- Case Background

EarlyRiders, our client, had a recent management change and realized that their product set was underperforming. They currently offer two products and one in particular was not doing well. The management team decided after much deliberation to revitalize their product portfolio based on the opinions of potential end-users.

For this purpose, we ran a conjoint analysis based on 200 individuals, these individuals are made up of parents of 2-4 year old kids who planned to purchase a toy horse. And we were in charge of analyzing the data and creating a presentation to give to the management team of EarlyRiders.

- Analytics Design

Decision: Which product line based on long term profitability

Decision criteria:
--- Expect profit (Completely New or Adjust Current) v.s. Current product line (Expected)
--- Clustering Output (Segmentations)
--- Market share simulation
--- Scenario, Possibility of Product Line, Influenced by clustering

- Attributes we have

From Survey: Gender, Age
From Products: Size, Motion, Style, Price

- Priori Segment by “age”

summary (lm(ratings~price*age+size*age+motion*age+style*age, data=prioridf))

```
Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  39.5462     0.8917  44.350  < 2e-16 ***
price        14.4133     0.7975  18.072  < 2e-16 ***
age          -1.2982     1.2548  -1.035 0.300928
size          3.8532     0.7975   4.831 1.42e-06 ***
motion        2.7950     0.7975   3.504 0.000464 ***
style         1.1867     0.7975   1.488 0.136877
price:age     1.2588     1.1223   1.122 0.262095
age:size      4.1708     1.1223   3.716 0.000206 ***
age:motion   -3.1188     1.1223  -2.779 0.005486 **
age:style    -0.0857     1.1223  -0.076 0.939140
```

3-4 years old, part utilities		Baseline	Intuition
Prize: Age	beta = 1.2588, for the big kids, they are more significant to low price	price = 0, $139.99 price = 1, $119.99 age = 0, 2 years old age = 1, 3-4 years old	A little bit more price sensitive
Age: Size	beta = 4.1708 for the big kids, they are more significant to bigger size	age = 0, 2 years old age = 1, 3-4 years old size = 0, 18 inches size = 1, 26 inches	Prefer larger size
Age: Motion	beta = -3.1188 for the bigger kids, they are less significant to rocking	age = 0, 2 years old age = 1, 3-4 years old motion = 0, Bouncing motion = 1, Rocking	Bouncing
Age: Style	beta = -0.0857 for the bigger kids, they are indifference about the style	age = 0, 2 years old age = 1, 3-4 years old Style = 0, Racing Style = 1, Glamour	Indifference

- Priori Segment by 'gender'

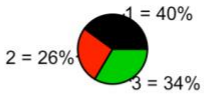
summary(lm(ratings~price*gender+size*gender+motion*gender+style*gender,data=prioridf))

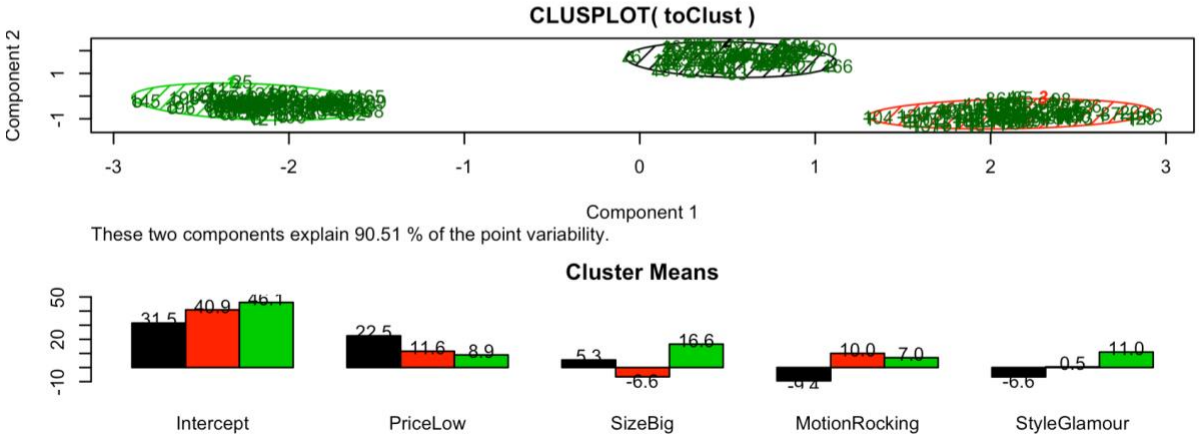
```
Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)    36.5668     0.8801  41.547  < 2e-16 ***
price          16.8573     0.7872  21.414  < 2e-16 ***
gender          4.3032     1.1977   3.593 0.000332 ***
size            3.8509     0.7872   4.892 1.05e-06 ***
motion         -0.7601     0.7872  -0.966 0.334327
style          -1.8895     0.7872  -2.400 0.016440 *
price:gender   -3.3488     1.0713  -3.126 0.001788 **
gender:size     3.9046     1.0713   3.645 0.000272 ***
gender:motion   3.6669     1.0713   3.423 0.000627 ***
gender:style    5.6165     1.0713   5.243 1.68e-07 ***
```

female, part utilities		Baseline	Part Utilities (beta)
Prize: Gender	beta=-3.3488 for the female, they are less sensitive to price	price = 0, $139.99 price = 1, $119.99 female=1 male=0	Less price sensitive than thought
Gender: Size	beta=3.9046 for the female, they like big toy more	female=1 male=0 size = 0, 18 inches size = 1, 26 inches	Bigger
Gender: Motion	beta=3.6669 for the female, they like rocking more	female=1 male=0 motion = 0, Bouncing motion = 1, Rocking	Rocking
Gender: Style	beta=5.6165 for the female, they like glamour more	female=1 male=0 motion = 0, Bouncing motion = 1, Rocking	Glamour

- Post Hoc: Cluster Modeling

3 segments supported by average silhouette
Total within sum of square--visual intuition





Cluster	Proportion	Price	Size	Motion	Style
(1)	40%	Low	/	Bouncing	Racing
(2)	26%	Low	Small	Rocking	/
(3)	34%	Low	Big	/	Glamour

Cluster	Age	Gender	Cluster Name
(1)	2 years old: 38.75% 3-4 years old: 61.25%	Male: 61% Female: 39%	Older Boys
(2)	2 years old: 74% 3-4 years old: 26%	Male: 55% Female: 45%	Younger Children
(3)	2 years old: 44% 3-4 years old: 56%	Male: 21% Female: 79%	Girls

	profile	price	size	motion	style	priceLabel	sizeLabel	motionLabel	styleLabel
1	1	0	0	0	0	139.99	18 inches	Bouncing	Racing
2	2	1	0	0	0	119.99	18 inches	Bouncing	Racing

3	3	0	1	0	0	139.99	26 inches	Bouncing	Racing
4	4	1	1	0	0	119.99	26 inches	Bouncing	Racing
5	5	0	0	1	0	139.99	18 inches	Rocking	Racing
6	6	1	0	1	0	119.99	18 inches	Rocking	Racing
7	7	0	1	1	0	139.99	26 inches	Rocking	Racing
8	8	1	1	1	0	119.99	26 inches	Rocking	Racing
9	9	0	0	0	1	139.99	18 inches	Bouncing	Glamour
10	10	1	0	0	1	119.99	18 inches	Bouncing	Glamour
11	11	0	1	0	1	139.99	26 inches	Bouncing	Glamour
12	12	1	1	0	1	119.99	26 inches	Bouncing	Glamour
13	13	0	0	1	1	139.99	18 inches	Rocking	Glamour
14	14	1	0	1	1	119.99	18 inches	Rocking	Glamour
15	15	0	1	1	1	139.99	26 inches	Rocking	Glamour
16	16	1	1	1	1	119.99	26 inches	Rocking	Glamour

- Products in market now

[5] and [13] are provided by EarlyRiders

[7] is provided by our competitors

- Products according to the segmentation

Cluster(1): 40% price sensitive / ? / Bouncing / Racing → Older Boys
Product [02]: 18' Racing Bouncing
Product [04]: 26' Racing Bouncing

Cluster(2): 26% price sensitive / small / rocking / ? → Younger Children
Product [14]: 18' Rocking Glamorous
Product [16]: 18' Rocking Racing

Cluster(3):34% price sensitive/ big / ? / glamorous → Girls
Product [16]: 26' Rocking Glamorous
Product [12]: 26' Rocking Bouncing

- Longterm profit

-steady product line
-changing with response to competitors
-change proce
-shrink/expand product line

##Price Match Guarantee##