Twitter and the Moscow City Duma Election: Collecting Data

EPPS 6302: Methods of Data Collection and Production

November 21, 2019

Introduction

2019 Moscow City Duma Election

- Duma – legislative body of Moscow
- Multiparty system
- 45 constituencies
- Moscow City Election Commission (MCEC)
- Election day – 9/8
- Protests during registration procedures for candidates

Russian Twitter

- Social media platform
- Usage differs based on society and culture
- Interaction between political figures and general public
- Not all political figures or political parties have Twitter accounts

Research Statement

- Original focus: political polarization and sentiment analysis
- Explore whether twitter interactions are impacted by discussions surrounding specific political parties

Research Statement:

Determine whether amount of tweets or discussions concerning different political parties impacts social media platform connections (such as favorites, replies, retweets).

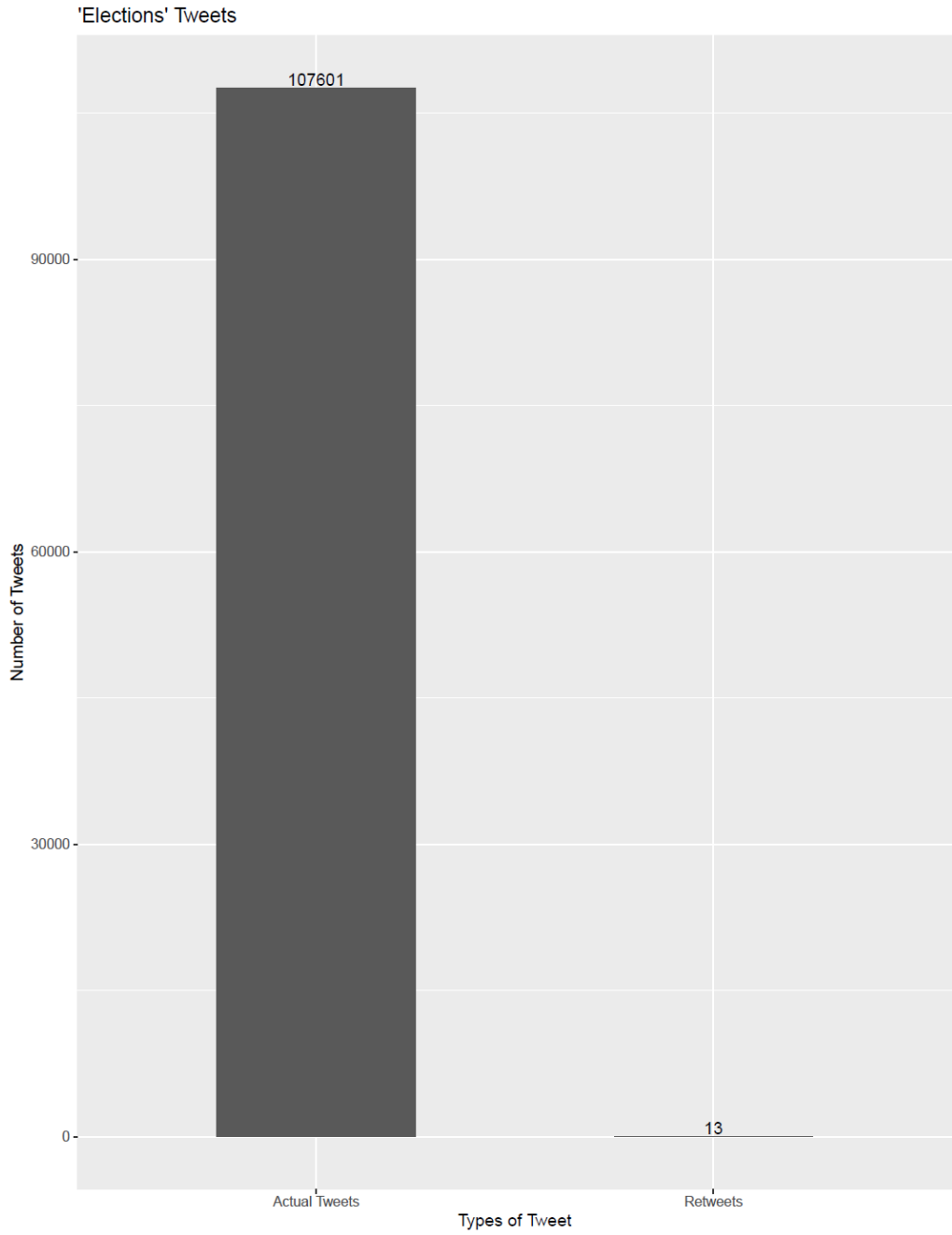
Data Collection Methods

- GetOldTweets3 query search
  - Find Tweets using the word: elections
  - Quantitative and qualitative data
- Time range – 6/5/19 to 9/9/19
  - Twitter API not an option due to limit on time range
- Limitations:
  - Query search of specific election related terms
  - Geographic range

Next step: understand data

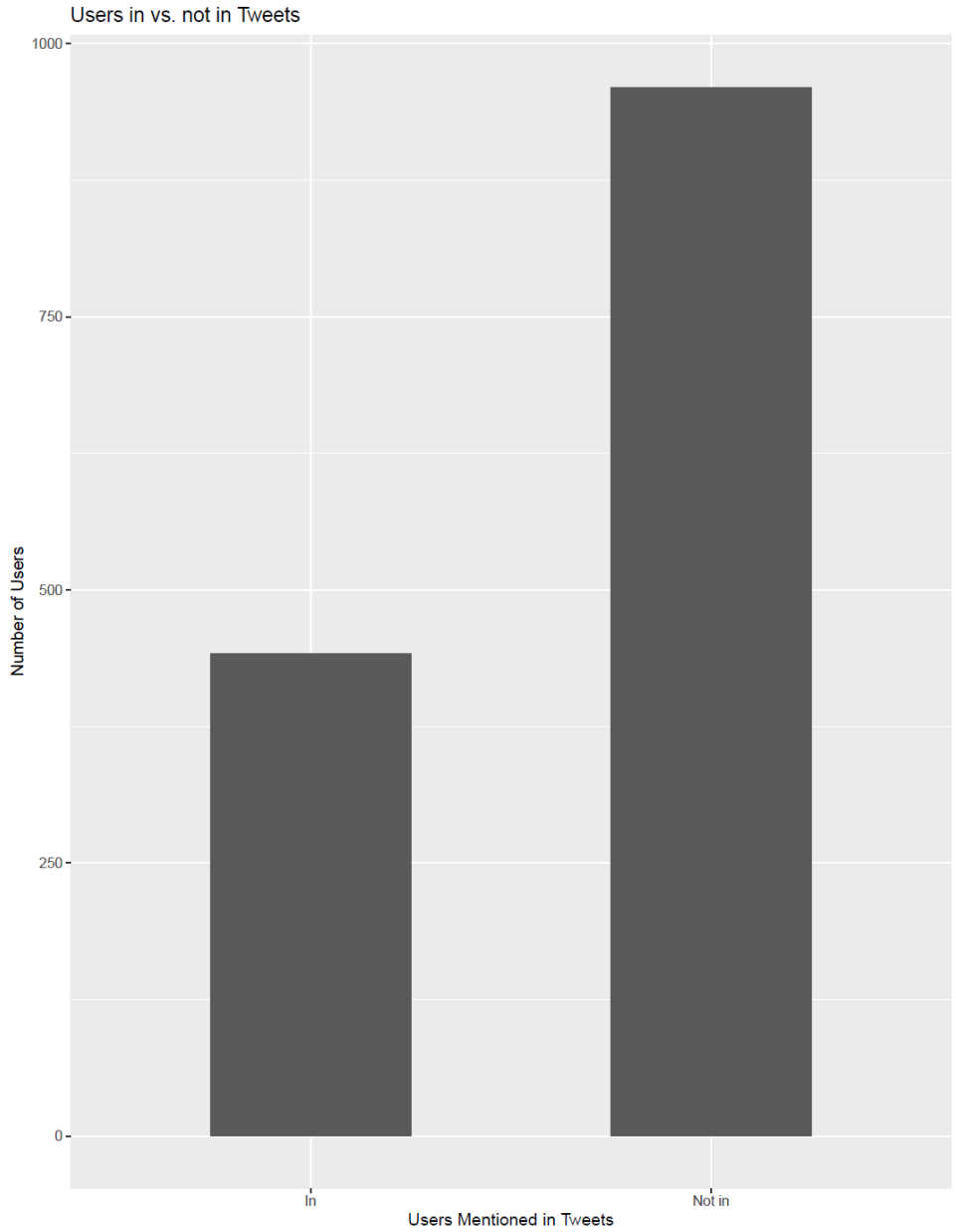
Tweets

Unique Tweets	Total Tweets
100,725.00	107,614.00



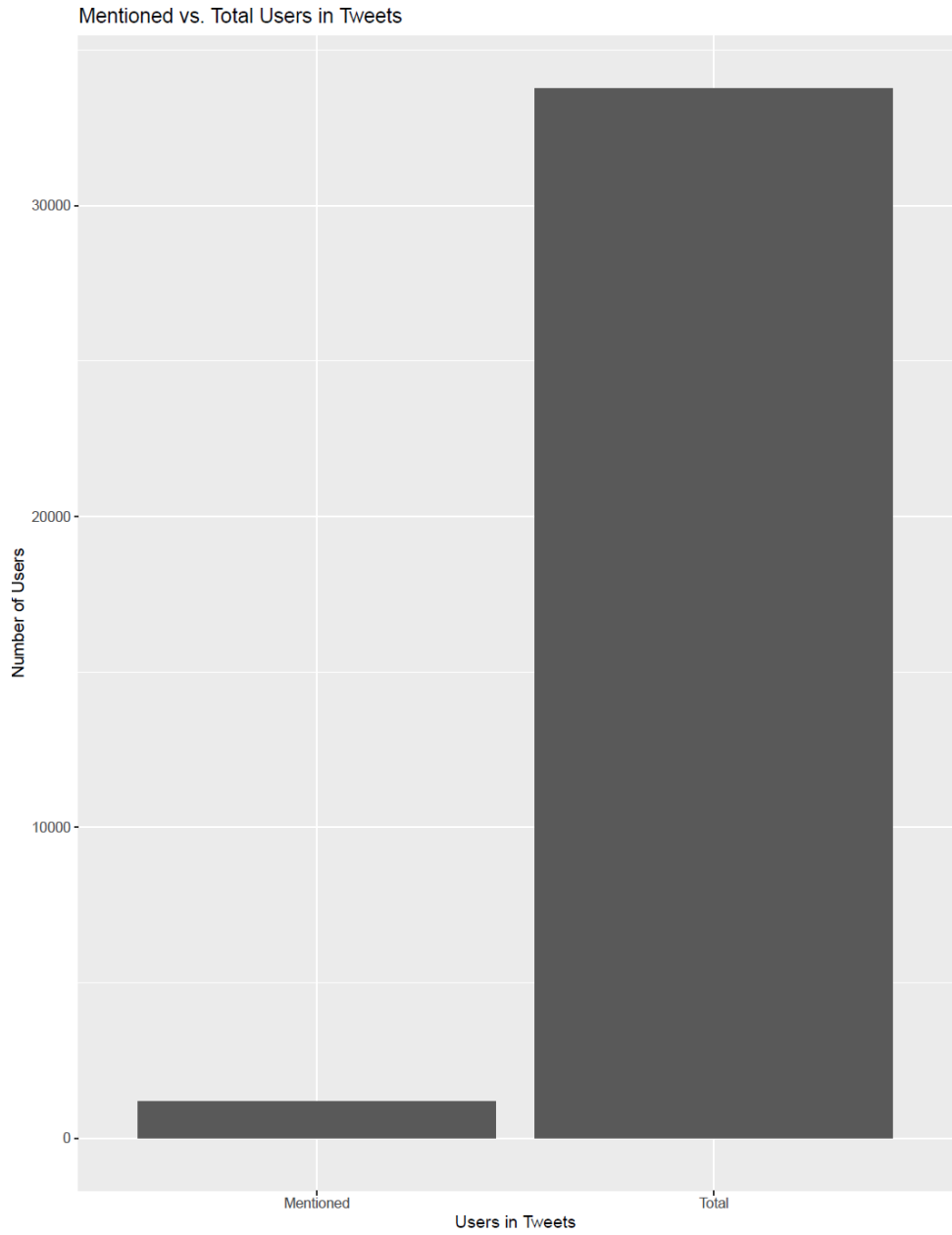
Users

Unique Username	Total Usernames
34,147.00	107,614.00



Mentioned Users

mentioned_users	volume
meduzaproject	304
navalny	181
SobolLubov	167
MosSobyanin	116
CIKRussia	84



Data Manipulation and Production

- Import CSV file into R
  - Cyrillic script
    - Text mining and sentiment analysis unachievable
- Identify users discussing political parties
- Create rows and columns for party affiliation
- Pivot table to process data by reorganizing it
- 10 parties
  - United Russia, Communist Party (CPRF), Yabloko, A Just Russia, LDPR, Rodina, Communists of Russia, The Greens, Civilian power, Party of Growth
- 3 forms of Twitter activity (replies, retweets, favorites)

Data Overview

username	Count.of.text	Sum.of.Twit	Sum.of.party
105	1	0	0
115446	3	2	0
185790	1	6	0
430014	4	17	0
580947	1	0	0
600427	6	3	0

Analysis: Sum.of.Twit ~ Sum.of.party + Count.of.text

Poisson Regression

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	3.6893	0.0008	4428.76	0.0000
Sum.of.party	0.7908	0.0005	1601.83	0.0000
Count.of.text	0.0108	0.0000	1435.42	0.0000

Quasi-Poisson Regression

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	3.6893	0.0682	54.06	0.0000
Sum.of.party	0.7908	0.0404	19.55	0.0000
Count.of.text	0.0108	0.0006	17.52	0.0000

Model Dispersion

- Residual Deviance is greater than the degrees of freedom in the Poisson regression, which means that over-dispersion exists
- Residual deviance: 13035397 on 34143 degrees of freedom
- Therefore, the estimates made by the model are correct, but the standard errors/standard deviation are wrong and unaccounted for by the model

Conclusion

- Predictor variables are significant…
  - Number of unique Tweets
  - Number of different political parties discussed
- Response variable requires further study
  - Number of Twitter interactions (replies, retweets, favorites)

- Explore impact of different political parties onto different Twitter interactions

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