions Follow	 Gonzalo G @GonzaloG1138 0 contributions Follow
 Gonzalo G @GonzaloG1087 0 contributions Follow	 Gonzalo G @GonzaloG1108 0 contributions Follow	 Gonzalo G @GonzaloG1110 0 contributions Follow
 Gonzalo G @GonzaloG1095 0 contributions Follow	 Gonzalo G @344gonzalog 0 contributions Follow	 Gonzalo G @GonzaloG1126 0 contributions Follow
 Gonzalo G @GonzaloG1132 0 contributions Follow	 Gonzalo G @GonzaloG1083 0 contributions Follow	 Gonzalo G @106gonzalog 0 contributions Follow
 Gonzalo G @GonzaloG1192 0 contributions Follow	 Gonzalo G @GonzaloG1179 0 contributions Follow	 Gonzalo G @GonzaloG1182 0 contributions Follow
 Gonzalo Ramon G @GonzaloRamonG1 0 contributions Follow	 Gonzalo G @GonzaloG1178 0 contributions Follow	 Gonzalo G @GonzaloG1183 0 contributions Follow

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 Lorraine W @LorraineW632 📍 Wisbech, United Kingdom 0 contributions Follow	 Lorraine W @LorraineW650 0 contributions Follow	 Lorraine W @LorraineW656 0 contributions Follow
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 Lorraine W @LorraineW516 0 contributions Follow	 Lorraine W @LorraineW527 0 contributions Follow	 Lorraine W @LorraineW555 0 contributions Follow
 Lorraine W @LorraineW721 0 contributions Follow	 Lorraine W @LorraineW682 0 contributions Follow	 Lorraine W @LorraineW681 📍 Trenton, New Jersey 0 contributions Follow

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