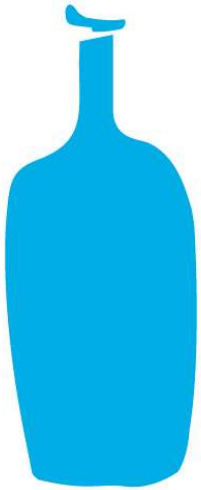


BLUE BOTTLE COFFEE

Optimal Market Positioning for Blue Bottle

YONGJU KIM
JEONG WHAN LEE

TABLE OF CONTENTS

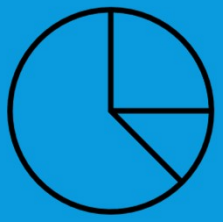
INTRODUCTION

BLUE BOTTLE - LAUNCH IN KOREA

#3 biggest market for cafés

- ₩ 3.9 T ($3.2 B) in 2017

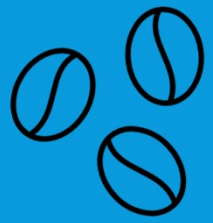
1st store in 2019 (Seoul)



Oligopoly: 6 players control 90%

BACKGROUND DATA

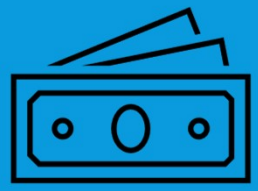
CRITERIA:
HOW KOREANS CHOOSE COFFEE



Taste (65.2%)

- Brand Difference (66.3%)

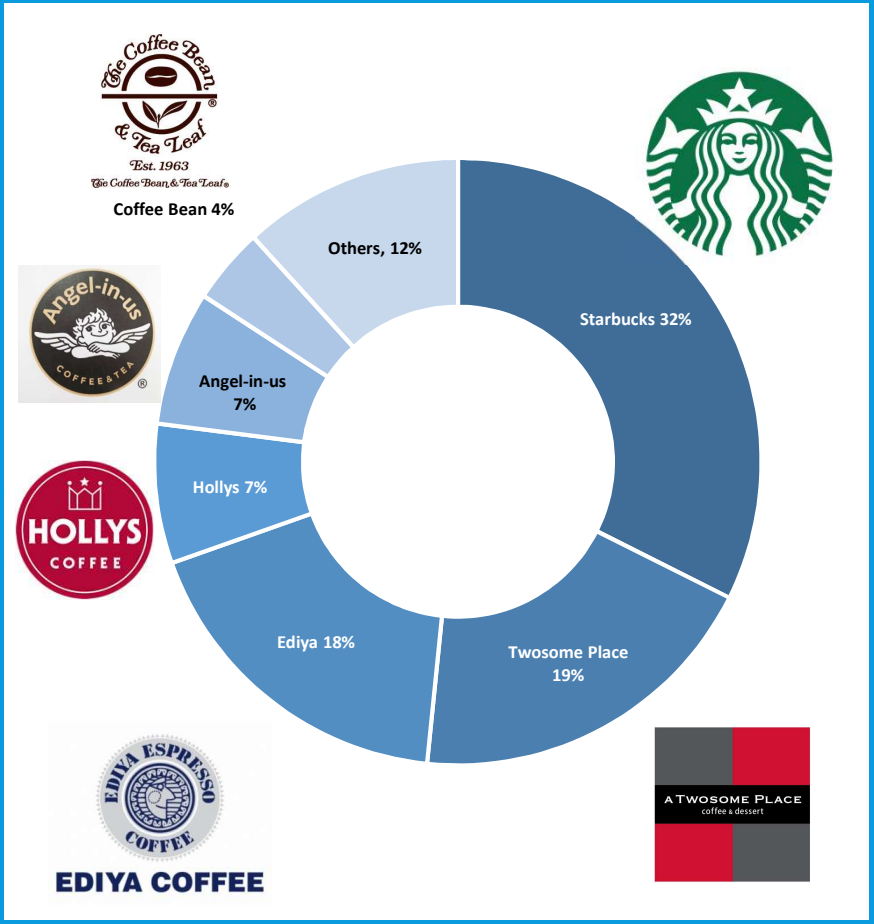
Distance (51.2%)



Price (48.8%)

Habitual Consumption
50+% consumers drink out of habit

PLAYERS



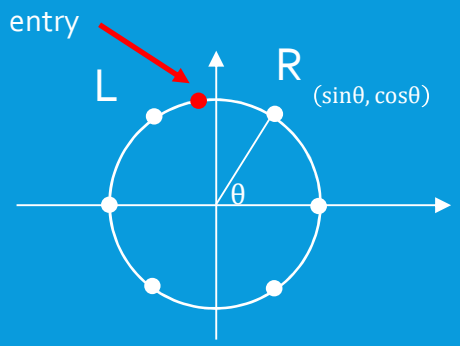
- Oligopolistic Market
  - Top 6 players dominate ≈ 90%
  - 30+ franchise stores
  - 90k+ cafes in Korea
- Recognition & Pricing

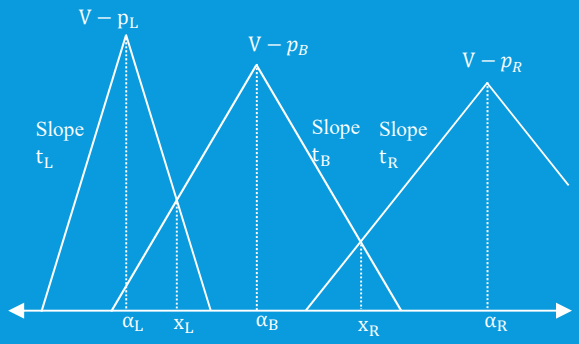
Brand	Price (KRW)	Brand reputation score (2019)
Starbucks	4,100	3,228,049
Twosome Place	4,100	792,145
Ediya	3,200	636,330
Hollys	4,100	334,763
Angel-in-us	4,800	228,564
Coffee Bean	4,800	474,797
Average	4,183	949,108
Median	4,100	555,564

* Price for a Tall/Small Americano

MODEL ANALYSIS

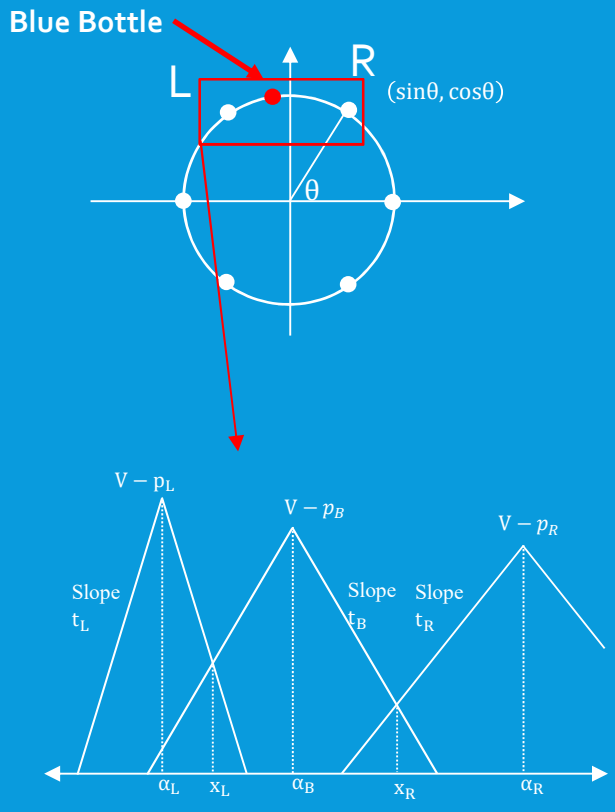
ASSUMPTIONS – SALOP'S CIRCLE





- Polar Coordinates
  - Distance: $\frac{|x_1 - x_2|}{2\pi} \times 2\pi = |x_1 - x_2| \;\; \forall x_1, x_2 \in [0, 2\pi)$
  - Each firm is equidistant before Blue Bottle enters
    - Distance = $\frac{\pi}{3}$ on the circumference
- Utility
  - Assume constant utility value *V* ("habitual consumption")
  - Net Utility = *V* – price – travel cost
- Consumers
  - *V* is large enough s.t every consumer has unit demand
  - Pays lower travel cost for higher recognized brands

SOLVING THE MODEL - VARIABLES



- L – firm Left, B – Blue Bottle, R – firm Right
- Locations (α_L, α_B, α_R)
  - $0 = \alpha_L < \alpha_B < \alpha_R = \frac{\pi}{3}$ (equidistant circle)
- Travel Costs (t_L, t_B, t_R)
  - $t = -\frac{1}{\sqrt{r}}$
- Prices (p_L, p_B, p_R)
- Production Costs = 0
- Brand Reputation "r"
  - Brand reputation score / 100,000
  - Assume Blue Bottle r = 0.1 (lowest)

MATHEMATICAL OPTIMUM

- Indifferent consumers: $(x_L, x_R) = \left(\frac{t_B\alpha_B + t_L\alpha_L - p_L + p_B}{t_B + t_L}, \frac{t_B\alpha_B + t_R\alpha_R + p_R - p_B}{t_B + t_R}\right)$
- Optimal price: $p^* = \frac{\frac{t_B\alpha_B + t_L\alpha_L - p_L}{t_B + t_L} - \frac{t_B\alpha_B + t_R\alpha_R + p_R}{t_B + t_R}}{-2\left(\frac{1}{t_B + t_R} + \frac{1}{t_B + t_L}\right)}$
- FOC [α]: $\frac{\partial p^*}{\partial \alpha_B} = \frac{\left(\frac{1}{t_B + t_L} - \frac{1}{t_B + t_R}\right) t_B}{-2\left(\frac{1}{t_B + t_R} + \frac{1}{t_B + t_L}\right)}$

$$\frac{t_L\alpha_L - p_L}{t_B + t_L} - \frac{t_R\alpha_R + p_R}{t_B + t_R} = \gamma$$

- Optimal location: $\alpha^* = \gamma\left(\frac{\partial p^*}{\partial \alpha_B} + \frac{\left(\frac{1}{t_B + t_R} - \frac{1}{t_B + t_L}\right) t_B}{2\left(\frac{1}{t_B + t_R} + \frac{1}{t_B + t_L}\right)}\right)\left(\left(\frac{1}{t_B + t_R} - \frac{1}{t_B + t_L}\right)\frac{\partial p^*}{\partial \alpha_B} t_B\right)^{-1}$
- Profit of Blue Bottle at optimum: $\pi_B = (x_R - x_L)p^*$

RESULTS

RESULTS

Firm L	Firm R	π_B^* (profit)	p^* (price)	α^* (location)
Starbucks	Ediya	6.8333	2.1443	0.2401
Starbucks	Angel-in-us	9.6674	2.6490	0.7357
Twosome Place	Coffee Bean	9.0191	2.5845	0.8168
Angel-in-us	Coffee Bean	10.3564	2.9121	0.2061

- Construct 15 possible pairs of existing firms
- Used Python to supplement our calculations

CONCLUSION

CONCLUSION

- Model explains the intuition of market positioning
  - Competing w/ lower branded, higher priced firms is easier

- Limitations
  - Difficulty of client of maintaining low prices
  - Brand identity
  - Costs
  - Multi-period competition

Q&A