Marketing & Competition in Pricing Strategy

Week 4: Implementing Price Discrimination in Competitive Markets

UNIVERSITY of VIRGINIA
DARDEN SCHOOL OF BUSINESS

What you'll learn about this week…

- Customer segmentation strategies
- The Weber-Fechner Law
- Bundle pricing

By the end of this week you'll be able to…

- Apply segmentation strategies in the market to capture value in both B2B and B2C contexts
- Apply the Weber-Fechner Law to price a product line
- Implement bundle pricing and create economically strong pricing bundles

Implement price discrimination in competitive markets

Customer Segmentation Strategies

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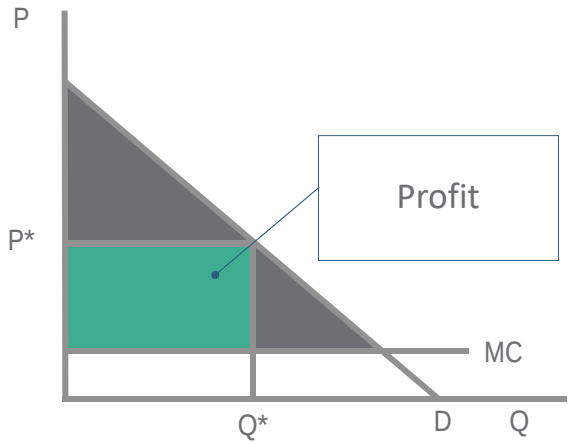
Product Line Pricing

Pricing Segmentation

- Charging different prices to different customers

Perfect Price Segmentation



Tactics for B2C Price Segmentation

What does it take for a business to serve a customer segment?

Identification

- Correlate with willingness to pay
- Adhere to social norms and civil rights laws

Tactics for B2C Price Segmentation

What does it take for a business to serve a customer segment?

Self-selection

- Require consumers to do something time consuming to get a discount

Tactics for B2C Price Segmentation

What does it take for a business to serve a customer segment?

Product Lines/Versioning

- Create different products at different price points
- Communicate quality differences
- Marketing/ops trade off

Tactics for B2C Price Segmentation

What does it take for a business to serve a customer segment?

Dynamic Pricing

- Vary price over time to match willingness to pay

Tactics for B2C Price Segmentation

Identification + Self-selection + Product Lines/Versioning + Dynamic Pricing

Tactics for B2B Price Segmentation

What does it take for a business to serve a business segment?

Product Versioning

Tactics for B2B Price Segmentation

What does it take for a business to serve a business segment?

Pricing to Value

- Size of company
- Economics of need it is fulfilling
- More quantifiable = easier to do

SmartOps®
Describe. Predict. Prescribe.

Tactics for B2B Price Segmentation

What does it take for a business to serve a business segment?

Quantity Discounts

Tactics for B2B Price Segmentation

What does it take for a business to serve a business segment?

Product + Service Bundles

- Watch for legality!

Tactics for B2B Price Segmentation

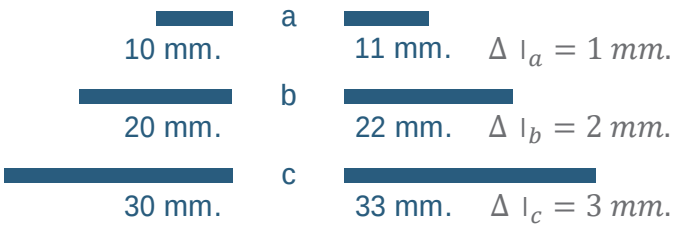
Product Versioning + Pricing to Value + Quantity Discounts + Product + Service Bundles

The Weber-Fechner Law of Pricing

Quality Differentiated Product Lines

- Ernst Weber (1831) formulated Weber's Law
- The increase in a stimulus needed to produce a just-noticeable difference is constant:
  - dR=C*R

Weber-Fechner Law



$$\frac{\Delta I}{I} = \frac{1}{10} = \frac{2}{20} = \frac{3}{30} = 0.10$$

Weber-Fechner and Pricing

Weber-Fechner and Pricing

- Same idea works in the world of pricing

Three Questions

Three Questions

Three Questions

Determining Price Differentials

- Rank products in ascending order of expected prices.
- Determine the low-end price: P_{min}
- Determine the high-end price: P_{max}

Determining Price Differentials

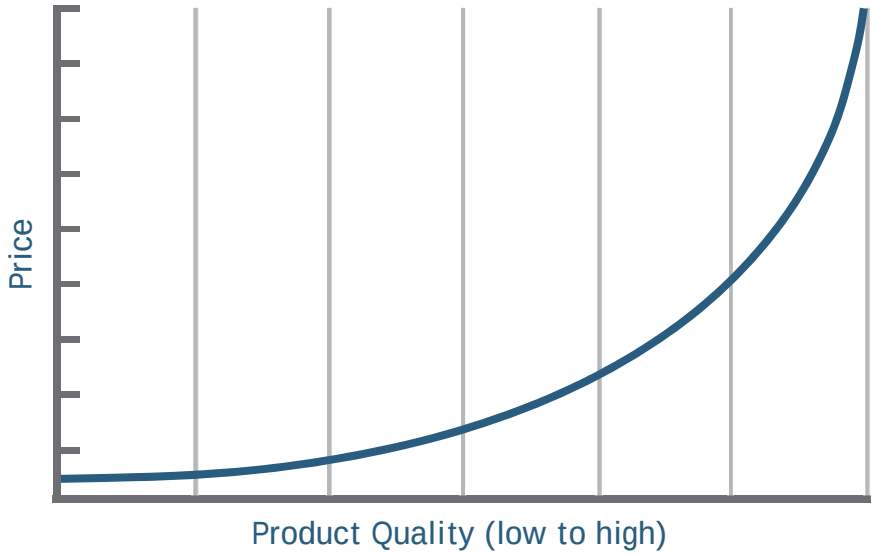
- The price of the j^{th} ordered product is:

$$P_j = P_{min} K_{j-1}, K > 1$$

where K is determined from:

$$\log(K) = \frac{1}{n-1}[\log(P_{max}) - \log(P_{min})]$$

and n is the number of products in the product line



Price Differential Example

- Suppose you have six products in the product line and have set the maximum price to $150 and minimum to $25.
- What should the prices of the other products be?

Price Differential Example

$$\log K = \frac{1}{5}(\log 150 - \log 25)$$

$$\log K = .1556$$

$$K = 10^{.1556}$$

$$K = 1.431$$

Price Differential Example

$K = 1.431$

$P_1 = \$25$

$P_2 = \$25 \times 1.431 = \$35.78$

$P_3 = \$35.78 \times 1.431 = \$51.19$

...

$P_6 = \$150.00$

Another Example

- You are selling refrigerators and you have decided there will be seven in the line. The lowest will be priced at $500 and the most expensive at $5000.
- What are the prices for the intermediate products?

$$\log(K) = \frac{1}{n-1}[\log(P_{max}) - \log(P_{min})]$$

Price Differential Example

$$\log K = \frac{1}{6}(\log 5000 - \log 500)$$

$$\log K = .167$$

$$K = 10^{.167}$$

$$K = 1.468$$

Price Differential Example

$K = 1.468$

$P_1 = \$500.00$

$P_2 = 1.468 \times \$500.00 = \$734.00$

$P_3 = 1.468 \times \$734.00 = \$1{,}077.51$

$P_4 = 1.468 \times \$1{,}077.51 = \$1{,}581.79$

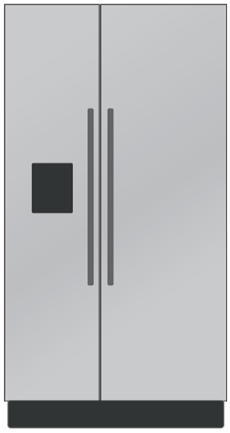
$P_5 = 1.468 \times \$1{,}581.79 = \$2{,}322.06$

$P_6 = 1.468 \times \$2{,}322.06 = \$3{,}408.79$

$P_7 = 1.468 \times \$3{,}408.79 = \$5{,}004.10$

Math Should Not Override your Judgment

- The mathematics suggests the third fridge should be priced at $1077.51
  - Something like $999 or $1099 probably makes more sense



Pricing Your Least Expensive Product

Three Questions

Least Expensive Product

- Serves an important strategic purpose
- Determines whether your brand is going to be part of a consumer's consideration set

Questions you should grapple with

- How easy is it to show upgrades? If so:
  - Lower the bottom price: Giant bicycles
- Will consumers step up to a more expensive item at a later date?
  - Lower price: Ralph Lauren

Questions you should grapple with

- Does the product category require learning?
  - Lower price: Dropbox
- Do you want to exclude some people from buying your product?
  - Higher price: Tiffany

Pricing Your Most Expensive Product

Three Questions

Most Expensive Product

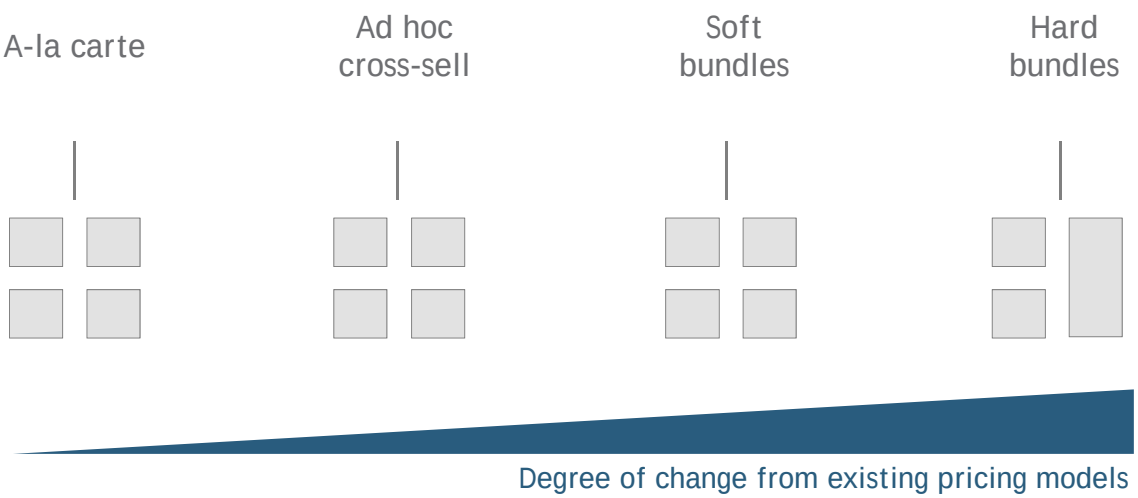
- Anchors product positioning
  - Ralph Lauren: $2000 suits; sell $85 polos
- Setting a very high top price often makes a lot of sense, except:
  - Has to pass the "customer laughability" test
    - *KIA cannot make a $110,000 sports car.*
  - Retailers may need subsidy to carry it because it never sells.

Final Thoughts

- Product line pricing is a matter of:
  - product strategy
  - psychometrics (mathematics)
  - managerial judgment about the reaction of channel members
- It is a powerful tool for capturing customer value.

Bundle Pricing

Different ways of creating bundles



Bundle Pricing

- A method for increasing profits by creatively pricing the groups of products people are able to buy
- Bundle pricing relies on the fact that constructed bundles cannot be "unbundled."
  - If you want the leather seats, you have to get the navigation system.

Bundle Pricing

	Product A	Product B	A & B
Customer 1	$11	$2	$13
Customer 2	$5	$8	$13
Customer 3	$11	$7	$18
Customer 4	$3	$2	$5

- Suppose each item costs $1 to produce
- Price A = $11 and B = $7 implies profit of

$$(2 \times \$11) + (2 \times \$7) - \$4 = \$32$$

- Bundle price of $13 implies profit of $(3 \times \$13) - \$6 = \$33$

Selecting Bundling Partners

- High value items should be paired with low value items.
  - ESPN with Current TV
- The product should be difficult to unbundle.
- Avoid completely valueless items as there can be an adverse psychological effect.

Key Takeaways

- Bundle pricing can increase profits.
- Select bundle partners carefully.

Bundle Pricing: Application

(Thomas)

What bundle would you recommend?

Exercise

You are working for a Software company to help define a product bundle. Which product would you bundle with your base offer?

	Base offer	Product A	Product B	Product C	Product D
Price point ($)	1000	600	200	850	900
Margin (%)	40	35	45	55	65
Market Penetration (%)	45	15	23	18	41

3 rules of thumb to create economically sound bundles

Bundled product should have …

1. … high margin relative to base offer
2. … low penetration
3. … similar price point relative to base offer

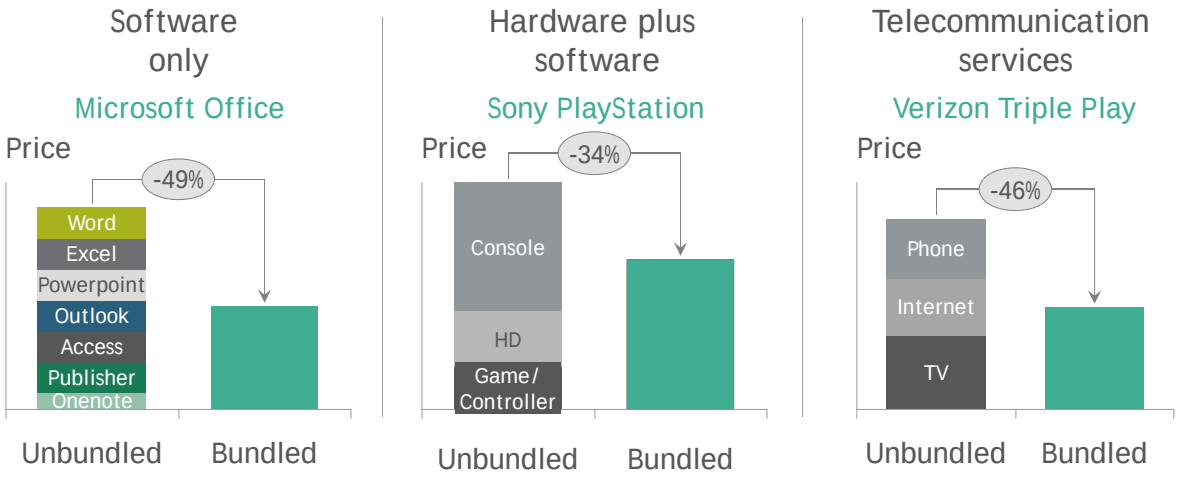
What bundle would you recommend?

Answer

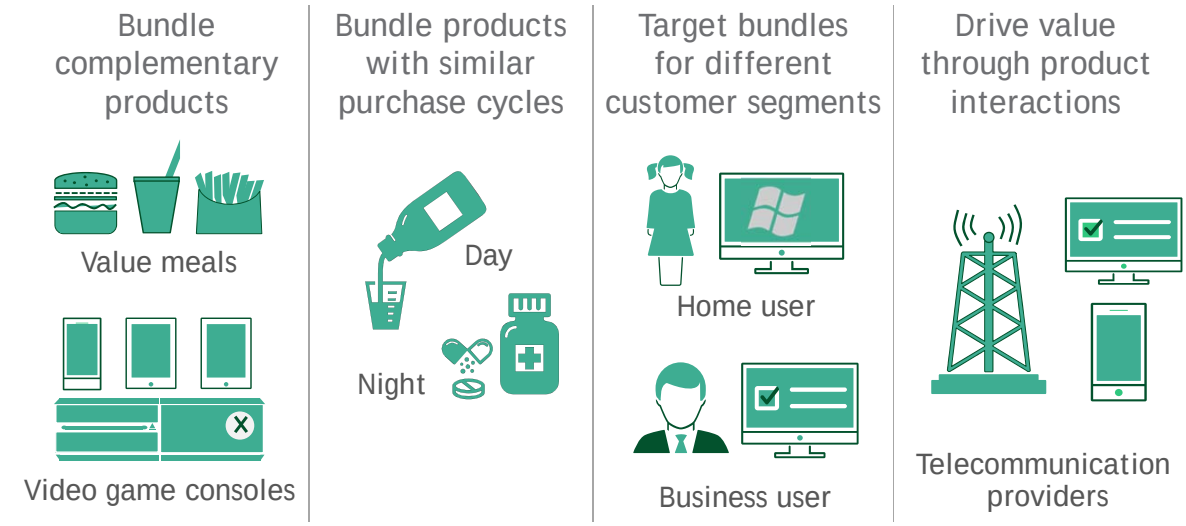
	Base offer	Product A	Product B	Product C	Product D
Price point ($)	1000	600	200	850	900
Margin (%)	40	35	45	55	65
Market Penetration (%)	45	15	23	18	41

How big are bundling discounts?

Actual examples from the Tech-Industry

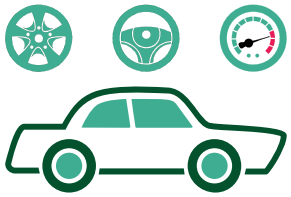


Bundles provide value to the customer



Bundles create value for vendors

Drive towards specific objectives—increase volume, increase price realization or reduce costs

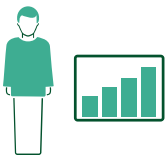


Bundle products and after-sales services to maximize customer lifetime value

Build switching costs into the bundle

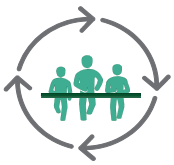
Bundling pricing—final tips

Provide value to the customer



Create value for the vendor

Ensure healthy bundle economics



Bundle to compete

Tailor the bundle for your situation

Week 4 Conclusion

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Now you're able to…

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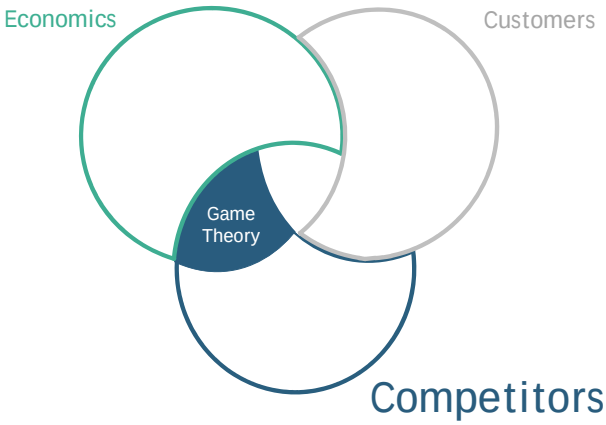
Implement price discrimination in competitive markets

Three Lenses of Pricing



Competitors
Market & Competition in Pricing Strategy

Now you're able to…

- Apply knowledge of markets and competition to price products
- Utilize game theory to influence market pricing
- Leverage competitor pricing models and knowledge of the product life cycle to price products
- Apply strategies for price discrimination in competitive markets

Maximize margins in competitive markets