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Clarifying the Chaos of a Social Media Crisis: The Case of #DeleteUber

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#DeleteUber: Hashtag Crises and Chaos

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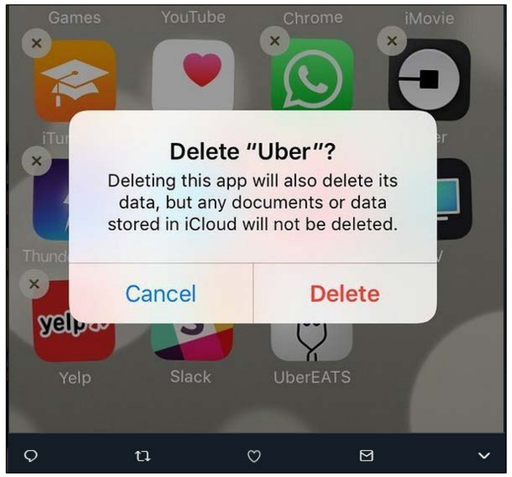
Introduction

Uber is in a state of chaos (Boss, 2017),
Lyft sees big opportunity with chaos at Uber (NY Post, 2017),
Uber apologizes for chaos… (McQuade, 2017).



- Applying chaos theory to a real world event will enable us to evaluate this approach as a possibly useful framework in understanding social media crises.
- Social media conversations are a non-linear, complex and spontaneous structure that meets chaos theory requirements (Doherty & Delener, 2001
- "Chaos theory offers an alternative way of explaining the kind of complex, random-looking patterns of behavior often found in marketing…" (Hibbert & Wilkinson, 1994, p. 219).
- A company's traditional crisis communication approach using a direct cause-and-effect approach would be futile for a chaotic event (Paraskevas, 2006).

Research Questions

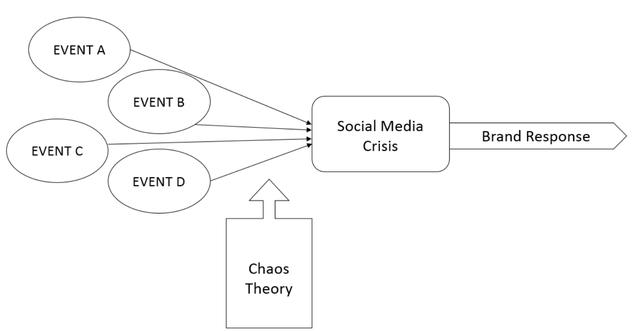
(1) Is #DeleteUber hashtag creating chaos or noise?
(2) Who are the actors in a hashtag event?

Literature Review

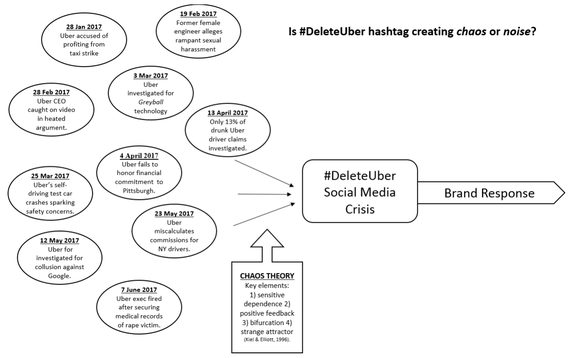
- Events where brands are suddenly and publicly targeted by consumers via social media channels are conceptualized in academic literature using a variety of terms, ***including consumer brand sabotage*** *(*Kähr, Nyffenegger, & Krohmer), **collaborative brand attacks** (Rauschnabel, Kammerlander, and Ivens, 2016), ***nightmares*** (Kaplan & Haenlein, 2011), ***firestorms*** (Pfeffer, Zorbach, and Carley, 2013), ***paracrisis*** (Coombs & Holladay, 2012), ***political consumerism*** (Stolle, Hooghe, & Micheletti, 2005) and ***digital consumer activism*** (Legocki & Walker, 2017).
- Consumers angered by a company's actions are more likely to engage ***in word-of-mouth behaviors*** (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004).
- ***Consumer anger*** has also been examined within the context of consumer revenge (Grégoire, Laufer, & Tripp, 2010), workplace revenge (Tripp & Bies, 2010), and corporate irresponsible behavior (Grappi, Romani, & Bagozzi, 2013).
- ***Chaos theory*** has been introduced in marketing but limited to conceptual application by Earl (2012); Smith (2002), Doherty & Delener (2001); Whitby & Tobias (2001), Winsor (1995), and, Hibbert

Conceptual Framework

Figure conceptualizes a social media crisis using elements of chaos theory.



Key Characteristics of Chaos Theory



- **Characteristic #1: Sensitive Dependence on Initial Conditions.** A misinterpreted tweet was the *butterfly effect* initiating the Uber crisis.
- ***Characteristic #2: Positive Feedback.*** Uber's own communication responses to the crisis created *positive feedback*.
- ***Characteristic #3: Bifurcation Points.*** Successive controversies involving Uber served as a *bifurcations* for this hashtag event. Each time outrage against the brand appeared to be returning to an equilibrium state, another controversy or *bifurcation* would reignite the crisis.
- ***Characteristic #4: Strange Attractors.*** For Uber, a population of persistent *digital consumer activists* act as the *strange attractor.* These consumers continue to tweet hundreds of times per day using the hashtag #DeleteUber regardless of whether new stories or information about the company is released.

Methods

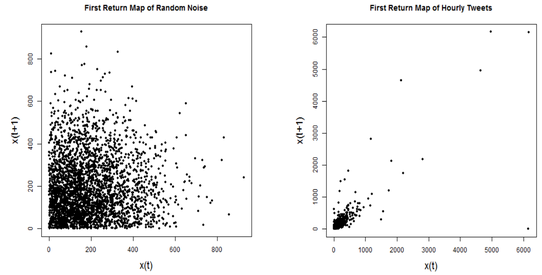
- Dataset: 188,810 tweets referencing the hashtag #DeleteUber; posted between January 28 - June 8, 2017.

Methods used (Hibbert and Wilkinson, 1994)

- First Return Maps
- Correlation Dimension
- Maximum Lyapunov Exponent
- Unpredictability using sample entropy (SampEn)
- Recurrence quantification analysis (RQA)

Results

First Return Maps



- Correlation dimension =2.43.
- Maximum Lyapunov Exponent = 0.08.
- SampEn = 0.12.
- Recurrence variable = 0.08%.
- Determinism or predictability = 81%
- Laminarity = 83%.
- Maximum predictability time = 19.18 hours.

We confirm that the case of #DeleteUber is a *chaotic* event, thus **a social media crisis can be a chaotic event.**

Unique actors and their behaviors

Actor	No of Unique Actors	Total Tweets	Mean Freq	Twitter Followers	Tweets -USA	Tweets - UK	Tweets -Aust	Tweets-Cnd/Spn
Uber (Brand)	3	13712	4570.67	332,767	13407	0	0	305
Government Officials	4	4234	1058.50	709,836	0	1151	3083	0
Taxi Industry	*61*	*52815*	*865.82*	*36,265*	*4210*	*36107*	*8289*	*4209*
Competitors	4	3132	783.00	64,624	3132	0	0	0
Digital Consumer Activists	20	10974	548.70	181,094	5608	0	4720	646
Target Brands	3	1529	509.67	2,113,333	1529	0	0	0
Media	19	7921	495.06	9,259,547	7921	0	0	0
Participating Public	21,497	72,662	3.38	8,901,056				
Totals	21,611	166,979		21,598,522	35,807	37,258	16,092	5,160

References

References available upon request.