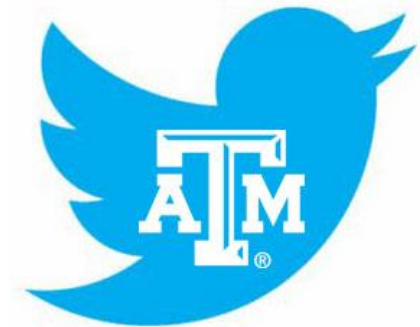


Tweets

Caroline Black @caroKblack

June 26

College Students' perceptions of foodborne illness related tweet credibility based on features and sources #NACTA13



@Background

- Twitter
 - # Created: 2006
 - # Active users: 140 million
 - # Tweets per day: 340 million



(Moscaritolo, 2012; Pring, 2012; Roberts, 2012; Twitter, 2012a).

- Top users
 - # 18 to 26 years old
- Accessible media
 - # Breaking news

(Allen et al., 2010; Mitchell et. al, 2012)

twitter

Login / Join Twi

<http://twitpic.com/135xa> - There's a plane in the Hudson. I'm on the ferry going to pick up the people. Crazy.

12:36 PM yesterday from TwitPic



jkrums
Janis Krums

twitpic
share photos on twitter

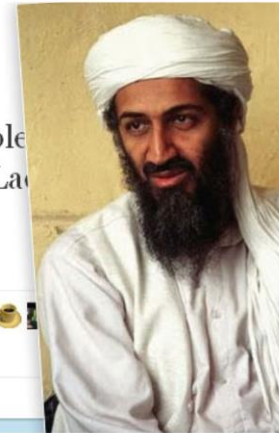


@keithurbahn
Keith Urbahn

So I'm told by a reputable source that the US military has killed Osama Bin Laden.

11 hours ago via [Twitter for BlackBerry®](#)

Retweeted by [katiwalters1](#) and others



Share this photo

Put this photo on your website

Views 107122



Breaking News on Twitter

@Previous_Study

- Morris et al. (2012)
 - # Identified Twitter Features
 - # Impact of Features on Credibility



@Problem

- Credible messages are vital to food safety communication
 - # Impacts human life
- If college aged students are the largest users of Twitter, what features would lend credibility to them during a food safety situation?

@Objectives

1. Describe students Twitter use
2. Determine if tweet credibility is impacted by the source, i.e. student organization (\bar{X}_1), student (\bar{X}_2), professor (\bar{X}_3)

Hypothesis: There will be no difference among the credibility ratings by source.

$$H_0: \bar{X}_1 = \bar{X}_2 = \bar{X}_3$$

@Objectives

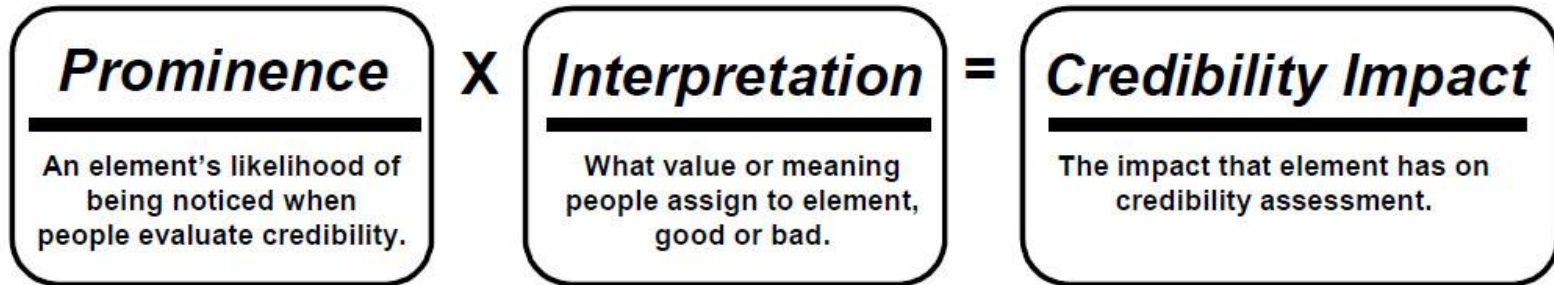
3. Identify what Twitter credibility features are attributed to each source, i.e. student organization (\bar{X}_1), student (\bar{X}_2), professor (\bar{X}_3)

Hypothesis: There will be no difference among the credibility features by source.

$$H_0: \bar{X}_1 = \bar{X}_2 = \bar{X}_3$$

@Conceptual_Framework

- Definition of Credibility (2 & 3)
 - # Trustworthiness
 - # Expertise
- Prominence-Interpretation theory



(Fogg, 2003)

@Methods

- Quantitative study

- # COALS U3, social science-based majors ($N = 687$)

- # Electronic survey covered three main constructs

- (Dillman, 2006)

- # Students' Twitter use

- # Source credibility factors

- # Tweet credibility factors

- # Validity and Reliability

- # Panel of experts

- # Pilot test: $\alpha = .84$

- # Study: $\alpha = .88$

@Rank_Biographies



Dr. John White

@DrWhite_TAMU

Former Department Head, professor of food safety, Texas A&M University #FoodSafety

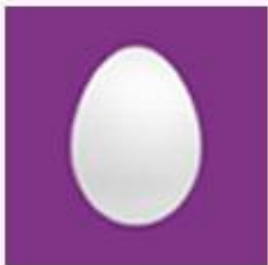
College Station, TX

Edit your profile

143 TWEETS

78 FOLLOWING

192 FOLLOWERS



Sara Smith

@SaraSmith92

I'm currently a student worker at Texas A&M University, Food Science major & E. Coli 0157:H7 guru. #Food Safety

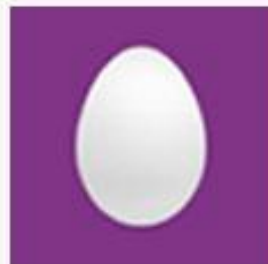
College Station, TX

Edit your profile

680 TWEETS

223 FOLLOWING

119 FOLLOWERS



Aggie Foodies

@AggieFoodies

A group of students passionate about sustaining the world's safe food supply. #TAMU #FoodSafety

College Station, TX

Edit your profile

366 TWEETS

198 FOLLOWING

544 FOLLOWERS

@Rate&Identify

- Rate 8 tweets
 - # One feature per tweet
 - # Likert-type scale
 - # *Not credible* to *highly credible*
 - # *E. coli* O157:H7 content
- Identify source
- Identify feature

The screenshot displays a vertical list of eight tweets. Each tweet is a survey item with a colored profile picture containing a question mark, a text-based feature, and interaction options. The tweets are as follows:

- Tweet 1:** Profile: Who am I? @_username_. Text: "Make sure to chek out the USDA's risk assessmnt associated with E. coli O157:H7 E. coli in groun beef." Time: 26s.
- Tweet 2:** Profile: Who am I? @_username_. Text: "Hemorrhagic colotis is the name of the acute disease caused by E. coli O157:H7. Read more here: <http://bit.ly/LdH49z>" Time: 58s.
- Tweet 3:** Profile: Who am I? @_username_. Text: "E. coli O157:H7 fears prompt South Carolina #Recall of 7000 lbs of ground beef." Time: 2m.
- Tweet 4:** Profile: Who am I? @_username_. Text: "Did you know? Complications, from E. coli O157:H7, can lead to kidney failure, or even death.." Time: 34m.
- Tweet 5:** Profile: Who am I? @_username_. Text: "Check out this fact sheet on E. coli O157:H7 <http://www.dshs.state.tx.us/idcu/disease/e-coli/factsheet/>" Time: 58m.
- Tweet 6:** Profile: Who am I? @_username_. Text: "@USDAFoodSafety, thank you for hsharing the excellent article on E. coli O157:H7 research!" Time: 5h.
- Tweet 7:** Profile: Who am I? @_username_. Text: "The most effective strategy for managing E. coli O157:H7 in beef is a combination of harvest and processing interventions." Time: 8h. Retweets: 22.
- Tweet 8:** Profile: Texas Beef Council @TxBeef. Text: "Cook #burgers to 160°F to reduce E. coli O157:H7 contamination. For more #beef cooking tips visit: ow.ly/becD1" Time: 11h. Retweeted by: Which @_username_.

@Findings

- Participants

$N = 687$

$n = 200$; **29%** response rate

Typical response for college students with online surveys

Food industry experience: **41%**

E. coli O157:H7 encounter: **.08%**

Other foodborne illnesses encounter: **21.3%**

@Objective_1

- Twitter users: **69.5%**

User-type information collapsed into categories

	Low	Moderate	
Tweet	Less than once a month	1-5 days a week	Once to multiple times a day
Followers	Less than 50 followers	Maximum of 200	Minimum of 300
Followed	Less than 50	Maximum of 100	Minimum of 200

@Objective_1

- Non-Twitter users: **30%**
 - # I do not see a purpose in using Twitter: **39%**
 - # I do not know how to use Twitter: **8.5%**
 - # I have other SM accounts I'd rather use: **32.2%**
 - # I do not want to use Twitter: **20.3%**

@Objective_2

- In order to determine source credibility factors:
- Participants ranked the three biographies
 - # Reverse weighted rankings
 - # 3.0 – Most likely
 - # 2.0 – Second most likely
 - # 1.0 – Least likely
 - # Summed for overall ranking

@Objective_2



Dr. John White

@DrWhite_TAMU

Former Department Head, professor of food safety, Texas A&M University #FoodSafety

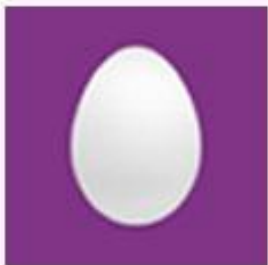
College Station, TX

[Edit your profile](#)

[143 TWEETS](#)

[78 FOLLOWING](#)

[192 FOLLOWERS](#)



Sara Smith

@SaraSmith92

I'm currently a student worker at Texas A&M University, Food Science major & E. Coli 0157:H7 guru. #Food Safety

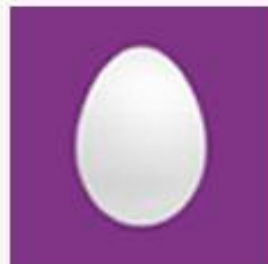
College Station, TX

[Edit your profile](#)

[680 TWEETS](#)

[223 FOLLOWING](#)

[119 FOLLOWERS](#)



Aggie Foodies

@AggieFoodies

A group of students passionate about sustaining the world's safe food supply. #TAMU #FoodSafety

College Station, TX

[Edit your profile](#)

[366 TWEETS](#)

[198 FOLLOWING](#)

[544 FOLLOWERS](#)

@Objective_2

- Professor or student > student organization

@Objective_2

- Additionally participants:
- Rated 8 tweets
 - # One feature per tweet
 - # Likert-type scale
 - # *Not credible* to *highly credible*
 - # *E. coli* O157:H7 content
- Identify source
- Identify feature

The screenshot displays a vertical list of tweets. Each tweet is followed by a 'Who am I?' question and a Likert-type scale for rating. The tweets include information about USDA risk assessments, hemorrhagic colitis, South Carolina fears, complications of E. coli O157:H7, fact sheets, and beef cooking tips.

Who am I? @_username_ 26s
Make sure to chek out the USDA's risk assessmnt associated with E. coli O157:H7 E. coli in groun beef.
← Reply ↻ Retweet ★ Favorite

Who am I? @_username_ 58s
Hemorrhagic colotis is the name of the acute disease caused by E. coli O157:H7. Read more here: <http://bit.ly/LdH49z>
← Reply ↻ Retweet ★ Favorite

Who am I? @_username_ 2m
E. coli O157:H7 fears prompt South Carolina #Recall of 7000 lbs of ground beef.
← Reply ↻ Retweet ★ Favorite

Who am I? @_username_ 34m
Did you know? Complications, from E. coli O157:H7, can lead to kidney failure, or even death..
← Reply ↻ Retweet ★ Favorite

Who am I? @_username_ 58m
Check out this fact sheet on E. coli O157:H7 <http://www.dshs.state.tx.us/idcu/disease/e-coli/factsheet/>
← Reply ↻ Retweet ★ Favorite

Who am I? @_username_ 5h
@USDAFoodSafety, thank you for hsharing the excellent article on E. coli O157:H7 research!
View conversation ← Reply ↻ Retweet ★ Favorite

Who am I? @_username_ 8h
The most effective strategy for managing E. coli O157:H7 in beef is a combination of harvest and processing interventions.
22 RETWEETS ← Reply ↻ Retweet ★ Favorite

Texas Beef Council @TxBeef 11h
Cook #burgers to 160°F to reduce E. coli O157:H7 contamination. For more #beef cooking tips visit ow.ly/becD1
Retweeted by: Which @_username_

@Objective_2

- Results were analyzed
- One-way ANOVA
 - # Reject the null hypothesis
 - # PostHoc test
 - # Bonferroni adjustments ($p < .05$)
- One significant difference between sources

@Objective_2

- One statistically significant difference between sources

Tweet feature credibility factors by author

Features	Student Organization (1)		Student (2)		Professor (3)		Post Hoc
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Tweet contains spelling mistakes	2.18	1.36	1.76	1.29.	3.44	1.37	3 > 2, 1

Note. The numbers in parentheses in column heads refer to the numbers used for illustrating significant differences in the “Post hoc” column.

- Users do view this feature to impact credibility differently depending on the source

@Objective_3

4. Identify what Twitter credibility features are attributed to each source, i.e. student organization (\bar{X}_1), student (\bar{X}_2), professor (\bar{X}_3)

Hypothesis: There will be no difference among the credibility features by source.

$$H_0: \bar{X}_1 = \bar{X}_2 = \bar{X}_3$$

@Objective_3

- Identify features within tweets

<i>Twitter Feature</i>	<i>Total percent correct</i>
Tweet contains spelling mistakes	57.5%
Tweet contains short URL	51%
Tweet contains hashtag (#)	66.7%
Tweet contains punctuation mistake	30.1%
Tweet contains long URL	74.5%
Tweet is a reply to another Twitter user	49.7%
Author is retweeted (RT) by others	35.3%
Tweet is a retweet	41.8%

@Objective_3

- Survey

- # Match the feature to the source perceived to use each feature the most

- Chi Square test

- # Observed difference between the credibility features attributed to the source

- # All were statistically significant

- # Reject the null hypothesis

@Objective_3

- Student Organization: **@AggieFoodies**
 - # Author is retweeted by other users
 - # Author has many followers
 - # Tweet contains short URL

@Objective_3

- Student: [@SaraSmith92](#)
 - # Author is following many users
 - # Tweet contains spelling mistake
 - # Tweet contains punctuation mistake
 - # Tweet contains hashtag
 - # Tweet is a reply to another user
 - # Tweet is a retweet

@Objective_3

- Professor: [@DrWhite_TAMU](#)
 - # Author's biography suggests topic expertise
 - # Tweet contains long URL

@Conclusions

- Moderate user profile =
Average Twitter user accounts

(Beevolve, 2012).

	Moderate
Tweet	1-5 Days a week
Followers	Maximum of 200
Followed	Maximum of 100

- Non-users:
 - # Did not want to use it
 - # Saw no purpose
 - # Other social media accounts

@Conclusions

- Tweet credibility *is* impacted by the source
 - # Professor or student to tweet about foodborne illness (Objective 2)
- Different features *are* perceived to be used by *different* Twitter users (Objective 3)

@Implications

- Twitter is ever changing



The original logo, used from 15 July 2006 until 14 September 2010.

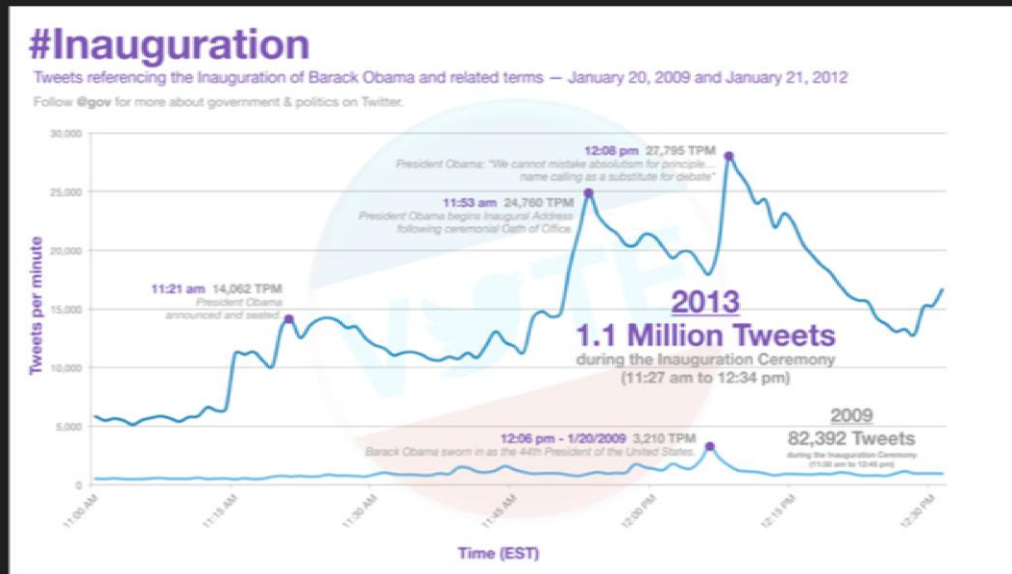


The second logo, used from 14 September 2010 until 5 June 2012.



The third and current logo, used since 5 June 2012.

@Implications



gov Twitter Government

CHART: #inaug2013 Tweet Volume vs. the 2009 #Inauguration. pic.twitter.com/bVYnRFL2

Details

21 Jan

@Implications

- Study should be replicated
 - # Determine what other features are used
- Create Twitter Instrument
 - # Credibility of tweet content; test-retest
- Research to look at how Twitter features are used
 - # Reasons people retweet
 - # Crossover to other social media platforms
 - # Apps

@Implications

- How do Apps and events incorporate features from Twitter?
- Research to look at how Twitter platforms are used



@Implications_4Ag

- Conduct Twitter research on target audience
 - # What are the conversations by
 - # Twitter users during foodborne illnesses?
 - # Students, scientists, government organizations?
- Understand the audience – who is reading your tweets?
- Be *aware* of what features are used on Twitter to communicate to the public
 - # Apply features that will increase credibility

Tweets

Caroline Black @caroKblack

June 26

College Students' perceptions of foodborne illness related tweet credibility based on features and sources #NACTA13

