

# **IMPROVING THE EFFECTIVENESS OF COUNTER ISIS INFORMATION OPERATIONS ON TWITTER**

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DAT 6

# Goals

- Begin to determine variables that are likely to influence a Tweet's resonance within a target audience:
  - Windows of opportunity: Determine the brief periods of time during which pro-ISIS audiences are most active on Twitter.
  - Purpose: By messaging when audiences are most active, property managers can improve the level of impressions that their Tweets earn.

# Attaining the Data

## □ Social Media Monitoring Tool

- Download the data using a social media monitoring tool, using a Boolean query to set the search parameters.
- Data: April 10, 2015
- Search string: (#WeWillBurnUSAgain AND (سنحرق\_أمريكا) AND NOT ("jensan1332 " OR from:jensan1332 OR #TeaParty OR from:trucksHorsesDog OR #TwitterKurds OR #Peshmerga OR "TruckshorsesDog" OR #wakeupamerica OR #tcot OR "22Im22" OR "dsdotar" OR "brassidio" OR "oklacomanche" OR from:HewarMaftuh OR "HewarMaftuh" OR "HewarMaftuh2" OR from:HewarMaftuh2 OR from:brassidio OR " " داعش OR from:herim22\_0 OR from:22Im22 OR "Terror\_monitor" OR "three husbands" OR #WAKEUPTwitter OR "un altro 11 settembre" OR @SputnikInt OR "threatening another 9/11-style" OR "chan" OR "Daeshcrimes" OR from:DSDOTAR OR from:TheOnlyJewhadi OR "TheOnlyJewhadi" OR "OPISIS" OR from:opantils OR "opantils" OR "isischan" OR "isis chan" OR "ISISちゃん" OR "daesh" OR "daash" OR "daish" OR #YPG OR "infidels Scotsman")

# Cleaning the Data

- Define the data sets.
- Format the time stamps.

```
#Read in Sysomos file
df = pandas.read_csv('C:/Users/fairlieb/Desktop/Analytics/DAT6/DAT6-master/data/sysomos-content-2015-04-27.csv')

#Define datasets
df['time'] = pandas.to_datetime(df.time,format="%H:%M:%S")
df['counter'] = 1
tweets = df[df['type'] == "TWITTER"]

df.shape

import dateutil.parser
import pytz

#Format the time for each Tweet
tweets['time'] = tweets.time.apply(lambda x: x.tz_localize('UTC').tz_convert("EST"))
tweets['time'] = tweets.time.apply(lambda fulldate: str(fulldate.time()))
tweets['time'] = pandas.to_datetime(tweets.time,format="%H:%M:%S")
tweets.index = tweets['time']
```

# Analysis

- Sort the various posted times of all of the tweets and group them into 30 minute or one hour blocks, in order to determine which blocks would be the best times to post messages.

```
tweets.index = tweets['time']  
test = tweets['counter'].resample("30 Min",how='sum')  
test=test.sort_index()  
  
#plots the data on a line chart  
import matplotlib.pyplot as plt
```

# Plot the Time Intervals

- Prepare the chart and plot the data in the chart

```
#plots the data on a line chart
import matplotlib.pyplot as plt

x = test.index.to_datetime() #map(lambda x: datetime.strftime(x, "%I:%M %p" ), test.index.to_datetime())
y = test

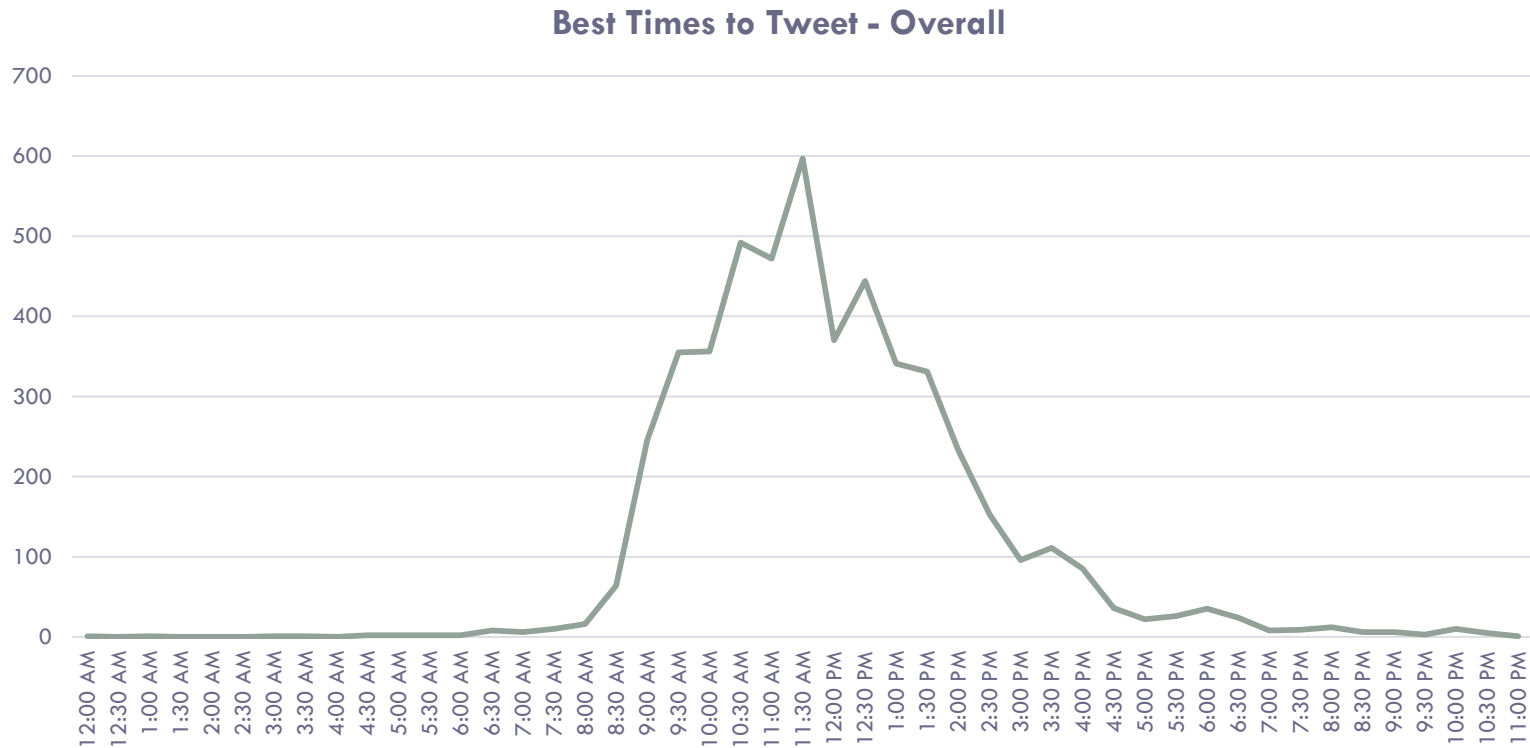
fig, ax = plt.subplots()
ax.plot_date(x, y, linestyle='-')

#Break times into 30 minute intervals
#Add chart labels
ax.set_ylabel("Number of Tweets")
ax.set_xlabel("Time of Day: 30 Min Intervals")
ax.set_title("Best Time To Tweet")

fig.autofmt_xdate()
plt.show()
```

# Write the data to an Excel file

```
#Writes data to an Excel file  
pandas.DataFrame(test).to_excel("besttimes.xlsx")
```



# What comes next?

- The results of this project will allow me to begin crafting a set of guidelines that will likely increase the resonance of issued Tweets.
- Map social networks of pro-ISIS users
  - ▣ Profile communities involved in the conversations.
  - ▣ Determine the prominent narratives for possible counter messaging.
  - ▣ Determine popular hashtags being used within each community.