Calculating Christmas

Group 3: Sina Ghadiri | Michell Li | Sahithi Tupuri | Joseph LaMagna | Sujaya Darke | Paul Sommerdorf

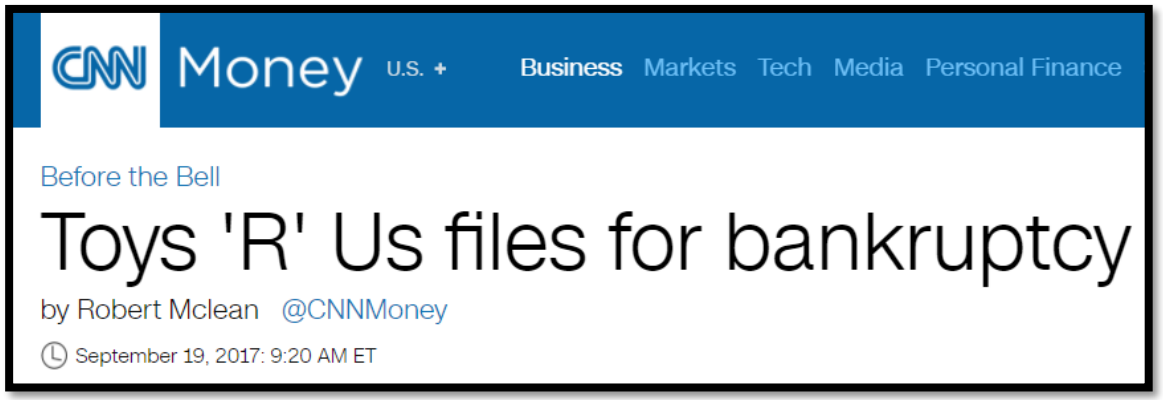
Overview

1. Problem Statement
2. Process Explanation
3. Insights Gathered
4. Recommendations for Toys ‘R’ Us
5. Conclusion

Problem — Process — Insights — Recommendations — Conclusion

Problem Overview

The Situation



Toys ‘R’ Us has been struggling for over a decade

Increasing competition from giants such as Walmart and Amazon

How can Toys ‘R’ Us use **social media analytics** to increase profitability?

The Solution

Optimize the toys currently in stores

- Cross reference our predictions with what Toys ‘R’ Us is currently advertising
- Stock up on the successful toys

Create a model to predict toy success

- Toy success can be difficult to predict
- Use this model to make smarter inventory decisions

Advertising more effectively

- Understand which toy will be the ‘hot’ toy of the season
- Advertise this toy so people will associate Toys ‘R’ Us with it

Process Explanation

Our Process In A Nutshell

Twitter
- Scraping Tweets
- Determining ‘Top 6’ Toys
- Determining ‘Top 5’ Attributes

Amazon
- Creating A Scraper
- Scraping reviews

Analysis
- Multi Dimensional Scaling
- Lift
- Sentiment

Actionable Recommendations

Twitter

Scraped ~50,000k tweets using keywords “Christmas”, “Toy”, & “Kid”

Toy	# of Tweets
POP! Dancing Groot Bobble Action Figure	892
Nintendo Switch	668
2017 Barbie	658
Batman Lego Set	453
Fingerlings	378
Hatchimals	352

Top Attributes	# of Mentions	Find + Replace
Action	7815	Drive, Car, Gun, Truck
New	7684	New, 2017
Brand	6433	Marvel, Disney, Hasbro, etc.
Figure	4212	Doll, Figure
Set	3444	Set, Bundle

Amazon

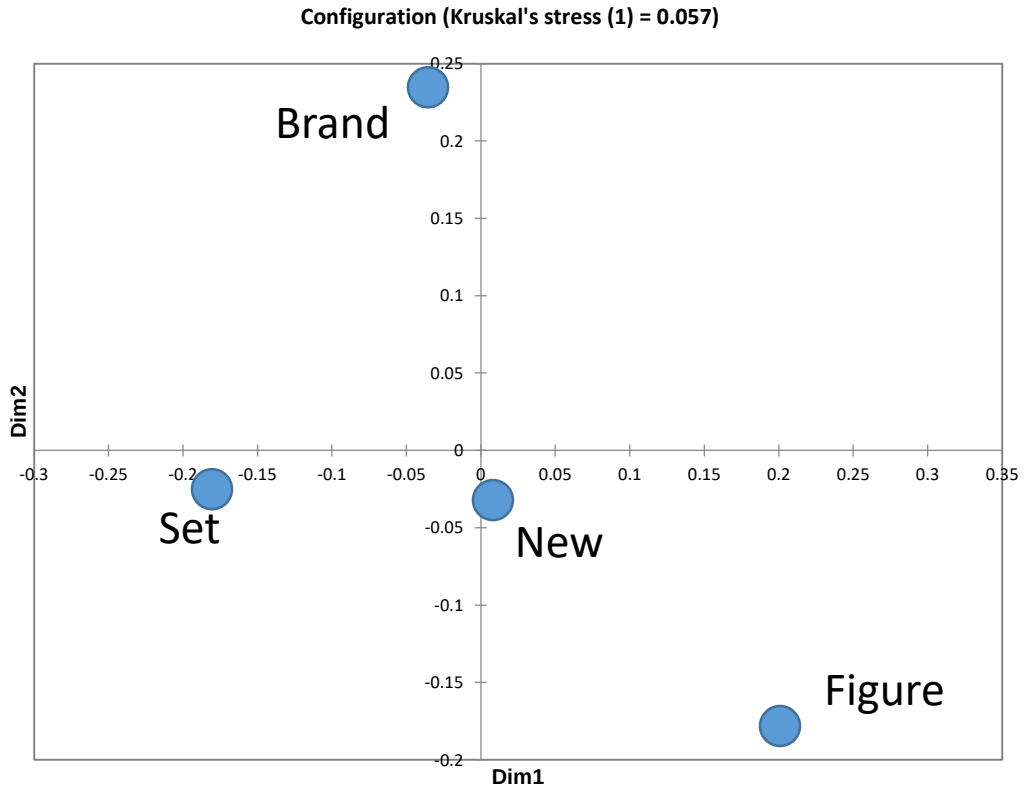
Created an Amazon scraper

Gathered 150 reviews on each product

Find + Replace to clean the data

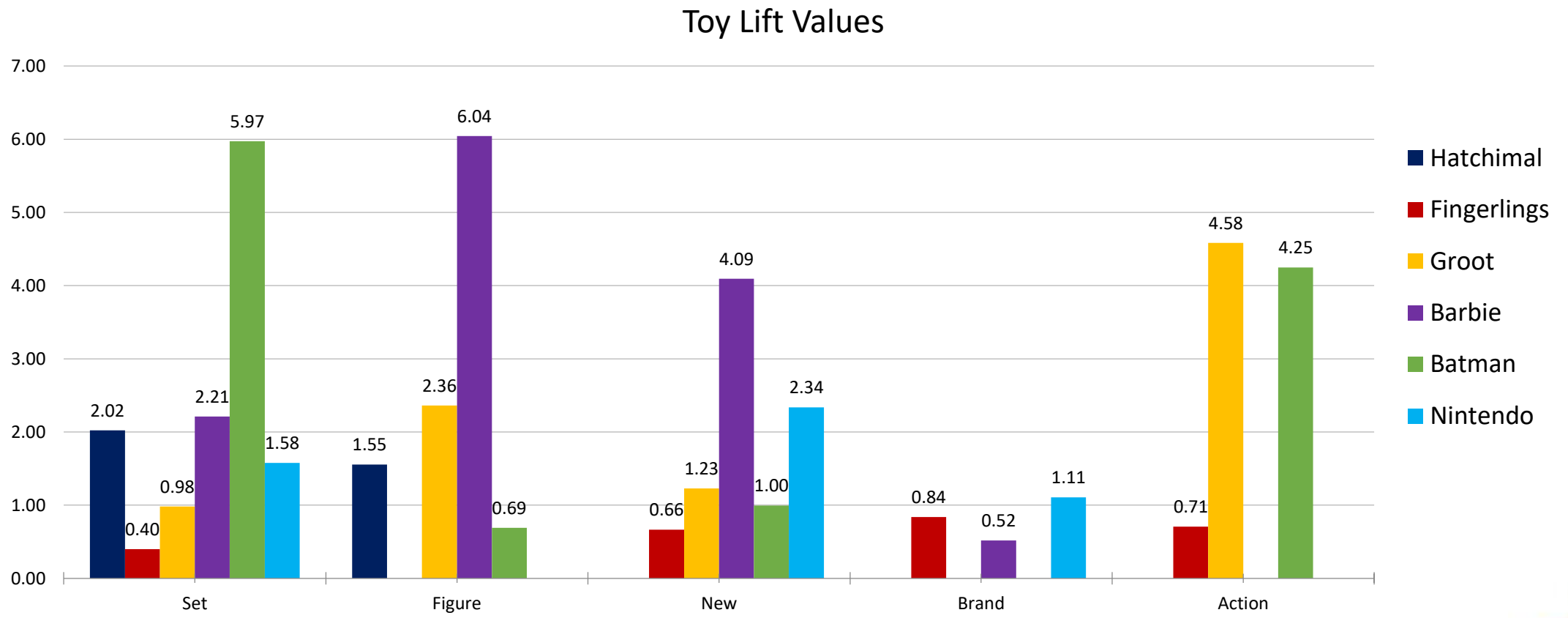
Insights

Multi Dimensional Scaling (Attributes)



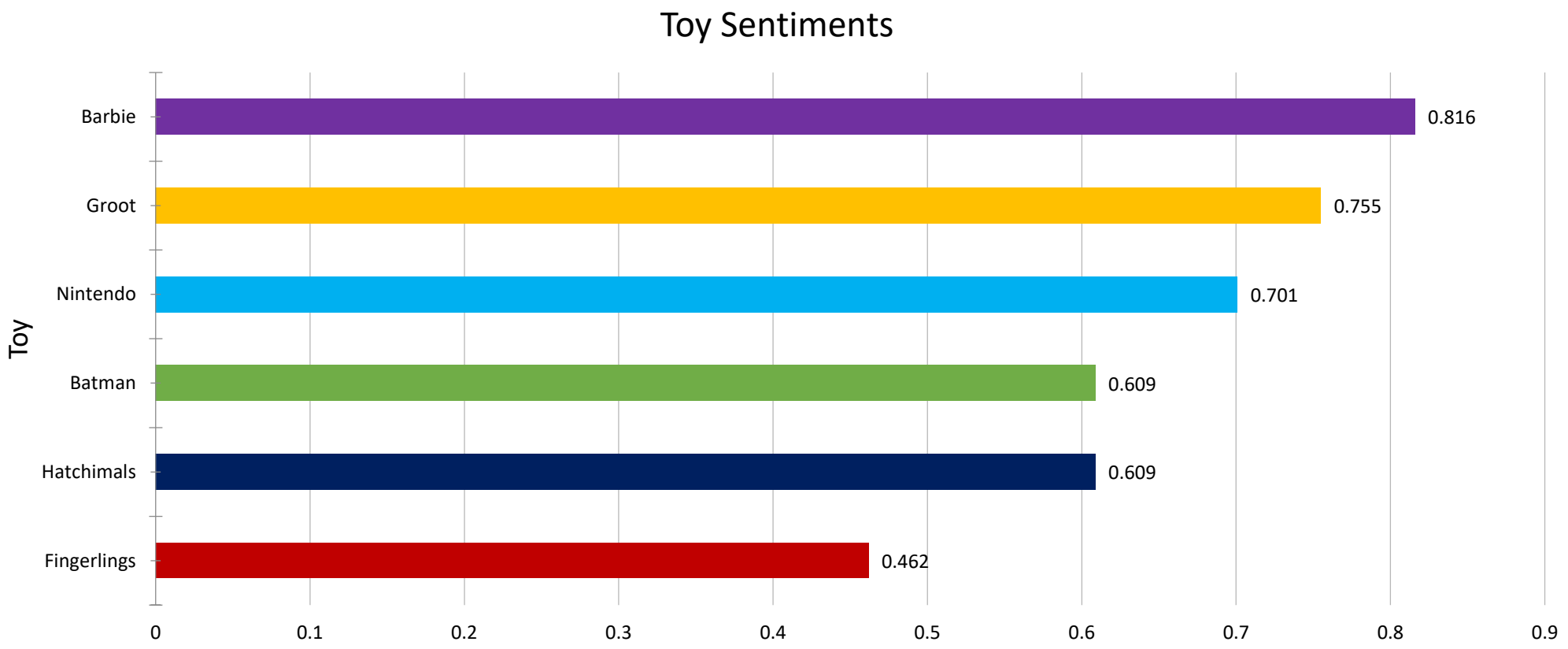
Each of the attributes have **little to no relation** to one another

Lift Analysis



Problem Process Insights Recommendations Conclusion

Sentiment Analysis



Recommendations

Toy Evaluation Model

Top Attributes	# of Mentions	Find + Replace
Action	**7815**	Drive, Car, Gun, Truck
New	**7684**	New, 2017
Brand	**6433**	Marvel, Disney, Hasbro, etc.
Figure	**4212**	Doll, Figure
Set	**3444**	Set, Bundle

Toy Evaluation Model			
Criteria	**Weight**	**Score (1-10)**	**Weighted Score**
Action	**7.8**	Lift Value	(Weight)*(Lift Value)
New	**7.6**	Lift Value	(Weight)*(Lift Value)
Brand	**6.4**	Lift Value	(Weight)*(Lift Value)
Figure	**4.2**	Lift Value	(Weight)*(Lift Value)
Set	**3.4**	Lift Value	(Weight)*(Lift Value)

Total	Sum of all Weighted Scores

Toy Evaluation Model

Groot Evaluation Model			
CRITERIA	Weight	Score (1-10)	Weighted Score
Action	7.80	4.58	35.75
New	7.60	1.23	9.33
Brand	6.40	0.00	0.00
Figure	4.20	2.36	9.92
Set	3.40	0.98	3.34

Total	58.34

Nintendo Evaluation Model			
CRITERIA	Weight	Score (1-10)	Weighted Score
Action	7.80	0.00	0.00
New	7.60	2.34	17.75
Brand	6.40	1.11	7.08
Figure	4.20	0.00	0.00
Set	3.40	1.58	5.36

Total	30.19

Barbie Evaluation Model			
CRITERIA	Weight	Score (1-10)	Weighted Score
Action	7.80	0.00	0.00
New	7.60	4.09	31.10
Brand	6.40	0.52	3.31
Figure	4.20	6.04	25.39
Set	3.40	2.21	7.51

Total	67.31

Toy Evaluation Model

Batman Evaluation Model			
CRITERIA	Weight	Score (1-10)	Weighted Score
Action	7.80	4.25	33.12
New	7.60	1.00	7.56
Brand	6.40	0.00	0.00
Figure	4.20	0.69	2.89
Set	3.40	5.97	20.30

Total	63.88

Fingerlings Evaluation Model			
CRITERIA	Weight	Score (1-10)	Weighted Score
Action	7.80	0.71	5.52
New	7.60	0.66	5.04
Brand	6.40	0.84	5.36
Figure	4.20	0.00	0.00
Set	3.40	0.40	1.35

Total	17.28

Hatchimal Evaluation Model			
CRITERIA	Weight	Score (1-10)	Weighted Score
Action	7.80	0.00	0.00
New	7.60	0.00	0.00
Brand	6.40	0.00	0.00
Figure	4.20	1.55	6.53
Set	3.40	2.02	6.87

Total	13.40

Toy Evaluation Model

Groot | **58.34**

Nintendo | **30.19**

2017 Barbie | **67.31**

Lego Batman | **63.88**

Fingerlings | **17.28**

Hatchimals | **13.40**

Group 3

Problem | Process | Insights | Recommendations | Conclusion

Optimizing Inventory

Geoffrey's Top 20!

Optimizing Inventory

Toy	On Toys 'R' Us List?	Sentiment	Evaluation	Recommendation
Nintendo Switch	Yes	.701	30.19	Hold
Fingerlings	Yes	.462	17.28	Reduce Stock
Hatchimals	Yes	.609	13.40	Reduce Stock
Lego Batman	No	.609	63.88	Increase Stock
2017 Barbie	No	.816	67.31	Increase Stock
POP! Dancing Groot Bobble Action Figure	No	.755	58.34	Increase Stock

Advertising More Effectively

1. Highest Toy Evaluation Score

- 67.31 --- (Mean is 41.70)

2. Highest Sentiment Score

- .816 --- (Mean is .659)

Goal: Have Barbie and Toys ‘R’ Us become synonymous

Conclusion

Happy Holidays From Group 3!