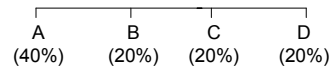


## Session 8: Competitive Market Structure (Market Definition)

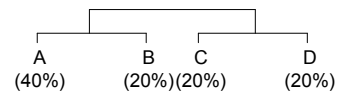


### How to Define the Market Structure?

#### Case I: No market structure



#### Case II: Market structure (2 submarkets)

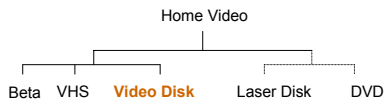


- If A is not available, what will happen?

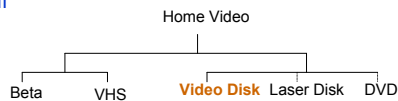


### Example: RCA Video Disk

#### Case I

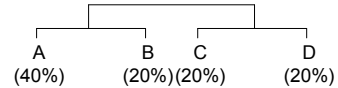


#### Case II



### How to Define the Market Structure? (cont'd)

- A market is defined by a series of **submarkets**, if, when a product is deleted from a submarket, its former consumers are more likely to buy again in that submarket than would be predicted by market share.



When A is unavailable, M/S of B will be increased more than  $13.3\% = 40 \times 20\%$  (20+20+20).

If there is no market structure, M/S of A will go to B, C, and D equally.



### Why is Market Structure important?

- Market definition
  - Which market will I enter?
  - Who are my direct competitors?
- Market structure information or decision will determine the entrepreneur's competitive marketing strategies.



### How to Define the Market Structure? (cont'd)

- Two approaches
  - Firm-oriented
  - Customer-oriented
    - Urban, Johnson, and Hauser (1984), "Testing Competitive Market Structures," *Marketing Science*, Vol. 3, No. 2, 83-112.
- Question
 

*What are the problems of firm-oriented definition on market structure?*



## Customer-Oriented Market Structure Analysis

## We Want to Know..

Which of the following is correct



To make an inference on this, we need to examine the changes in market shares of products in a submarket when one of these product is deleted.

Under two conditions,

1. Under no market structure assumption
2. Under an assumed market structure

## Data: Switching Matrix

- Forced switching
  - First observe the product a customer most prefers
  - Place him/her in a choice situation in which his/her preferred product has been removed from the choice set
  - Then, observe the product a customer most prefer among remaining products
- Preference rank
  - Ask customers to rank order the products in terms of their preference
  - Then, identify their first and second ranked products

## Example: Case II

Two submarkets: [Beta,VHS], [VD,LD,DVD]

	$P'_i(s)$	$P_i(s)$	Z
Beta	0.55 =11/20	0.36 =(0.3)/(1-0.2)	1.62
VHS	0.53 =16/30	0.29 =(0.2)/(1-0.3)	3.00
VD	0.8 =(10+6)/20	0.38 =(0.15+0.15)/(1-0.2)	3.92
LD	0.67 =(4+6)/15	0.41 =(0.2+0.15)/(1-0.15)	2.01
DVD	0.67 =(3+7)/15	0.41 =(0.2+0.15)/(1-0.15)	2.01

$P'_i(s)$ : observed switching prob. in a submarket under the assumed market structure =  $\sum_{j \neq i} N(i,j) / N_i$  where  $i,j \in s$

$P_i(s)$ : switching prob. in a submarket under no market structure assumption =  $\sum_{j \neq i} MS_j / (1-MS_i)$  where  $i,j \in s$

$Z = (P'_i(s) - P_i(s)) / \sqrt{(P_i(s) \times (1 - P_i(s)) / N_i)}$

## Hypothetical Switching Matrix

	2 <sup>nd</sup>	No. of Respondents (N <sub>i</sub> )	Beta	VHS	VD	LD	DVD
Beta	1 <sup>st</sup>	20		11	3	4	2
VHS		30	16		4	5	5
VD		20	1	3		10	6
LD		15	2	3	4		6
DVD		15	3	2	3	7	

## Example: Case II (cont'd)

- Then, compute aggregate statistics.
  - $P'$  = Total switching prob. in submarkets under assumed market structure  
=  $\sum_{i \in s} \sum_{j \neq i} N(i,j) / N$
  - $P$  = Total switching prob. in submarkets under no market structure assumption  
=  $\sum_{i \in s} P_i(s) \times N_i$
  - $Z = (P' - P) / \sqrt{(P \times (1 - P) / N)}$
- In case II,
  - $P' = (11 + 16 + 10 + 6 + 4 + 6 + 3 + 7) / 100 = 0.63$
  - $P = (0.36 \times 20 + 0.29 \times 30 + 0.38 \times 20 + 0.41 \times 15 + 0.41 \times 15) / 100 = 0.36$
  - $Z = (0.63 - 0.36) / \sqrt{(0.36 \times (1 - 0.36) / 100)} = 5.64$

## Then,

- With the same token, for the case I,
  - $P^* = 0.51$
  - $P = 0.47$
  - $Z_{\text{case I}} = 0.71 < Z_{\text{case II}} = 5.64$
- Therefore, the hypothetical switching matrix are in favor of Case II over Case I.



## What is Market Structure?

- The structure of competition among products or substitutes



## Indication of Market Structure (at industry level)

	Monopoly	Monopolistic Competition	Oligopoly	Perfect Competition
Size & number of buyers	Many buyers; small relative to the market	Many buyers; small relative to the market	Many buyers; small relative to the market	Many buyers; small relative to the market
Size & number of sellers	One seller	Many sellers; small relative to the market	A few sellers; some of them are large relative to the market	Many sellers; small relative to the market
Degree of substitutability among products	No close substitutes	Differentiated products	May or may not be close substitutes	Close substitutes
Conditions of entry	Barriers prevent entry	No barriers to entry, firms may be barred from making identical products	Often have barriers that limit (but do not completely prevent) entry	No barriers to entry

