



Programming Tracking: R project
MGMT 539 – Analytics for Social Media Marketing

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Social Media analysis – Twitter

This part of the project focuses on social media analysis at Starbucks, which is one of the companies with the most active social media presence on Twitter.

The code solution gets not only most frequent words but also wordclouds, associations and dendrograms. This code was executed for 7 days, since April 4th until April 10th, considering 500 tweets per day.

Day 1: 04/04/2022

Figure 1: Day 1 - Wordcloud



Figure 2: Day 1 - Word Association with "starbuck" word

\$starbuck							
meet	break	assault	anymor	anyth	app	delet	goomc
0.39	0.32	0.32	0.30	0.30	0.30	0.30	0.30
told	ceo	hall	town	forget	mess	phone	moreperfectus
0.28	0.23	0.23	0.23	0.21	0.21	0.21	0.21

Figure 3: Day 1 - Words with most frequency

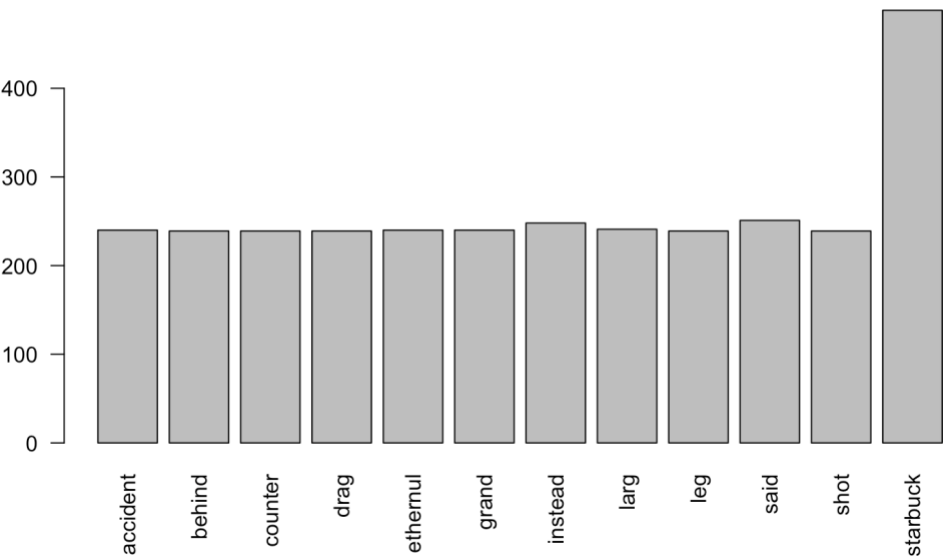


Figure 4: Day 1 - Dendrogram

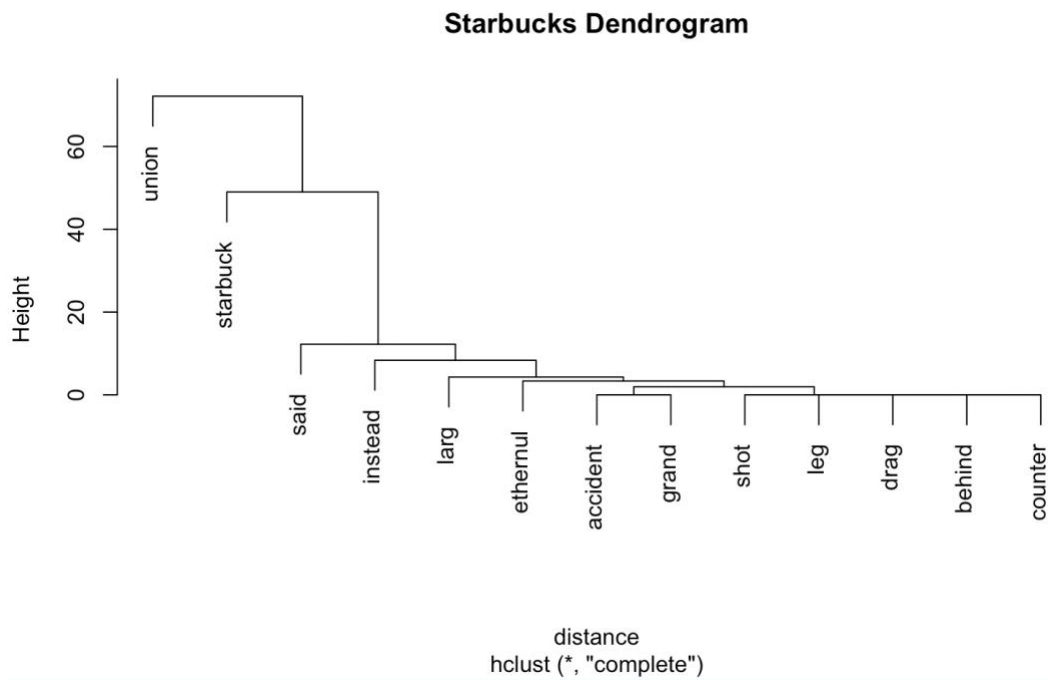


Figure 5: Day 1 - Tweets

```
Console Terminal Jobs
R 4.1.2 ~ /
Behind the counter and shot me in the leg

[[490]]
[1] "httpbigwang_: RT @ethernul: i accidentally said "large" instead of "grande" at Starbucks and they dragged me behind the counter and shot me in the leg"

[[491]]
[1] "ElSeboxito: RT @pandahank41: ESPN 🏀 Starbucks https://t.co/ZzXDkgLvGd"

[[492]]
[1] "hjvinke: RT @MorePerfectUS: BREAKING: In a town hall meeting, Starbucks CEO Howard Schultz just told workers that Starbucks is "being assaulted in m..."

[[493]]
[1] "Kylogram: The worst part about Howard assing his way into NFTs is that I have made a lifelong point of avoiding pyramid schem... https://t.co/TCGXchabQ0"

[[494]]
[1] "HCSBobby: RT @ethernul: i accidentally said "large" instead of "grande" at Starbucks and they dragged me behind the counter and shot me in the leg"

[[495]]
[1] "chriezializz: RT @ethernul: i accidentally said "large" instead of "grande" at Starbucks and they dragged me behind the counter and shot me in the leg"

[[496]]
[1] "pang5: RT @CelestialZada: @lailaddaltonn I mentioned how Starbucks has been treating you in my last union meeting in OKC and that it only makes me..."

[[497]]
[1] "Hena786Zarine: RT @krystalball: Starbucks is pretty bold to be firing worker organizers right now. Ask amazon how it went for them when they fired @Shut_d..."

[[498]]
[1] "FrazerJ_CA: Companies like @starbucks like to say that labour unions "threaten" them. What unions and collective bargaining act... https://t.co/QBYTWhtStAN"

[[499]]
[1] "atxcats: RT @krystalball: Starbucks fires ANOTHER outspoken worker organizer. They will stop at nothing including criminal behavior to stop this uni..."

[[500]]
[1] "kanamafus: RT @ethernul: i accidentally said "large" instead of "grande" at Starbucks and they dragged me behind the counter and shot me in the leg"
```


Figure 8: Day 2 - Word Association with "accident" word

```
$accident
  behind counter drag larg leg shot grand said instead
    1.00    1.00    1.00    1.00    1.00    1.00    0.99    0.98    0.95
starbuck
  0.16
```

Figure 9: Day 2 - Word Association with "Starbuck" word

```
> findAssocs(dtm,'starbuck',0.15)
$starbuck
dutchbro happi kryr past straight meet grand instead shot
  0.20    0.20    0.20    0.20    0.20    0.20    0.17    0.17    0.17
accident behind counter drag larg leg
  0.16    0.16    0.16    0.16    0.16    0.16
```

Figure 10: Day 2 - Dendrogram

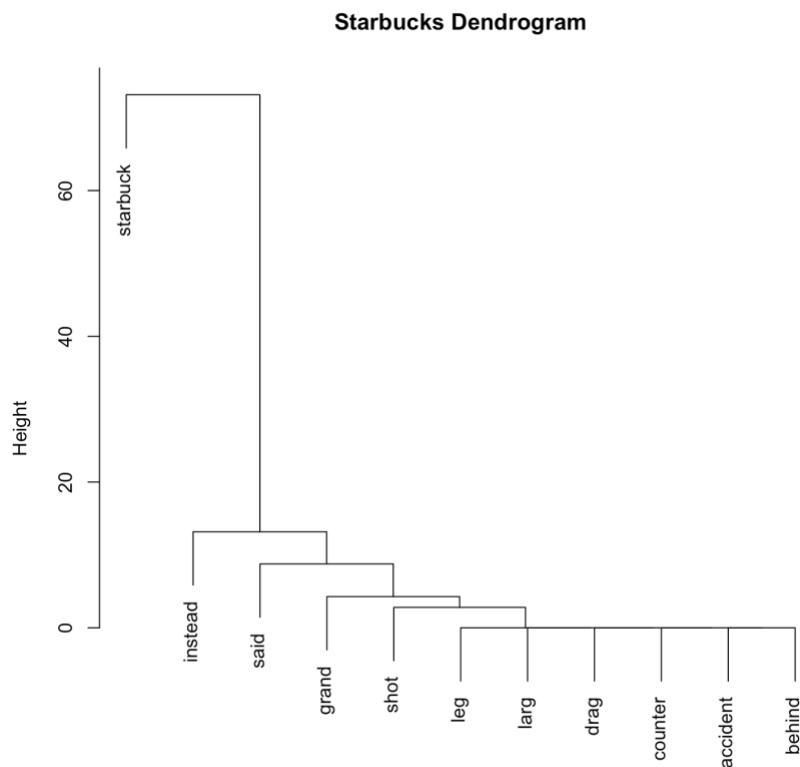


Figure 11: Day 3 - Wordcloud

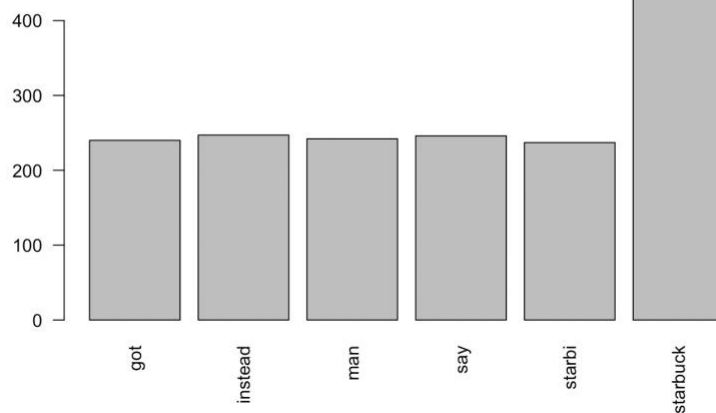
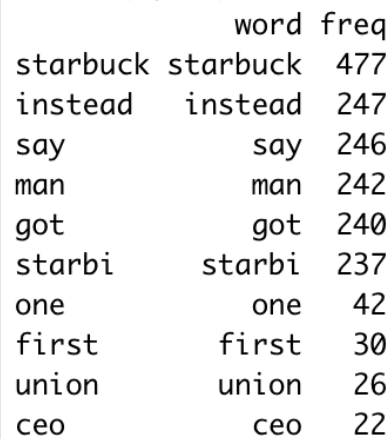


Figure 13: Day 3 - Word Association with "starbuck" word

```
> findAssocs(dtm,'starbuck',0.2)
$starbuck
      stop      bargain      darth      fail      organ      million
      0.33       0.32       0.29      0.29       0.27       0.26
union      demand      dsarandr      lailaddaltonn      reinstat
      0.22       0.22       0.22       0.22       0.22
```

Figure 14: Day3 - Word Association with "starbi" word

```
> findAssocs(dtm,'starbi',0.15)
$starbi
      got      man instead      say
      0.98     0.97     0.95     0.95
```

Figure 15: Day 3 - Dendrogram

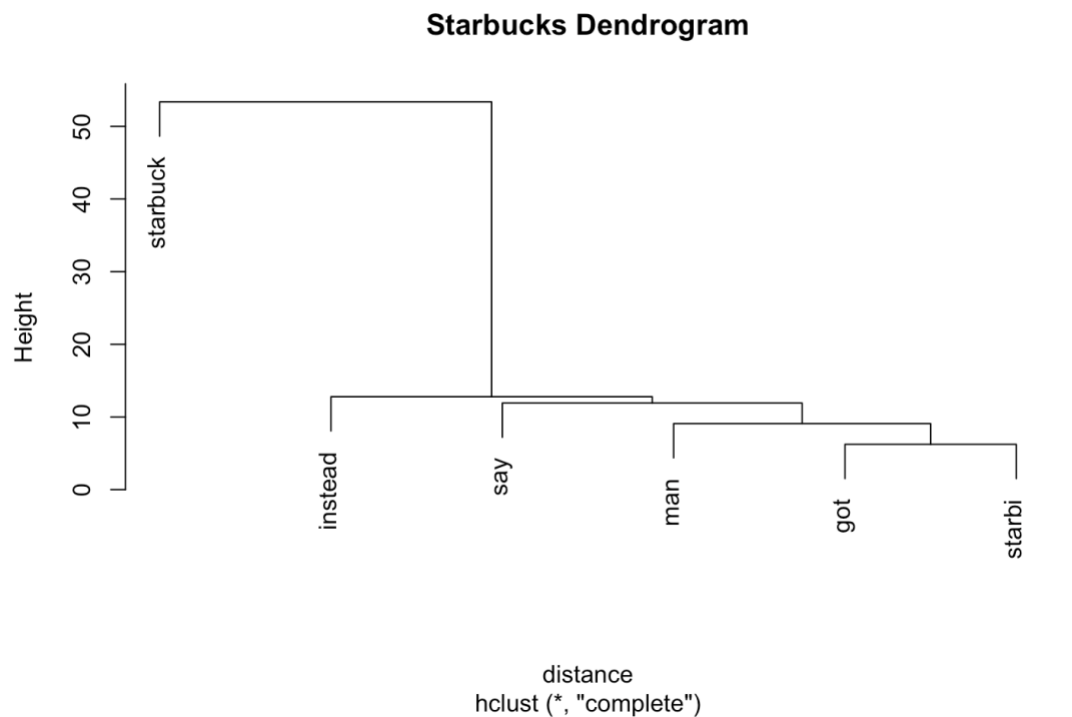


Figure 16: Day 3 - Tweets evidence



blockchain	boomspacegam	digit	launch	project	recent
0.18	0.18	0.18	0.18	0.18	0.18
year	amellmirai	come	suppos	true	bon
0.18	0.18	0.18	0.18	0.18	0.17
iver	just	kill	mispronounc	told	peopl
0.17	0.17	0.17	0.17	0.17	0.14
addict	man	vane	support	valeriestorm	announc
0.14	0.14	0.14	0.12	0.12	0.11

bon	iver mispronounc	told	peopl	just
1.00	1.00 1.00	1.00	0.99	0.96

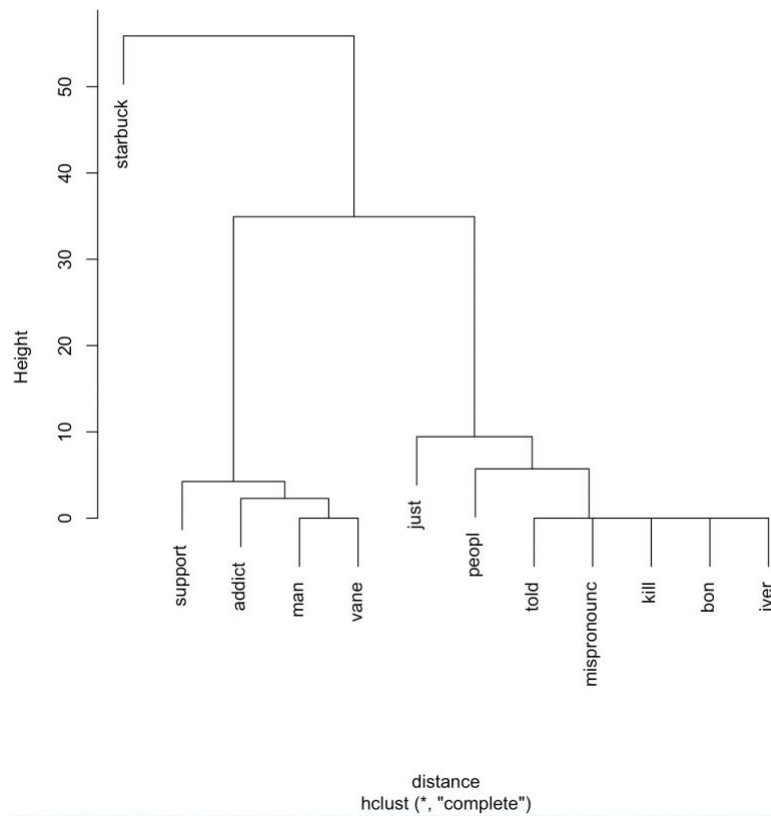


Figure 22: Day 4 - Tweets evidence

**Paul**
@paulyster_

just mispronounced Bon Iver in Starbucks and 11 people told me to kill myself

10:53 AM · Apr 7, 2022 · Twitter for iPhone

1,382 Retweets 94 Quote Tweets 18.9K Likes



 Tweet your reply [Reply](#)

**sam** ★ @baldperc · 14h

Replying to @paulyster_
bone ipher

1  119 

**Paul** @paulyster_ · 14h

bawn eyever

2  5 

⋮

[Show replies](#)

**Saber** @saberisbatman · 12h

Replying to @paulyster_
Pretty sure it's French for good winter lol so who cares

1  2 

**anna marie** @annahhier · 4h


```
> findAssocs(dtm, 'starbuck', 0.2)
```

Figure 26: Day 5 - Word association with "union" word

```
> findAssocs(dtm, 'union', 0.2)
```

Figure 27: Day 5 - Word association with "sneak" word

```
> findAssocs(dtm, 'sneak', 0.2)
```

[illegible]

Figure 28: Day 5 - Dendrogram

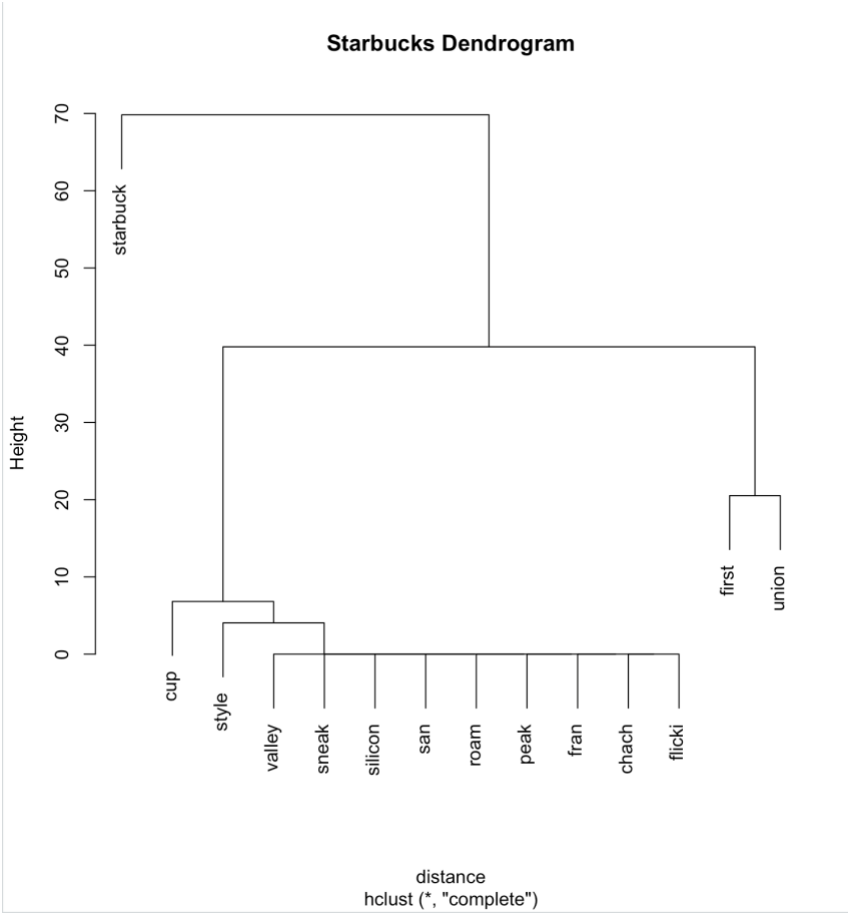


Figure 29: Day 5 - Tweets evidence

 **Thread**

 Pinned Tweet

**SBWorkersUnited**
@SBWorkersUnited

BREAKING: Ithaca, NY is the FIRST fully unionized Starbucks city!!!

2:29 PM · Apr 8, 2022 · Twitter for iPhone

4,603 Retweets 359 Quote Tweets 36.3K Likes

 Tweet your reply 

**SBWorkersUnited** @SBWorkersUnited · 10h
Replying to @SBWorkersUnited
Today the College Avenue store, the Commons store, and the South Meadow St. store ALL won their union votes!

6 133 1,487

**SBWorkersUnited** @SBWorkersUnited · 10h
The results:
College Ave: 19-1
Meadow St: 13-1
The Commons: 15-1
Let's go!!!

19 241 1,644

Day 6: 04/09/2022

Figure 30: Day 6 - Wordcloud

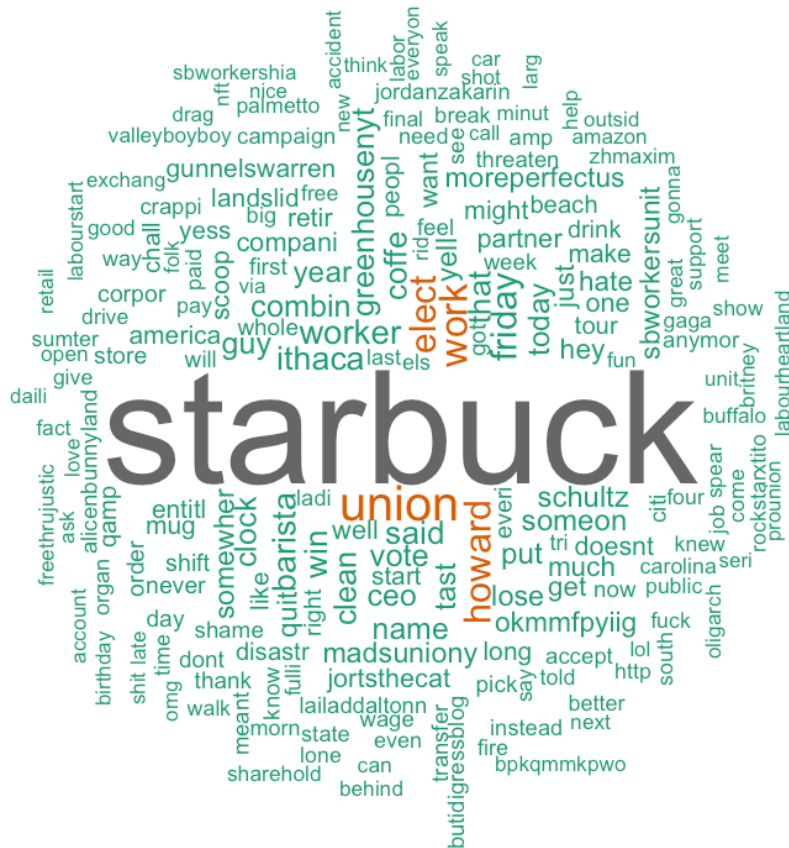


Figure 31: Day 6 - Most frequent words

```
> head(d, 10)
```

	word	freq
starbuck	starbuck	445
union	union	95
work	work	64
howard	howard	58
elect	elect	56
friday	friday	54
worker	worker	46
ithaca	ithaca	43
barista	barista	43
said	said	41

Figure 32: Day 6 - Word Association with "starbuck" word

```
> findAssocs(dtm,'starbuck',0.3)
$starbuck
      clock      combin      vote greenhouseyt      clean      ithaca
      0.60      0.59      0.59      0.57      0.56      0.56
      win      elect      friday      union
      0.56      0.52      0.51      0.46
```

Figure 33: Day 6 - Word Association with "barista" word

```
> findAssocs(dtm,'barista',0.3)
$barista
  tast    yell  someon    name    put    guy    said    yess    gaga zhmaxim    ladi
  0.84    0.84    0.82    0.78    0.75    0.69    0.65    0.63    0.39    0.36    0.33
```

Figure 34: Day 6 - Dendrogram

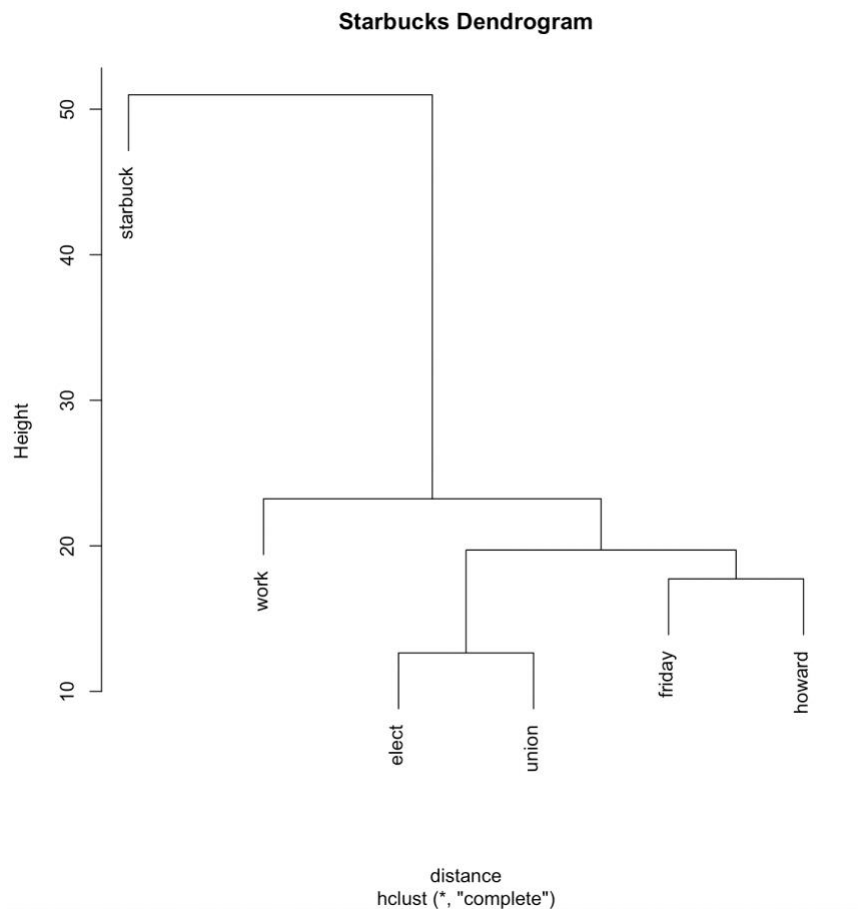


Figure 35: Day 6 - Tweets evidence



Figure 36: Day 7 - Wordcloud



	word	freq
starbuck	starbuck	474
union	union	232
worker	worker	153
just	just	102
vote	vote	93
commonwealth	commonwealth	90
store	store	84
ave	ave	72
elect	elect	68
won	won	68

Figure 38: Day 7 - Word Association with "starbuck" word

```
> findAssocs(dtm,'starbuck',0.2)
$starbuck
      coolidg      corner      second      becom      union sbworkersunit
      0.48        0.48        0.47        0.30        0.29        0.29
      unanim      win        vote        store
      0.29        0.29        0.25        0.21
```

Figure 39: Day 7 - Word Association with "union" word

```
> findAssocs(dtm,'union',0.2)
$union
      becom sbworkersunit      win      unanim      store      commonwealth
      0.65        0.65        0.63        0.61        0.60        0.59
      ave      elect      vote      first      coolidg      corner
      0.56        0.53        0.48        0.48        0.39        0.39
      worker      second      won      starbuck      harvard      boston
      0.37        0.36        0.34        0.29        0.29        0.27
      break moreperfectus      also      breakinga      doubl      fav
      0.27        0.27        0.26        0.24        0.24        0.24
      greenhousenyt      shutout      offici      brooklin      just
      0.24        0.24        0.23        0.22        0.21
```

Figure 40: Day 7 - Dendrogram

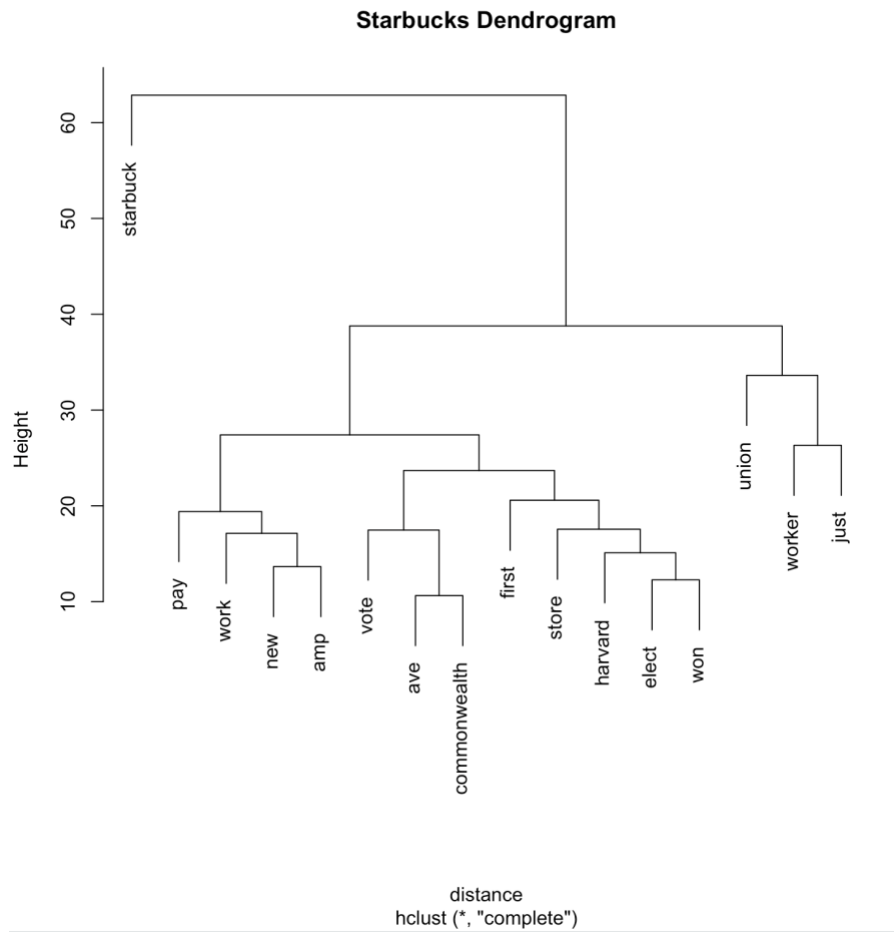



Figure 41: Day 7 - Tweets evidence

**Steven Greenhouse** ✓
@greenhousesny

BREAKING—A Double Shutout for the Union





At the Starbucks on Commonwealth Ave in Boston, the workers vote 11 to 0 in favor of unionizing


At the Starbucks on Harvard Ave. in Brookline, the workers vote 14-0 to unionize


The union has won at 18 of 19 Starbucks where workers voted





2:07 PM · Apr 11, 2022 · Twitter Web App


1,135 Retweets 108 Quote Tweets 6,332 Likes







**Tweet your reply** Reply


**Turing Pest** 🌻🌻🌻🌻🌻 @Krikalitika · 7h
Replying to @greenhousesny and @JortsTheCat
What is going on at #19? 🤔

1

**Vaccinate & Register 2 Vote** @ArtusBunnyBane · 7h
They decided they didn't want to unionize. Their right; their choice.
... of course, they can change their mind later.

15

Show replies

**Josh** @AKProgressive2 · 8h
Replying to @greenhousesny
Yea, if you're reading this and you are in the one store that voted no to a union, you should vote again.

Marketing findings

Based on the results showed on the wordclouds, word associations, and dendrograms obtained during these 7 days, we deem that information is variable every day since in Starbucks different events can happen both good and bad. In the next subsequent lines, I explain different findings for every day:

1. **Day 1 and Day 2:** Looking at **Figure 1, Figure 2, Figure 3, and Figure 6**, we can find words associated with a tragic event at Starbucks, such as accident, drag, shot, leg and among others. To confirm what happens I have reviewed on twitter that specifically happened. It happened because a man committed a mistake to say at counter “Large” instead of “Grande”, and he was dragged and even received a shot at Starbucks (See **Figure 5**).

Recommendation:

Starbucks should increase the security level on its stores, since this type of events can damage the reputation of the company, especially knowing that its potential consumers are young people who are attached with the social networking as Twitter, Instagram, and Facebook.

2. **Day 3:** For this day, we have two new insights associated with “Starbucks” and “starbies” words, apart from the words about the accident happened two days ago. First, if we look at **Figure 13**, we can see all words associated with “starbuck”, such as “stop” and “bargain” words, it means that during this day the company made an important bargain that had a high impact on Twitter. And second, because a man said “starbies” instead of “starbucks”, starbies was trend also during this day (See **Figure 16**).

Recommendation:

Starbucks should continue joining with other important companies since with this, Starbucks can gain new type of customers and raise its portfolio of clients.

3. **Day 4:** Similarly, to days before, if we look at the most frequent words during this day in the **Figure 18**, we can realize that “mispronunciation” word repeats many times. This event happened because one man pronounced bad one name and then he was criticized by people who stayed at Starbucks in that moment.

Recommendation: Since this type of events occurs frequently, Starbucks should generate a culture of values among its employees, particularly because most of its employees are young people. On this way, the employees will be respectful not only with their coworkers but also with users, generating them on this way a good experience when they stay at Starbucks.

4. **Day 5 and Day 7:** If we can see the wordcloud and the words more with most correlation with the “Starbucks” word, we get words like “union” and “first”. The reason is because on this day, Starbucks notified on twitter that Ithaca in NY was recognized as the first full unionized Starbuck city **Figure 29**.

Additionally, if we can see the most frequent words in **Figure 37** during the day 7, we can see again the “work” and “union” appear again, which according to the tweet in **Figure 41**, which tells us how the unionization finished.

Recommendation:

Starbucks should be more active on its different social platforms, since any news about this company regardless the magnitude is propagated rapidly since its loyalty clients are more attached of their social networking,

5. **Day 6:** if we look at the most frequent words in **Figure 31** during the day 6, we see “work”, “union”, “howards” and “barista” words, since that day the CEO of Starbucks was giving a conference. Nevertheless, if we see that words are associated with “barista” in the **Figure 33**, we can think that in this conference the CEO and a man(barista) had a conflict since appears the word yell. Actually, in the **Figure 35** we can confirm that the CEO had a tense exchange of words with a barista.

Recommendation:

Starbucks should avoid these types of events in which its employees regardless the position that they have in the company disrespect its audience and any other person, since it can damage the reputation of the company in the future.