

Introduction

- New Challenges In Business World
- Knowledge Management Systems
- Social Media Analytics
- Market Orientation
- Brand Positioning
 - Intended Positioning
 - Perceived Positioning
 - Successful Brand Positioning
- Brand Perceptual Mapping



Research Questions

- How User Generated Contents Mirror Customers Perception of Service Providers In the Lodging Industry?
- How UGC Mirrors Brands and Class Differentiation?
- How UGC Mirrors Brands Uniqueness?

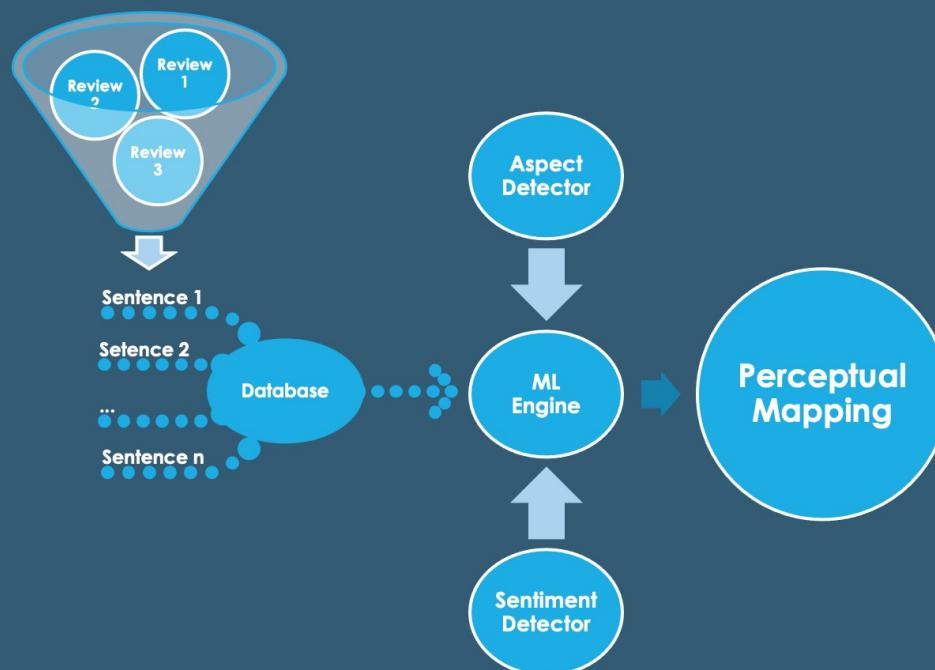


Relevance and Importance

- Considering Context in UGC Analysis
- Demand for More Accurate Method to Understand Market Structure
- Gap in the Literature for Perceptual Mapping in Sub-brands and Service Provider Layer
- Understanding Brand Positioning Uniqueness

Framework

Perceptual Mapping Framework



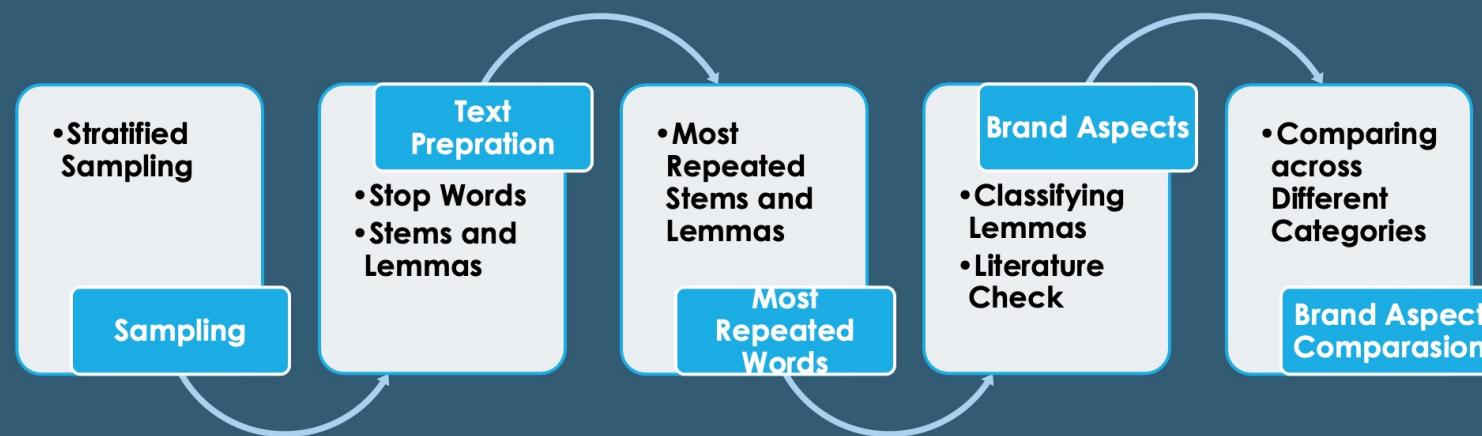
Research Framework

- Identifying Most Repeated Stems and Lemmas in Reviews
- Classifying Most Repeated Lemmas

- Labeling Brand Aspects in Reviews
- Data Augmentation
- Implementing Brand Aspect Detector
- Implementing Sentiment Detector

- Feeding Algorithms Reviews of different Brands
- Brand Perceptual Mapping

Framework: Identifying Brand Aspects



Results: Brand Aspects

- Room
- Building Facilities
- Service and Staff
- Cleanliness
- Food and Restaurant
- Location
- Check-in
- Value
- Other

Rank	Stem	N/Review	Top Lemmas: (Lemma,N/Review)
1	room	1.66	(room,1.66)
2	staff	0.57	(staff,0.57)
3	clean	0.44	(clean,0.39),(cleaned,0.02),(cleaning,0.02)
4	locat	0.42	(location,0.33),(located,0.08)
5	breakfast	0.37	(breakfast,0.37)
6	servic	0.36	(service,0.36)
7	bed	0.36	(bed,0.35),(bedding,0.01)
8	area	0.30	(area,0.3)
9	walk	0.29	(walk,0.15),(walking,0.1),(walked,0.04)
10	park	0.29	(parking,0.19),(park,0.08),(parked,0.01)
11	comfort	0.27	(comfortable,0.24),(comfort,0.02)
12	restaur	0.27	(restaurant,0.27)
13	help	0.27	(helpful,0.19),(help,0.05),(helped,0.02)
14	friendli	0.26	(friendly,0.26)
15	check-in/out	0.24	(check-in/out,0.24)
16	free	0.22	(free,0.22)
17	front-desk	0.21	(front-desk,0.21)
18	floor	0.19	(floor,0.19)
19	look	0.19	(look,0.07),(looking,0.06),(looked,0.05)
20	pool	0.18	(pool,0.18)

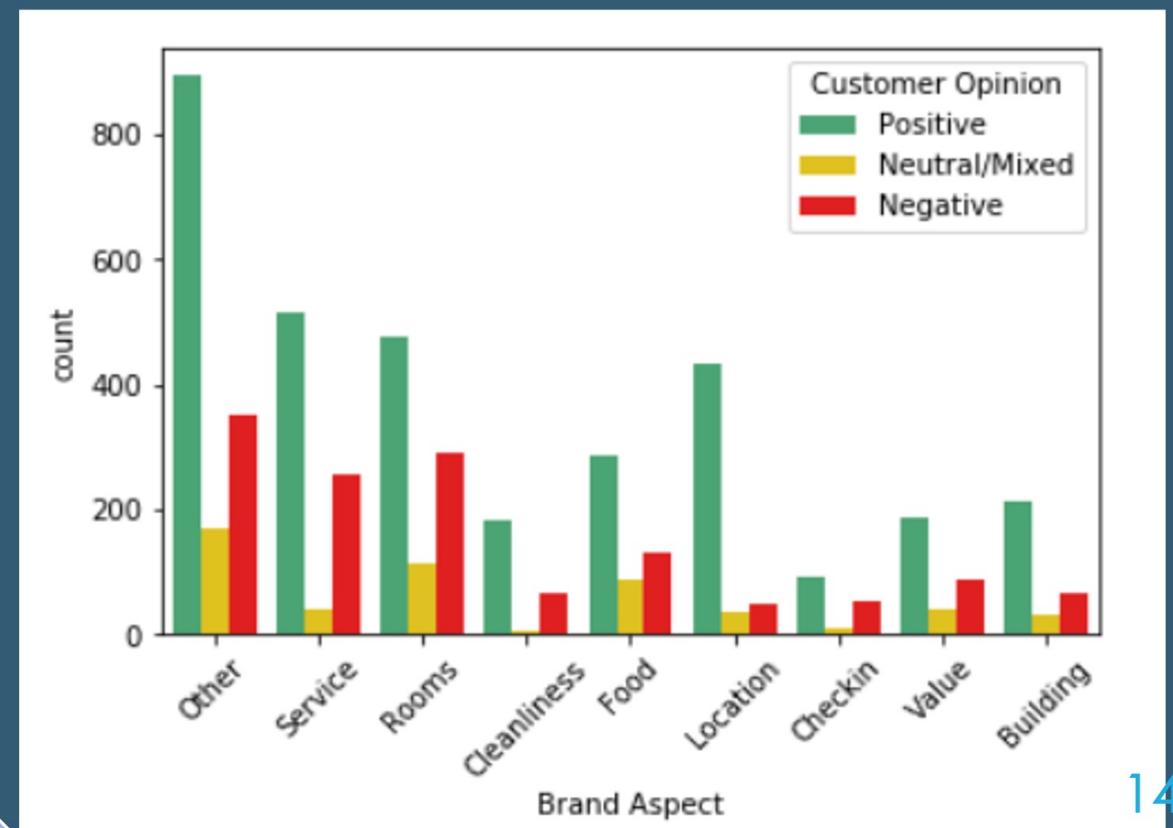
Results: Brand Aspect Comparison

- Luxury: Food, Building, Service
- Premium: Food, Building, Room, Location
- Midscale: Free Offers, Location, Cleanliness
- Budget: Value, Location, Breakfast, Cleanliness
- Basic: Value, Room(bed)

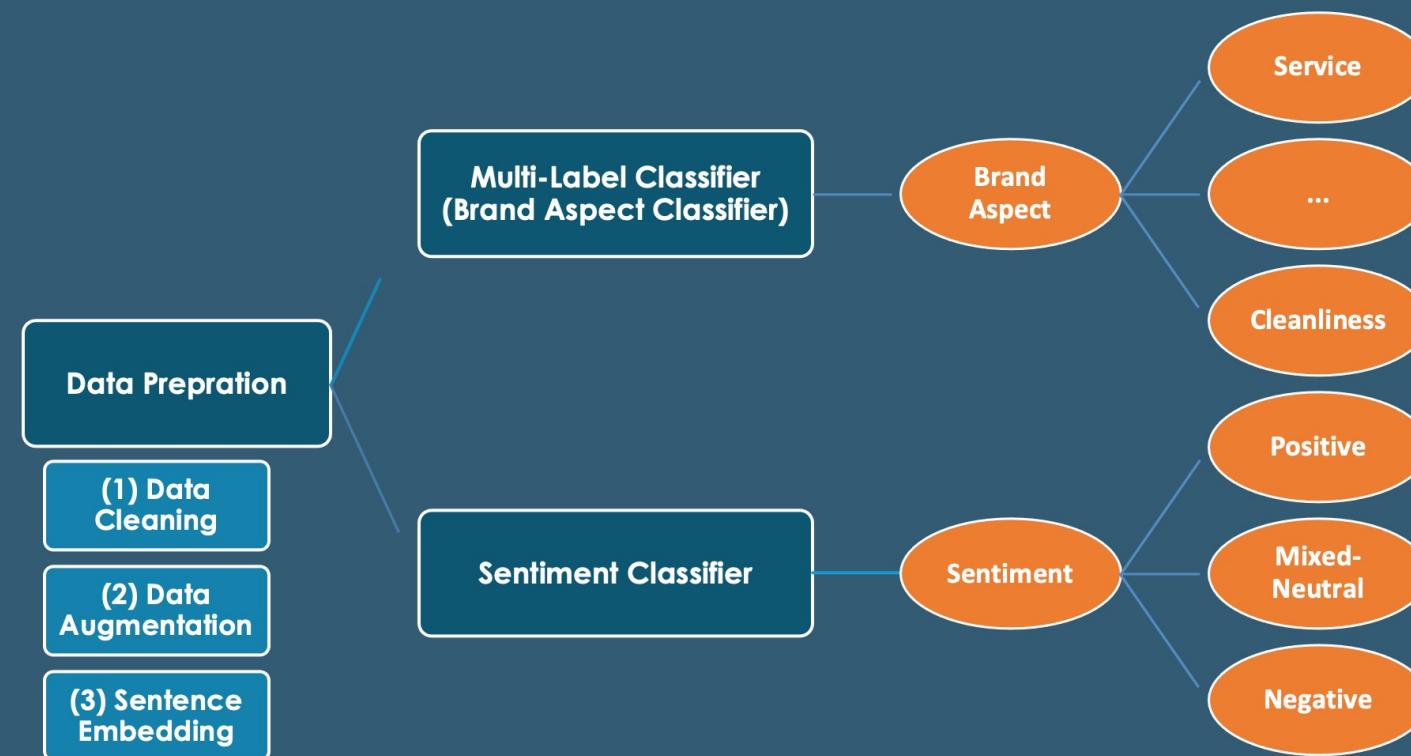
Lemma	1.Basic		2.Budget		3.Midscale		4.Premium		5.Luxury		
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	
room	1.88	1	1.53	1	1.52	1	1.71	1	1.84	1	1.88
staff	0.57	4	0.28	4	0.48	2	0.60	2	0.59	3	0.68
clean	0.39	3	0.31	2	0.51	4	0.41	7	0.30	28	0.15
breakfast	0.37	15	0.18	3	0.50	3	0.41	13	0.23	17	0.21
service	0.38	13	0.18	14	0.19	7	0.33	3	0.53	2	0.83
bed	0.35	2	0.43	5	0.32	6	0.34	6	0.33	12	0.25
location	0.33	6	0.21	6	0.31	5	0.34	4	0.38	5	0.32
area	0.30	12	0.18	7	0.29	8	0.33	8	0.28	7	0.28
restaurant	0.27	59	0.08	19	0.15	9	0.30	5	0.38	4	0.39
friendly	0.28	22	0.14	8	0.25	10	0.28	11	0.24	18	0.21
comfortable	0.24	38	0.10	10	0.22	12	0.25	10	0.28	16	0.22
check-in/out	0.24	9	0.20	11	0.21	13	0.24	9	0.27	15	0.23
free	0.22	46	0.08	9	0.22	11	0.26	22	0.18	63	0.09
front-desk	0.21	10	0.18	12	0.21	15	0.23	21	0.19	24	0.16
parking	0.19	19	0.14	13	0.20	14	0.23	19	0.21	105	0.08
helpful	0.19	49	0.08	15	0.18	16	0.20	23	0.18	26	0.15
floor	0.19	20	0.14	22	0.14	17	0.19	15	0.23	23	0.16
pool	0.18	41	0.09	28	0.13	18	0.18	16	0.23	6	0.29
bathroom	0.18	7	0.21	18	0.16	20	0.18	18	0.22	14	0.25
food	0.17	113	0.05	43	0.09	19	0.18	20	0.20	10	0.26

Methodology: Labeling Brand Aspects

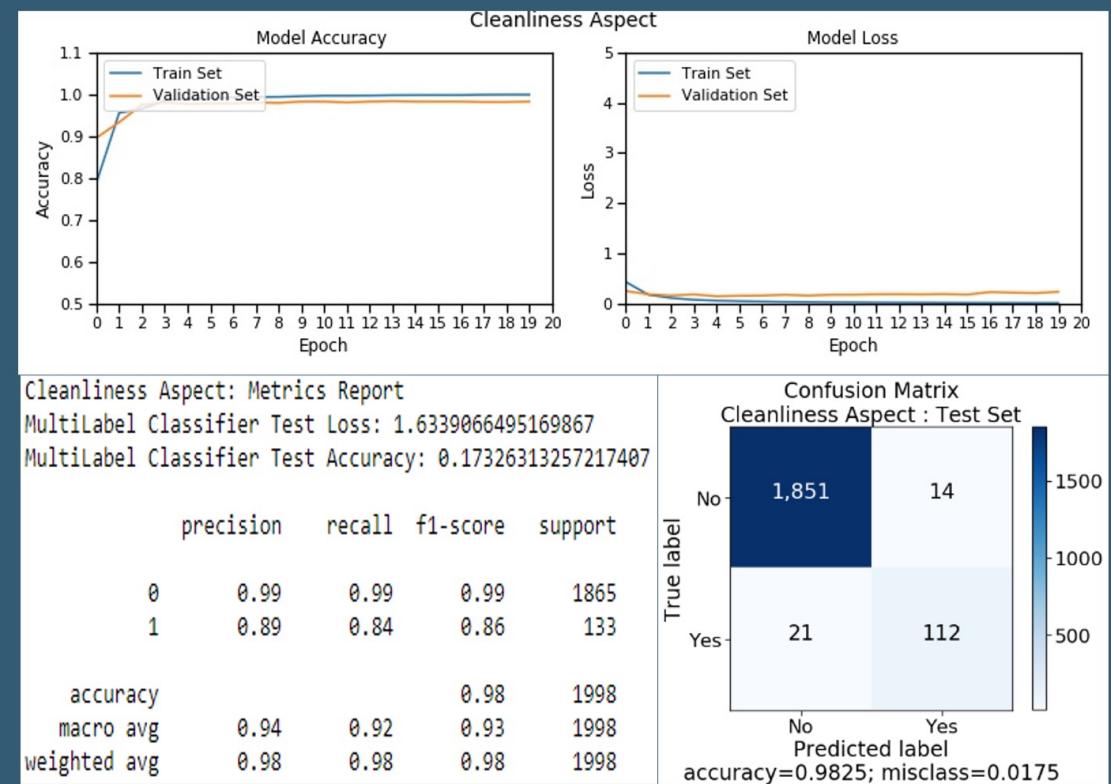
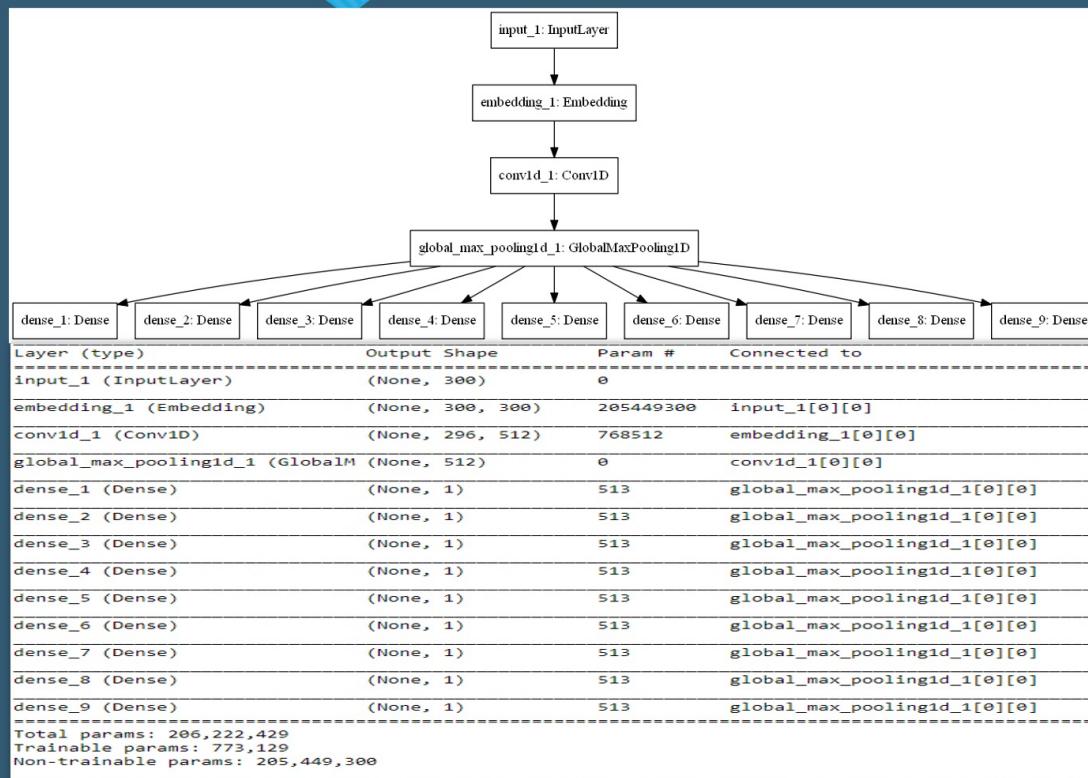
- Room
- Building Facilities
- Service and Staff
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- Food and Restaurant
- Location
- Check-in
- Value
- Other



Methodology: ML Framework



Results: Deep Learning Model Structure & Evaluation Metrics



	Building	Checkin	Cleanliness	Food	Location	Other	Rooms	Service	Value
Hotel Category									
2.Budget	3.90	3.60	12.30	7.80	16.10	15.60	17.90	14.40	8.40
3.Midscale	4.30	4.00	11.00	8.80	16.00	15.70	17.40	15.30	7.40
4.Premium	6.30	5.20	8.70	6.10	15.20	17.10	18.10	16.30	7.00
5.Luxury	7.70	4.40	4.40	7.70	13.20	19.70	17.90	19.00	5.90

	Building	Checkin	Cleanliness	Food	Location	Other	Rooms	Service	Value
Hotel Brand									
Comfort Inn (Budget)	2.90	3.10	11.70	11.50	16.00	15.00	17.10	15.10	7.70
other Brands (Budget)	4.90	4.00	12.90	4.40	16.30	16.20	18.50	13.80	9.00
Best Western (Midscale)	3.80	3.60	11.10	8.80	15.70	16.30	17.90	16.00	6.80
Club Quarters (Midscale)	6.40	5.60	10.80	4.30	16.50	15.40	18.70	13.30	8.90
Hampton Inn (Midscale)	3.70	3.90	10.90	13.00	15.40	15.10	16.10	15.10	6.80
Hilton Garden Inn (Midscale)	3.60	4.10	11.30	7.00	17.20	16.50	16.60	16.70	6.90
Holiday Inn (Midscale)	4.20	4.00	11.80	8.80	15.70	15.00	17.40	14.90	8.10
other Brands (Midscale)	5.20	3.60	9.80	6.90	16.10	16.60	19.10	15.40	7.40
Club Quarters (Premium)	9.60	4.10	11.00	6.30	14.50	15.50	18.30	12.30	8.50
DoubleTree by Hilton (Premium)	5.50	5.70	10.00	6.30	15.20	16.30	18.10	15.60	7.40
Hilton (Premium)	5.90	5.10	9.10	6.20	15.40	17.20	17.90	15.80	7.50
Marriott (Premium)	6.50	5.20	7.70	6.40	16.00	16.80	17.90	15.80	7.70
W (Premium)	7.70	6.00	6.50	5.70	13.30	18.40	18.60	18.50	5.40
other Brands (Premium)	5.60	4.50	9.30	5.90	16.00	17.40	18.00	16.90	6.40
Gansevoort (Luxury)	10.30	4.80	5.40	5.50	12.30	20.20	17.50	18.90	5.00
Ritz-Carlton (Luxury)	6.20	4.10	4.90	8.90	14.10	18.80	16.50	19.70	6.80
Trump (Luxury)	6.40	4.30	3.80	7.00	14.10	19.90	19.60	19.70	5.10
other Brands (Luxury)	7.70	4.40	4.00	8.50	12.80	19.80	18.10	18.50	6.20

