Product Fit Uncertainty and Information Provision in a Distribution Channel

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Research Questions

• When does a manufacturer disclose product match information?
  – How does quality reputation of the product matter?
  – Does it matter whether she is selling direct or through a retailer?
  – What happens to disclosure when there is downstream competition and when the competition gets more intense?

• Do the retailers like the manufacturer’s disclosure strategy?

• How would online WOM or mandatory disclosure affect the manufacturer and the retailers?
Product & Store Differentiation

• Consumer utility:

\[ u = v - p - t d_x - d_y \]

- \( d_y \) is the consumer’s mismatch with the product in the taste space, \( d_x \) is his transportation cost to shop with the seller

• Consumers are uniformly distributed in the unit square
  - Two stores located at \( x = 0 \) and \( x = 1 \)
  - Two product types \( y = 0 \) and \( y = 1 \)
BENCHMARK. A manufacturer selling directly to consumers chooses to provide product-fit information iff $v < v^D(t)$, where $v^D(t) = (i) \ 2 + \frac{t}{4} - \sqrt{2 - t}$ for $0 \leq t < \frac{2}{9}$, and (ii) $\frac{1}{2} + \frac{t}{4} + \frac{\sqrt{2t}}{4}$ for $\frac{2}{9} \leq t \leq 1$. 
Proposition 1. A manufacturer selling through a monopolistic retailer is less likely to enable the disclosure of product fit information than a manufacturer selling directly to consumers.

The intuition is as follows. When the manufacturer sells through a monopolistic retailer, double marginalization leads to a positive markup for the retailer, which reduces the total channel profit and shifts some of the channel profit to the retailer. The manufacturer can then limit its loses using nondisclosure strategy that increases homogeneity in consumer willingness to pay, making the demand more elastic, and thus reducing retailer markup.
Proposition 2. If a manufacturer sells through a monopolistic retailer, then the retailer benefits from the disclosure of product fit information (i) for products of all quality if $t \in (0,0.0408)$, and (ii) if $t \in [0.0408,1]$, then for products of either sufficiently low or sufficiently high quality, and not for products of intermediate quality.

- Intuition: when product quality is sufficiently low or sufficiently high, nondisclosure hurts the retailer since it leads to a small demand increase and a large margin decrease. When product quality is intermediate, nondisclosure benefits the retailer since it leads to a large demand increase and a small margin decrease.
Figure 5  Product Fit Disclosure in a Channel with a Monopolistic Retailer [Color figure can be viewed at wileyonlinelibrary.com]
Figure 6  Product Fit Disclosure in a Channel with Competing Retailers
[Color figure can be viewed at wileyonlinelibrary.com]
Figure 7  Channel Disclosure with a Monopolistic Retailer when Manufacturer Commits to a Wholesale Price Before Disclosure Decisions [Color figure can be viewed at wileyonlinelibrary.com]
Figure 8  Channel Disclosure with Competing Retailers when Manufacturer Commits to Wholesale Prices Before Disclosure Decisions [Color figure can be viewed at wileyonlinelibrary.com]
Conclusions

• M discloses product match info. when quality is low
• Adding a retailer reduces M’s disclosure
• R discloses product match when quality is very high or very low
• If M can commit to a wholesale price before disclosure decisions, R does not disclose product match when quality is high
• Total disclosure increases (decreases) with retail competition if wholesale price is set after (before) disclosure decisions
Thank you!