

# CONSUMER-TO-CONSUMER TRUST IN E-COMMERCE

## *Are there Rules for Writing Helpful Product Reviews*

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**Abstract:** Since the emergence of the Internet online shopping has rapidly grown and replaced parts of traditional face-to-face shopping in real shops in cities and shopping centres. The role of the sales assistant has been supplemented or even taken over by online information like buyers guides, product reviews or product related discussion groups. For example, Amazon offers its customers the possibility to write product reviews which will be published on the product site. However, a potential buyer is confronted with a similar problem as in physical shops: Can I trust the recommendation of the sales assistant in a physical shop respectively can I trust the recommendations - the product reviews of former buyers published by the Internet shop. So, at Amazon's readers of the product reviews can classify a review as helpful or not. In our paper we analyse if there are relationships between the formal structure of a product review and the degree readers classify a review as helpful. We present the results of a case study on the Germany's Amazon shop and derive "writing rule" for good product reviews out of our analysis.

## 1 INTRODUCTION

Amazon is regarded as a pioneer of the Internet revolution. It was founded as a Internet based bookshop in 1994. Nowadays it has an extensive product range covering kitchen ware, watches, CD & DVD, computer hard- as well as software, cloth besides many others products. Amazon also functions as Internet-based shop platform for third-party retailers and manages, as neutral body, the payment process between customers and retailers.

In the year 2006 Amazon generated revenues of USD 10.71 billions which makes it the world's leading Internet retailer and shopping platform (Flynn 2007).

On its shopping sites Amazon provides its customers a C2C communication platform where product reviews can be exchanged. The product reviews of mostly former buyers shall help potential buyers to make their decisions which product to choose. So these reviews may influence the level of trust a potential buyer feels for a product.

However, since the reviewers are normally anonymous or unfamiliar to the potential buyer she/he faces another challenge: Can I trust the reviewers and their comments on a certain product.

In this context Amazon provides the possibility to rate a product review as helpful. So product reviews that are mostly considered as helpful can be regarded as good reviews.

The objective of the paper is to investigate if writing rule for good product reviews, product reviews that are considered as helpful by readers, can be determined.

The paper is organized as follows. In Section 2 we give a short overview on relevant foundations of trust. In Section 3 we describe our experimental setup and limitations of the study. In the following Section we present the result of our analysis. The paper concludes with a summary in Section 5.

## 2 TRUST IN E-COMMERCE

Besides the reputation of a product or a company and reviews in neutral consumer magazines, like *Stiftung Warentest* in Germany or *Which* in the UK, recommendations by former buyers influence the decision which product will be bought by a consumer.

The non-commercial communication between consumers about goods and services is known as *word of mouth* or *electronic word of mouth* if it is primarily electronically based (Arndt 1967, Westbrook, 1987).

Word of mouth plays an important role in the decision process of a potential buyer (Duhan 1997, Bruner 2007). It has a higher credibility for a customer than information provided by the producing company directly Blickart et al., 2001.

Customers regard word of mouth reliable and serious (Pollach, 2006). So it seems not surprising that Chevalier et al. (2006) reported that a positive word to mouth on a product can have a direct influence on its turnover.

Principally electronic word to mouth communities can be classified according to the entity that controls the platform (Henning-Thurau, 2004):

- *Producer controlled.* These are, for example, chat sites on producer websites or closely affiliated partners.
- *Customer controlled.* Examples are fan sites or the opposite, boycott sites.
- *Independently controlled.* These sites provide neutral services. This means they do not have any connections to the producers nor they are organised by customers. Examples are Ciao! ([www.ciao.de/](http://www.ciao.de/)) or dooyoo ([www.dooyoo.de/](http://www.dooyoo.de/)).

Obviously trust between customers exchanging opinions about goods and services plays an important role in such electronic communities. According to Henning-Thurau et al. (2002) different forms of trust on electronic word to mouth platforms can be defined. They are as follows:

- *Judgement and emotion based trust.* Based on her/his judgment or emotion the consumer decides which content she/he trusts.
- *Incentive based trust.* The consumer assumes that providing wrong or misleading information is not profitable for the information source. Therefore she/he trusts every information
- *Sanction based trust.* The consumer is the opinion that wrong or misleading information will be disclosed by other consumers.

- *Network based trust.* A consumer regards information as trustable when other consumers trust the information also.
- *Control based trust.* The consumer trusts the organiser of the platform and her/his control function.
- *Basic trust.* The consumer trusts every information she/he gets.

In the context of our analysis network based trust is of particular interest. A high degree of helpful classifications shows that many people in the network trust a particular product review. Therefore, the chance that new readers also trust the review is higher than in the case of a low helpful indicator.

Please note that there are two overlapping effects to be considered. (1) The product review might be good and will be classified as helpful. (2) However, an average product review might be considered also as mostly helpful when the helpful indicator is high (network based trust), for example due to manipulation by the writer of the review.

## 3 EXPERIMENTAL SETUP AND LIMITATIONS OF THE STUDY

### 3.1 Experimental Setup

Amazon offers a service for customers to write product reviews that will be published on its websites along with the product information. As discussed in the previous Section these product reviews can be an important information source for potential buyers since they should ideally reflect real and unbiased customer experience. An example of a product review is given in Figure 1.

However, obviously these product reviews vary in their qualities. An indicator for the quality of a product review is also provided by Amazon. Customers can classify product reviews as helpful or not (see Figure 1).

Therefore the main objective of our research is to analyse if there are rules how to write a helpful product review.

20 of 22 people found the following review helpful:

★★★★★ **Another great shaver from Norelco,**  
September 17, 2007

By [Alex](#) (Plano, TX USA) - [See all my reviews](#)

Great new product from Norelco! I'm a long time Norelco user - started with Norelco Advantage 5 or 6 years ago, then had two different Cool Skin shavers, and now have been using the new 8060X for the past few weeks. I'm very happy with this razor and it's a step in the right direction from the previous models. It's smaller and more lightweight than its predecessors, it's easier to clean due to its open design, and not having to replace lotion cartridges every couple of weeks is a plus. I couldn't get as close of a shave with it at first, but as the manual says - some break-in is required, and now that I've used it for a few weeks - it's doing a great job and I couldn't be happier with it. Norelco Customer Service is also hard to beat - they stand behind their products and will go above and beyond to keep their customers happy.

[Comments \(4\)](#) | [Permalink](#) | Was this review helpful to you?  Yes  No [\(Report this\)](#)

Figure 1: A Product Review.

Amazon offers a very wide product range. Therefore we had to limit our research to a few product categories and arbitrarily selected the following ones.

*Product Categories:*

- Business and other specialized books.
- Digital cameras.
- DVD (movies etc.).
- Mobile phones.
- Music (CD).

We analysed the following features of the product reviews and if they influence the judgement on the "helpfulness" of the reviews:

*Text Features:*

- Number of review stars.
- Usage of the personal pronouns.
- Length of the product reviews.
- Formal structure of the product reviews (list character style).
- Readability index of the product review.

In total we analysed up to 60,000 product reviews of the Amazon's online shopping platform in Germany. If not explicitly mentioned all results presented in Section 4 are p-significant.

### 3.2 Limitations of the Study

**Manipulated Product Reviews.** Product reviews as well as the classification of a product reviews as helpful can be conducted anonymously. Therefore product reviews can be manipulated and bias.

Product reviews written by consumers are regarded as important for the success of a product (Chevalier et al. 2006). Therefore companies producing or selling a product have strong interests in good reviews on their products and vice versa bad reviews on products of competitors. So they might think of placing manipulated product reviews while not disclosing their relationship to and interest in the product.

Customer activists may also have an interest to denigrate without disclosing their real intentions and affiliations.

The same applies to the helpful classification of a product review. A possible manipulation would be to classify positive reviews as helpful. According to our discussion on network based trust, a reader could be influenced by a high helpful indicator. She/he then would consider the positive product review as more helpful than neutral and negative ones.

While Merschmann (2007) addressed the possibility of manipulated product reviews the authors are not aware of any study regarding manipulated helpful indicators. However the later cannot be excluded and therefore may fudge the results of our analysis.

Since the reviews and in particular the judgements on the helpfulness of the reviews are anonymous the authors of the study had no possibility to support their arguments by, e.g. semi-structured interviews with customers to disclose and better understand their motivations. Therefore any interpretations given in this study can only give limited evidence of the real structures.

**Amazon's Function as Editorial Office.** Amazon functions as editorial office. Before a product review will be published on its websites Amazon checks the review. The authors do not have any information about the Amazon's editorial process, for example, how they select product reviews for publications and how they may shorten or change them.

So the published product reviews may not be representative and therefore also could distort the results of our analysis.

**Interdependencies between the features.** Finally, the possible interdependencies between the features were not subject of this study and will be addressed in further research.

## 4 RESULTS OF THE ANALYSIS

### 4.1 Amazon's Star System

As depicted in Figure 1 product reviews consist of text and summarizing stars. The star system ranges from one star for poor to five stars for excellent products.

Taken the stars as indicators an average product review is rather positive than negative. In every examined product category five stars make up for more than 50% of the evaluations (see Table 1).

Table 1: Distribution of Stars Reviews [%].

Category	*	**	***	****	*****
Books	9.19	6.03	7.21	16.84	60.73
Cameras	4.63	4.92	8.26	22.90	59.30
DVD	12.88	7.77	10.20	17.38	51.78
Mobiles	7.73	7.17	10.03	24.90	50.13
Music	7.00	7.59	11.14	22.27	67.36

There is also a trend that positive product reviews are regarded as more helpful for the readers than negative (see Table 2). A reasons for this could be that readers are seeking for support for their decisions to buy a product. Therefore they might find product reviews more helpful that are positive than negative ones.

Table 2: Helpful Reviews [%].

Category	*	**	***	****	*****
Books	59	70	76	78	78
Cameras	47	62	66	85	62
DVD	43	40	46	63	63
Mobiles	41	53	61	79	74
Music	36	42	48	63	70

Furthermore balanced but positive reviews, having four stars, seemed to be more helpful than extreme ones. A reason for that could be that balanced but positive reviews might be considered as more neutral and unbiased than (extreme) five stars product reviews.

### 4.2 Usage of the Personal Pronouns

The use of personal pronouns like "ich", "mich", "wir" or "unsere" ("I", "me", "we" or "ours") and their implications on the helpfulness of the product reviews are investigated in this Section.

The results are depicted in Table 3. Obviously in longer product reviews there is a greater chance of the occurrence of a high number of personal pronouns. Therefore, to diminish the influence of the length of a product review (see Section 4.3), only

reviews with one to three personal pronouns are considered and compared to reviews containing no personal pronouns. The product reviews in the categories DVD and music are potentially (even) more subjective than in the other categories. Categories like cameras and mobiles are more driven by technical facts than by personal favours as in the categories DVD and music. The observed results support the above argumentation.

Table 3: Usage of Personal Pronouns [%].

Category	No Personal Pronouns	1-3 Personal Pronouns
Books	72	75
Cameras	70	78
DVD	52	53
Mobile phones	58	66
Music	58	58

For the categories DVD and music it seems to be irrelevant for the helpfulness of a product review if personal pronouns are used or not. The readers of these reviews may consider them as subjective anyhow whether personal pronouns are used or not.

Surprisingly, in the remaining categories subjectively written product reviews seemed to be more helpful for the readers than reviews that are written without the usage of personal pronouns.

### 4.3 Length of Product Reviews

The average length of the product reviews varies between 1059 letters for digital cameras and 805 letters for books (see Table 4).

Table 4: Average Length of Reviews.

Category	Average Text Length
Books	870
Digital cameras	1059
DVD	1045
Mobile phones	1052
Music	805

For our analysis we took more than 35,000 product reviews that were assessed by at least five customers and calculated the correlation between the length of a product review and the support (percentage of reviews who regarded the review as helpful) that the review has got. The results are presented in Table 5.

Table 5: Correlation - Length of Text vs. Support.

Category	Correlation
Books	0.196
Digital cameras	0.395
DVD	0.265
Mobile phones	0.387
Music	0.267

Although the correlations are not very strong longer product reviews seem to be regarded as more helpful by the customers than shorter ones. Surprisingly the book category has the lowest correlation of the analysed categories. In contrast to that technical equipments, like digital cameras and mobile phones, have the highest correlations. Music and DVD have almost similar correlations and are placed in between technical equipment and the books.

A possible explanation for the observed results might be that technical equipment is more complex and needs more information in comparison to "simpler" products like books. Music and DVD are related product categories which is also reflected in very similar correlations.

#### 4.4 List Character Style

In this Section we investigate whether list character styled reviews or reviews written in prose are more helpful for customers.

We defined list character styled reviews as follows:

- A text line has between two and ten words (one word is excluded to avoid headlines, more than ten words are excluded to avoid normal text).
- At least three text lines as defined above are in the review.

List character styled reviews only count for a small number of all reviews. They are more popular for technical products like digital cameras and mobiles than for the remaining categories (see Table 6).

Table 6: List Character Style Reviews.

Category	List Character Styled Reviews [%]
Books	0.64
Digital cameras	5.12
DVD	2.62
Mobile phones	8.66
Music	1.84

As depicted in Table 7 list character styled reviews seem to be more helpful for the customer than prose styled product reviews.

Table 7: Helpfulness of Prose and List Style Reviews [%].

Category	Prose Styled	List Styled
Books	75	65
Cameras	81	86
DVD	54	58
Mobile phones	68	78
Music	59	59

A reason for that could be that list character styled product reviews might be easier to be read and are more fact oriented than prose styled reviews.

#### 4.5 Readability Index

In literature several indices are suggested to formally measure the readability of prose, e.g. the Flesh Reading Ease (Flesh 1994) or the Wiener Sachtext Formel (Bamberger et al. 1984).

In our analysis we use the LIX index (Ohrt 1980) which is defined for the German language as follows:

$$LIX = SL + LW$$

with

- SL: average number of words in a sentence and
- LW: percentage of words with more than six letters.

According to Ohrt (1980) a classification as depicted in Table 8 has been suggested for the German language.

Table 8: LIX Classification.

LIX	Readability	Examples
20-25	very easy	
30-35	easy	books for children
40-45	average	fiction
50-65	difficult	non-fiction
60-70	very difficult	textbooks

For our product categories we obtained correlations between the LIX and the helpfulness of a product review as shown in Table 9.

Table 9: LIX and Helpfulness.

Category	Correlation
Books	0.10
Cameras	0.18
DVD	0.18
Mobile phones	0.17
Music	0.20

The observed correlations are weak in every product category. However, again technical equipment show similar correlations while books

have the weakest relationship between LIX and the helpfulness of a product review.

## 5 CONCLUSION

In this paper we investigate if there are rules how to write helpful product review. In a case study we analysed five product categories of the Germany's Amazon shop.

In our analysis we showed that there is no simple guidebook how to write good product reviews but some tendencies that longer rather than shorter product reviews are more helpful. Also using lists seems to be promising to write good product reviews. To explicitly express a personal opinion by the usage of personal pronouns makes a product review more helpful for the readers. And last but not least positive reviews are regarded as more helpful than negative ones. However the correlations between these effects are rather weak.

In our future work we will analyse interdependency of the text features, extend our research to other country sites of Amazon and - if possible - try to support our analysis by semi-structure reader interviews.

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