The Fateful
First Consumer Review

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Executive Summary

Key Findings: The power of the very first consumer review
A negative first review leads to
- *Long-lasting* disadvantage in future WOM valence
- *Increasing* disadvantage in future WOM volume

Mechanism: Information-availability bias of WOM
- Negative review ➔ Lower sales ➔ Less reviews ➔ Less information about the product
- This bias can squelch a product’s opportunity to generate voluminous and unbiased info via WOM.

Managerial prescriptions:
- Be vigilant when your product’s first review is posted.
- Take quick actions on the negative first review.
- Facilitate early reviews (e.g., participate in Amazon's Early Reviewer Program or Vine Program)
Online Consumer Reviews (WOM)

26 Studies: Floyd et al. (2014, Journal of Retailing)
51 Studies: You et al. (2015, Journal of Marketing)
96 Studies: Babic et al. (2016, Journal of Marketing Research)

A Positive Relationship Between WOM and Sales
Two Important WOM Metrics:

- Valence (Rating)
- Volume (# of Reviews)
How to Receive Favorable WOM?

Conventional Wisdom and Existing WOM Research:

→ Favorable WOM requires product advantages (better quality, greater brand image, or lower price, ...)

However,
Same Product, Different WOM?

Amazon:
Crock-Pot SCCPVP700-S 7-Quart I Cooker
by Crock-Pot
2.5 stars
19 Reviews
List Price: $89.99
Price: $54.31 & FREE Shipping
You Save: $35.68 (40%)
In stock.

Walmart:
Crock-Pot 7-Quart Programmable Slow Cooker
4 stars
379 Reviews

# Product Platform Average Rating # of Reviews Price
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Amazon | 4 | 303 | 79
Walmart | 2.2 | 4 | 79
Amazon | 4.2 | 328 | 80.99
Walmart | 3.0 | 2 | 89.99
Amazon | 2.5 | 8 | 36.7
Walmart | 4.0 | 81 | 39.8
BestBuy | 4.4 | 159 | 24.99
Amazon | 2.5 | 49 | 19.88

*A lower price can be associated with a favorable or an unfavorable WOM.*
# Consider the First Review

<table>
<thead>
<tr>
<th>Product</th>
<th>Platform</th>
<th>Average Rating</th>
<th># of Reviews</th>
<th>Price ($)</th>
<th>The 1&lt;sup&gt;st&lt;/sup&gt; Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera</td>
<td>Amazon</td>
<td>4</td>
<td>303</td>
<td>79.00</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Walmart</td>
<td>2.2</td>
<td>4</td>
<td>79.00</td>
<td>2</td>
</tr>
<tr>
<td>Fridge</td>
<td>Amazon</td>
<td>4.2</td>
<td>328</td>
<td>80.99</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Walmart</td>
<td>3.0</td>
<td>2</td>
<td>89.99</td>
<td>1</td>
</tr>
<tr>
<td>Toaster</td>
<td>Amazon</td>
<td>2.5</td>
<td>8</td>
<td>36.70</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Walmart</td>
<td>4.0</td>
<td>81</td>
<td>39.80</td>
<td>5</td>
</tr>
<tr>
<td>Toaster</td>
<td>BestBuy</td>
<td>4.4</td>
<td>159</td>
<td>24.99</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Amazon</td>
<td>2.5</td>
<td>49</td>
<td>19.88</td>
<td>3</td>
</tr>
</tbody>
</table>

A lower 1<sup>st</sup> review rating seems to be associated with an unfavorable future WOM (both Valence and Volume)
Puzzling

How can a single data point (the 1st review) have such a long-lasting influence on the overall WOM valence and volume (even after hundreds of reviews have been posted)?

Are these examples unusual cases or a general phenomenon?
Research Questions

- Can we predict a product’s future WOM (both the average review rating and the number of reviews) based on the product’s very first consumer review rating?

- If so, what market forces drive such a fateful *First-Review Effect*?
Data Analysis

**Multiple Study Settings**

- **Cross-Platform**: Compare WOM of the same product across different platforms
- **Within-Platform**: Compare WOM of different products on the same platform

**Multiple Platforms**

- Amazon US
- BestBuy
- Amazon Canada

**Multiple Categories**

- Vacuum Cleaners,
- Toasters, Blenders,
- Irons, Coffee Makers,
- Wireless speakers, ...
Key Research Findings

- **The Power of a Product’s First Review:**
  - A (dis)advantage from a product’s first review leads to
    - A *long-lasting* (dis)advantage in future WOM valence
    - An *increasing* (dis)advantage in future WOM volume

- **An Insidious Bias in User-Generated Information:**
  - Consumer product reviews have a fundamental weakness: *information-availability* bias
  - This bias can squelch a product’s opportunity to generate voluminous and unbiased info via WOM.
Cross-Platform Comparisons: Same Product, Different Platforms
## Data:

<table>
<thead>
<tr>
<th>Platforms</th>
<th>Amazon (AMUS)</th>
<th>BestBuy (BB)</th>
<th>Amazon Canada (AMCA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product categories</td>
<td>Vacuum Cleaners</td>
<td>Toasters</td>
<td></td>
</tr>
<tr>
<td>Focal Variables</td>
<td>1st review rating</td>
<td>Average review rating</td>
<td># of reviews</td>
</tr>
<tr>
<td>Control Variables</td>
<td># of review words</td>
<td>Product characteristics</td>
<td>Price</td>
</tr>
</tbody>
</table>

(Positive Review: 4 or 5 stars; Negative Review: 1, 2, or 3 stars)
Finding: Inconsistency in the 1\textsuperscript{st} Review

A considerable percentage of products receive inconsistent 1\textsuperscript{st} review ratings cross-platforms (positive from one but negative from the other)

<table>
<thead>
<tr>
<th>1\textsuperscript{st} Review</th>
<th>Vacuum Cleaners (AMUS vs. BB) N=177</th>
<th>Toasters (AMUS vs. BB) N=?</th>
<th>Vacuum Cleaners (AMUS vs. AMCA) N=?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistently Positive</td>
<td>111</td>
<td>55</td>
<td>109</td>
</tr>
<tr>
<td>Consistently Negative</td>
<td>11</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Inconsistent (%)</td>
<td>55 (31%)</td>
<td>46 (40.7%)</td>
<td>53 (29.9%)</td>
</tr>
</tbody>
</table>
Finding: The Impact on WOM Valence

For the SAME product, receiving a negative (rather than positive) 1st review leads to

<table>
<thead>
<tr>
<th>At the end of</th>
<th>Vacuum Cleaners (AMUS vs. BB)</th>
<th>Toaster (AMUS vs. BB)</th>
<th>Vacuum Cleaners (AMUS vs. AMCA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>0.50 less stars</td>
<td>1.03 less stars</td>
<td>0.76 less stars</td>
</tr>
<tr>
<td>2 year</td>
<td>0.23 less stars</td>
<td>0.73 less stars</td>
<td></td>
</tr>
<tr>
<td>3 year</td>
<td>0.07 less stars</td>
<td>0.56 less stars</td>
<td></td>
</tr>
</tbody>
</table>

A product’s first review has a long-lasting impact on the product’s future WOM Valence (average rating)
Finding: The Impact on WOM Volume

For the SAME product, receiving a negative (rather than positive) 1st review leads to

<table>
<thead>
<tr>
<th>At the end of</th>
<th>Vacuum Cleaners (AM vs. BB)</th>
<th>Toasters (AM vs. BB)</th>
<th>Vacuum Cleaners (US vs. CA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>15.5% less reviews</td>
<td>28.5% less reviews</td>
<td>47.1% less reviews</td>
</tr>
<tr>
<td>2 year</td>
<td>28.5% less reviews</td>
<td>48.9% less reviews</td>
<td></td>
</tr>
<tr>
<td>3 year</td>
<td>39.6% less reviews</td>
<td>63.5% less reviews</td>
<td></td>
</tr>
</tbody>
</table>

A product’s first review has an *increasing* impact on the product’s future WOM Volume (# of reviews)
Robustness of Our Results

- The First-Review Effect is robust to:
  - Observation windows
    Shorter or longer windows (1, 2, and 3 years)
  - Product-platform specific effects
    Different preference for some features across platforms
  - Display effects
    Online display location of products in the search results
  - Price endogeneity
    Sellers’ responses to product reviews
Within-Platform Comparisons: Same Platform, Different Products

(Amazon)

The within-platform analyses of multiple product categories (Vacuum Cleaners, Toasters, Irons, wireless speakers) lead to the same First-Review Effect
# Vacuum Cleaners

<table>
<thead>
<tr>
<th>Platform</th>
<th>Amazon</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Products</strong></td>
<td>All vacuum cleaners offered at Amazon (N=1155)</td>
</tr>
</tbody>
</table>
| **Focal Variables** | 1<sup>st</sup> review rating  
| | Average review rating  
| | # of reviews |
| **Control Variables** | # of review words  
| | Product characteristics  
| | Price  
| | Product quality (Consumer Reports) |
Vacuum Cleaners: Average Review Rating over Time

Products starting with a positive 1\textsuperscript{st} Review

Products starting with a negative 1\textsuperscript{st} Review

Vacuum Cleaners

After 3 years

The number of months after the first review has been posted
Vacuum Cleaners: Model Results

Products starting with a negative (rather than positive) 1\textsuperscript{st} review suffer a significant loss:

<table>
<thead>
<tr>
<th>At the end of</th>
<th>Loss in Average Rating</th>
<th>Loss in # of Reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year</td>
<td>1.13 stars</td>
<td>42.4% less reviews</td>
</tr>
<tr>
<td>2 year</td>
<td>0.83 stars</td>
<td>50.7% less reviews</td>
</tr>
<tr>
<td>3 year</td>
<td>0.66 stars</td>
<td>57.9% less reviews</td>
</tr>
</tbody>
</table>

\textbf{A long-lasting} impact on WOM Valence
\textbf{An increasing} impact on WOM Volume

(The first-review effect still holds after controlling for the quality)
Our Theory: Why the Power of a Single Review?

- Consumer reviews, as User-Generated Information, suffer from Information-Availability Bias (no sales, no reviews).
- This bias creates interdependence between WOM Valence and Volume (low rating → low sales → low # of reviews → low sales → ...)
- This interdependence forms a feedback loop that transfers the (dis)advantage of a product’s first review rating to (dis)advantages of its future WOM Valence and Volume
Our Theory: Asymmetry in the First-Review Effect

A Positively 1st Review:
→ More sales → More reviews
An up-biased 1st review facilitates the generation of future reviews, thus, the initial bias can be corrected

A Negatively 1st Review:
→ No (or Less) sales → No (or less) reviews
A down-biased 1st review kills sales, which destroys the product’s opportunity to generate more reviews and correct the initial bias
Suggestions for Manufacturers:

- **Vigilance**: Closely monitor on-line platforms to detect when your product’s first review is posted on each.

- **Quick Response**: Take actions to facilitate WOM as soon as an unfavorable first review appears.

- **Encourage Early Reviews** (e.g., participate in Amazon's Early Reviewer Program or Vine Program).

- **Integrated Communication Strategy**: Recognize the information-availability bias of User-Generated Information and integrate firm- and user-generated information into an effective communication strategy.
Suggestions for Online Sellers/Platforms:

- **Facilitate Early Reviews** (e.g., offer a platform-initiated Review Incentive Program, such as Amazon's Early Reviewer Program or Vine Program).

- **Link to Consumer Review Metasites** (such as ConsumerReview.org) that combine consumer review information from multiple sources).
Thank You!