Can you tell why some reviews result more helpful than others?

An empirical analysis of utility votes in online consumers reviews adopting the abstractness-concreteness framework of the Linguistic Category Model.

SUPERVISOR
Prof. Michele Costabile

CANDIDATE
Lucia Capocasa
647521

CO-SUPERVISOR
Prof.ssa Simona Romani

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**SUMMARY**

An ever increasing number of marketers are recently trying to exploit the opportunities given by consumer-generated buzz, since the power of a more trustworthy, peer-to-peer communication has a certain appeal in building brand awareness, in innovation adoption, in product diffusion and, pragmatically, in the impact of sales¹.

Therefore, although Word-of-Mouth (WOM) is usually generated spontaneously, an increasing number of companies are pro-actively intervening in an effort to stimulate and manage WOM activity².

But what make WOM really worth of studying?

To have a sense of the impact of WOM in terms of numbers, Berger³ reported that social talks generate more than 3.3 billion daily brand impressions⁴; another research by McKinsey⁵ demonstrates that “word of mouth is the primary factor behind 20 to 50 percent of all purchasing decisions (p.2).... marketing-induced consumer-to-consumer word of mouth generates more than twice the sales of paid advertising in categories as diverse as skincare and mobile phones (p.8)”.

Described as “the world’s most effective, yet least understood marketing strategy”⁶, WOM received attention from practitioners and researchers only in the last 40 years, but it is not a recent phenomenon at all.

The first organic study on WOM has been conducted by Arndt in 1967⁷, who investigated how product-related conversations could affect purchasing behavior.

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⁴ Keller and Libai, 2009.


In his research, he defines WOM as an oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non commercial, regarding a brand, product or service. Since WOM belongs to a consumer-dominated channel of marketing communication, thanks to the fact that the sender is independent of the market (no direct monetary incentives), it is hence considered to be more reliable and trustworthy than traditional company controlled communications.

A well thought-out framework that tries to include all the elements of WOM communication is presented by Berger (see figure 1).

Figure 1: Visual depiction of Key Communication Factors

Going back to the general notion of eWOM, while it has some characteristics in common with traditional WOM communication, it differs in several dimensions.

To summarize the most important features of eWOM communications:

1. eWOM communication possesses unprecedented scalability and speed of diffusion, unlike traditional WOM, in which the information was shared among small groups;
2. eWOM is a one-to-many process, similar to the mass media communication, while traditional WOM had narrowed boundaries (see below Figure 2);

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3. eWOM is a low-cost and bidirectional communication, with companies being able to receive and respond back feedbacks\textsuperscript{11};

4. eWOM communications involve multi-way exchanges of information in asynchronous mode, meaning that information in the form of eWOM does not need to be exchanged at the same time when all communicators are present;

5. eWOM communications are more persistent and accessible. Most of the text-based information presented on the Internet is archived and thus would be made available for an indefinite period of time;

6. eWOM communications are more measurable than traditional WOM, in terms of quantity, quality, format and persistency. This is mainly the reason why, although WOM is not a recent phenomenon, literature and interests flourished with the advent of the Internet, when it became easier to develop a measurement framework;

7. in eWOM the sources of information are individuals who have little or no prior relationship with the information seeker, so that consumers’ inferences about the trustworthiness of the information can only be the review itself\textsuperscript{12};

8. eWOM is usually unsolicited, meaning that the recipients are not looking for the information\textsuperscript{13};

9. Reputation as “experts” on internet by someone who writes many reviews (Ex. Blogs,..).

The framework of analysis concerning eWOM literature mainly distinguishes between:

1. Market-level analysis;
2. Individual-level analysis.


An example of transactions based on cooperation and trust thanks to a well designed feedback mechanism is eBay. For more in depth info, refer to: Dellarocas C., (2003), \textit{The Digitization of Word of Mouth: Promise and Challenges of Online Feedback Mechanisms}, Management Science Vol. 49(N°10):1407-1424, \url{http://dx.doi.org/10.1287/mnsc.49.10.1407.17308}.

\textsuperscript{13} Moreover, De Bruyn and Lilien noticed that there is little literature in addressing the unsolicited WOM communication, especially the electronic one.
In the first series of studies, researchers focused on market-level parameters, such as product sales and using objective panel data, such as the rate and the valence of consumer reviews to examine the impact of eWOM messages on product sales. The major studies in this field are Chevalier and Mayzlin (2006), Dellarocas, Zhang, and Awad (2004) and Duan, Gu and Whinston (2008), Gopinath and Krishnamurthi (2014).

In the second field of research, instead, eWOM is considered a process of personal influence, in which communications between a communicator (sender) and a receiver can change the receiver’s attitude and purchasing decision. Most interesting research in this field have been conducted by Berger, Yi-Wen Fan 2013; Hennig - Thuraut (2004), Xia and Bechwati (2008).

**Market-level analysis**

One renewed paper\(^\text{14}\) presented three new distinct forms of OWOM valence - attribute focused, emotion focused, and recommendation focused, finding that rational messages (for example, attribute-oriented advertising) wears out a bit faster than emotion-oriented advertising. Moreover, the volume of OWOM does not have a significant impact on sales. This suggests that, in our data, “what people say” is more important than “how much people say.”\(^\text{15}\)

Unlike Krishnamurthi, other studies on OWOM volume considered straightforward that this is positively associated with product sales, while the effect of OWOM valence is still controversial.

**Individual-level analysis**

When talking about individuals, word-of-mouth literature focuses on motivations behind the peer-to-peer communication and its effects on other consumers.

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Berger found that word-of-mouth can affect consumers’ behavior through two key routes: awareness and persuasion.

The first effect states that word-of-mouth can inform people that a product or behavior exists and it is particularly important for new, unknown, or low-risk products and ideas.

The second point’s aim is to shape other consumers’ opinions, behavior and social identity that consumers associate to a product, thus changing purchasing behavior; it is more important when the uncertainty is high.

Another way, of course, to reduce risk is to elevate the review or recommendation credibility, since it has been proved to be a first determinant in consumers’ decision making process\textsuperscript{16}.

**LINGUISTIC CATEGORY MODEL**

The determination of the concreteness or abstractness of the verbs follows the framework of the Linguistic Category Model (LCM)\textsuperscript{17}, and this classification has been extensively used in the literature when discussing the linguistic implications on Interpersonal behavior, first, but it has also been applied in politics, personnel selection\textsuperscript{18} and, recently, in product related conversations, specifically, in Online Word-of-Mouth.

In order to determine the impact of language abstractness, Semin and Fiedler identified four different clusters:

1. **DAVs or descriptive action verbs**
   
   Examples: Touch, visit, wake up, watch, etc..

2. **IAVs or interpretive action verbs**
   
   Help, hurt, inhibit, etc.

3. **SVs or state verbs**
   
   Like, admire, abhor, etc.

\textsuperscript{16} Yi-Wen Fan, Yi-Feng Miao, Yu-Hsien Fang & Ruei-Yun Lin, *Establishing the Adoption of Electronic Word-of-Mouth through Consumers’ Perceived Credibility*, International Business Research; Vol. 6, No. 3; 2013.


\textsuperscript{18} Rubini and Menegatti comprehensively treated language biases both in politics and in personnel selection areas.
4. Adjs or adjectives

To each of these kind of verbs and predicates is associated a different level of increasing abstractness, from DAVs to Adjs, in describing behaviors.

The research conducted by Semin and Fiedler tested five dependent variables that give more insights on the characteristics of each linguistic category: subject informativeness, situative informativeness, verifiability, disputability and enduringness.

A comprehensive summary of these findings is represented in the graph below (Table 2) that shows the pattern of the criteria and characteristics of the four linguistic dimensions in the LCM.

**Linguistic Categories**

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>DAVs</th>
<th>IAVs</th>
<th>SVs</th>
<th>Adjs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject informativeness</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Situative informativeness</td>
<td>+</td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Verifiability</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disputability</td>
<td>-</td>
<td></td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Enduringness</td>
<td>-</td>
<td></td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Affected by variation in situation</td>
<td>+</td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Neutral description</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Context specific

Concreteness

Person specific

Abstractness

Table 2: Characteristics of the four linguistic categories as emerged by the study by Semin and Fiedler (1988).
LANGUAGE AND OWOM

Schellekens and her colleagues examined for the first time in the field of the Linguistic Category Model, the implications of language abstraction in products and not behavior experiences, going beyond the interpersonal domain application.

We summarize these findings in the table below (Table 3).

<table>
<thead>
<tr>
<th>DAVs</th>
<th>IAVs</th>
<th>SVs</th>
<th>Adjs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concreteness</td>
<td></td>
<td></td>
<td>Abstractness</td>
</tr>
</tbody>
</table>

Experience NOT congruent with a priori attitudes
- Negative experience but favorable brand attitude
- Positive experience but unfavorable brand attitude

Experience congruent with a priori attitudes
- Negative experience and unfavorable brand attitude
- Positive experience and favorable brand attitude

Table 3: Language abstraction in open-ended product description: findings

This result can be explained by the fact that consumers that had a product experience congruent with their prior expectations use a language (more abstract) that conveys the idea of temporal stability and enduringness\(^8\): the negative experience is thus viewed as typical of the brand and likely to be replicated.

Does language abstraction have an impact in terms of purchase intention?

\(^8\) This finding was previously mentioned when talking about Semin and Fiedler (1988) research.
It has been proved that abstract descriptions will lead to a higher purchase intention when the experience is positive, since it means that there is consistency between senders’ attitudes and real experience.

A first analysis outside the interpersonal domain showed that abstract language reflects the a priori expectation of the consumer, and, if this holds in the real world of online reviews, it would imply that the more the language used tend to be abstract, the more the potential consumers feel the review to be in line with the brands promises and with the reviewer previous experiences.

On the contrary, reviews perceived as on a one-shot event or experience, as they are if the language used is more concrete, convey the idea that the event is not going to be replicated or to last, thus discouraging the next potential consumers to based its purchasing decision on them.

These considerations lead us to infer that the usefulness of a review can follow the same pattern.

Our first hypothesis, then, is:

H1a: The more the language used in online reviews to describe products or services experiences belonging to experience goods category is abstract, the more the potential consumers is going to find them useful.

H1b: The more the language used in online reviews to describe products or services experiences belonging to search goods category is concrete, the more the potential consumers is going to find them useful.

Another research question that it has been considered interesting is related to the way the sentiment of the review shapes its perceived usefulness, explained by language abstractness/concreteness.

H2a: A positive review is more useful when written in an abstract language than in a concrete language.

H2b: A negative review is more useful when written in a concrete language than in an abstract language.
SAMPLE SELECTION

Regarding experience goods related reviews, they have been selected from:

- **Amazon.com**, we tested our hypothesis on **Books (Fiction & Literature; History; Health, fitness & diet)**. A total of **476 reviews** has been selected, of which **156 have been excluded** because not in line with the significance criteria that we stated. They cover a period of time that goes from the 6th April 1998 to the 11th September 2014.

For what concern, instead, search goods, the sample has been extrapolated from:

- **Amazon.com**, choosing the category **Appliances (small appliances in kitchen & dining)**. A total of **938 reviews** has been selected, of which **340 have been excluded** because not in line with the significance criteria that we stated. They cover a period of time that goes from the 1st July 2000 to the 19th August 2014.

The criteria that has been used for Amazon’s reviews in order to get significant results from our test is that all the reviews that have less than 10 utility votes associated (meaning that less than 10 consumers expressed a preference in terms of utility for that specific review) has been excluded, in order to guarantee a not-biased analysis\(^2\).

For the study of the products reviews belonging to the experience goods category, we selected a total of 928 online reviews, of which 772 have been considered to be significant and thus were used in our study, accounting for both Books and Hotels.

For the search goods, instead, from a total of 938 reviews, a significant analysis could have been conducted on 598 reviews.

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\(^2\) In fact, as will be explained later on in the dissertation, the tests for Amazon reviews has been conducted collecting reviews in clusters of % usefulness and, in order to avoid having a 100% utility cluster biased by few people expressing their votes, we decided to exclude less than 10 votes review from our analysis. (In fact, a lot of reviews have associated a number of votes that would have amount to 100% utility: 1 of 1 people expressed the following review helpful, 2 of 2, 3 of 3, and so on).
The data mentioned above have been collected directly from the related Websites, using proprietary Software\textsuperscript{21}.

**DATA ANALYSIS**

In order to assess this pattern being sure that the judgment on the abstractness/concreteness of the reviews was nor naïve neither subjective, the analysis has been conducted with the aim of a list of verbs classified into the four Linguistic Categories (DAVs, IAVs, SVs, Adjs).

A value from 1 to 5 has been assigned to each review depending on its position along the abstractness/concreteness dimension.

- 1 = low level of abstractness / high level of concreteness [prevalence of DAVs]
- 2 = increasing level of abstractness / decreasing level of concreteness [DAVs and IAVs]
- 3 = mixed language / no prevalence
- 4 = decreasing level of abstractness / increasing level of concreteness [SVs and Adjs]
- 5 = high level of abstractness / low level of concreteness [prevalence of Adjs]

**Study I**

A linear regression has been run to assess the significance of the analysis.

We chose *usefulness* as our dependent variable, being a good estimate for consumers’ purchase intentions.

Consumers freely state the usefulness of each review when deciding and making a purchase online, thus we can easily consider these data not to be biased.

\textsuperscript{21} The platform is patent pending, so we cannot disclose specific info on the functioning of the software that are not already publicly available.
As independent variable, able to explain part of the utility vote’s determinants, we set language, classified as per LCM and given a rating between 1 to 5 along the abstractness-concreteness dimension.

Results confirmed hypothesis H1a but not H1b: the **positive** relation that we assumed between the usefulness of experience goods reviews and the use of an abstract language holds also for search goods.

In order to determine the main effect of the contributions given by our independent variable in shaping consumers’ utility perception and to identify if the interaction between the two considered variables is significant, we analyzed the data using the ANOVA with a significance level equal to 99%.

From the Fisher distribution, a significant effect emerged about the language influence on reviews utility, for what concern the *experience goods* category (F (157,09) = 7.68 with p < 0.01 and 1 degree of freedom).

The same positive pattern and significance was tested by the linear regression that we run for the *search goods* as well (F (42,81) = 7.68 with p < 0.01 and 1 degree of freedom).

Residuals also give us an assessment of the quality of the regression: as emerges in the two scatter plots, residuals do not show a drift but are randomly distributed around zero, thus it indicates how well the linear equation explains the data.

Indeed, in our research, the coefficient of determination is high, explaining the independent variable a good portion of the dependent one: concerning the analysis on Amazon Books, the 61% (R² = 0.613) of the variance was explained by the linear model, while for Amazon Appliances, language abstractness explains the 85% (R² = 0.853) of the variance.

**Study II**

The second hypothesis has the role to determine if the findings of H1 holds for both positive and negative reviews, meaning that the utility of the review given by
language abstractness is not going to change depending on the sentiment of the review.

The pool of data that we used to test this second hypothesis is the same that we already described in previous paragraphs.

The information, though, have been aggregated in order to have, for each of the five possible rating votes [from 1 to 5 stars], an associated level of language abstractness and the average utility percentage, expressed with the same rational and method as per Study 1.

The analysis has been run for both the product categories, in order to have evidence of existing differences.

The output that we obtained takes the form of a two ways table, of which we report below a recap with the main findings for both Appliances and Books (Table 4a and 4b).

<table>
<thead>
<tr>
<th>RATING</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE ABSTRACTNESS AVERAGE</td>
<td>3,41</td>
<td>3,56</td>
<td>3,27</td>
<td>3,62</td>
<td>3,83</td>
</tr>
<tr>
<td>UTILITY VOTES % AVERAGE</td>
<td>89,7%</td>
<td>90,1%</td>
<td>89,4%</td>
<td>92,8%</td>
<td>93,4%</td>
</tr>
</tbody>
</table>

Table 4a: Negative vs positive reviews findings, Appliances.

<table>
<thead>
<tr>
<th>RATING</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE ABSTRACTNESS AVERAGE</td>
<td>3,8</td>
<td>3,9</td>
<td>3,4</td>
<td>2,9</td>
<td>3,6</td>
</tr>
<tr>
<td>UTILITY VOTES % AVERAGE</td>
<td>85,7%</td>
<td>85,3%</td>
<td>87,0%</td>
<td>90,2%</td>
<td>92,4%</td>
</tr>
</tbody>
</table>

Table 4b: Negative vs positive reviews findings, Books.

Indeed, from this second analysis emerged that the average language abstractness does not change significantly per rating categories, while the average utility percentage associated with each rating cluster diminishes as the review on the products become more and more negative.

Therefore, our H2 hypothesis is confirmed, for both the categories: positive reviews are more useful when written in a more abstract rather than concrete language, and evidence can be found in Appendix 4 and 5, where with an increasing language abstractness, also the associated utility increases.
On the one hand, a significant difference between the two analyzed product categories has not been found when coming to the positive relationship between language abstractness and utility, but it, for sure, deserves further studies to give significance to our results, which has been the first to investigate the issue.

On the other hand, an insight on the different utility perception between positive and negative reviews has been proved, by Study II, to be affected by language abstractness-concreteness.

In the present work, then, we demonstrated that in online (and offline environment, since the OWOM is generally accepted as a proxy for the offline WOM for its richness in details and information that make possible more accurate studies), a more abstract language increases the utility of the review, when this is conveying a positive message.

The main reasons of that pattern have been identified by previous literature\(^\text{22}\), namely enduringness and congruence with a priori consumers’ attitude towards the product.

On the contrary, a negative message is more likely to result more useful when it is expressed in a more concrete language.

This second result, instead, is finding a mixed evidence in past studies\(^\text{23}\): in fact, on the one hand, a more abstract language should have been more useful both for negative and positive reviews, since the inference made by Schellekens et al. is an a priori congruence with consumers expectations (thus a negative abstract review reveals a confirmation of the a priori negative attitude or experience of the reviewer, which is a symptom of a durable and stable company/product characteristic, and not a negative spot episode, which for these reasons should be much less significant for receivers).


However, Hansen and Wanke proved that concreteness lead receivers to rely more on the reviews content based on an increased truthfulness perception, regardless of the effective reliability of the review itself.

This should have hold, also in our studies, for both positive and negative reviews.

One of the main explanation that we can give is due to psychological implications: when potential consumers are reading online reviews it means that they are looking for something they need or they want, thus they are already in a “purchasing favorable mood”, condition in which they are less likely to accept negative than positive reviews, that consequently need to be more convincing, less subjective and personal.

The goal of the present research was to demonstrate the crucial importance of language when shaping a company strategy towards the effect that this have in shaping consumers’ purchase intentions, especially in light of the terrific increase of OWOM, which currently represents the most powerful communication tool for both individuals and firms24.

In conclusion we can summarize the main implications for companies as follow:

- There a strong positive linear correlation between the utility of the review (dependent variable) and the abstractness-concreteness of the language (independent variable): companies can leverage the fact that the more the review is written in an abstract language, the more receivers are likely to find them useful;
- H1a was supported by our data while H1b was not confirmed, implying that there is no significant difference among experience and search goods in terms of correlation between utility perceptions and language abstractness of the reviews;
- H2a and H2b was elaborated in a way to provide evidence that, for positive reviews, the use of a more abstract language leads to a higher utility perception. On the contrary, a more concrete language has been proved to be true for negative reviews.

24 Please refer to Section 1.3, Chapter 1.
RESEARCH LIMITATIONS AND ROOM FOR FUTURE STUDIES

Language is only one of the possible variables affecting the way people perceive products, services, brands and companies through consumers’ reviews.

This is just one field of research in the complex OWOM environment that deserves further consideration in future studies, leading also to a better knowledge of the, less likely to be studied, Offline WOM.

Other insights can be certainly drawn from the disciplines and theories cited above, each of them with the aim of studying an actor of the OWOM flow.

Indeed, a comprehensive framework for assessing utility, or other variables that impact purchase intention, shall be created for helping those managers who want to exploit the opportunities of the OWOM, understanding where and how to invest resources and expect a return.

The main limitation of the present work can be recognized in the same choice of only two factors (namely the sentiment of the reviews and the product category).

It would be necessary to study other interactions of the language and the following effects on utility. Indeed, it would be interesting to observe the conversion rate of how many helpful votes actually transformed into real purchases and collect information directly from consumers on the reason why.

Since competition in the 2.0 worlds is just one click away, gaining a substantial competitive advantage to drive more and more consumer to enter (traffic) and then actually shop in the own website is crucial.
REFERENCES


Berger J., Stephen A.T., *Creating Contagious: How Social Networks and Item Characteristics Combine to Drive Persistent Social Epidemics*. 


Schindler R. M., Bickart B., Published Word of Mouth: Referable, Consumer-Generated Information on the Internet, November 22, 2004.


**ONLINE REFERENCES**


http://www.socialmediaexaminer.com/tools-monitor-online-reputation/

http://en.wikipedia.org/wiki/Reputation_management

http://www.reviewtrackers.com/

http://online.wsj.com/news/articles/SB10000872396390444840104577548982072928526

https://www.bitesizepr.com/how-to-monitor-your-companys-online-publicity/

http://www.reputation.com/reputationwatch/brand-reputation-management


http://en.wikipedia.org/wiki/Referral_marketing


http://www.tripadvisor.com/

http://www.amazon.com/

http://www.altiliagroup.com/