

# Is this a Good Book? The Role of Intrinsic and Extrinsic Cues for Perceived Product Quality in Textbooks in e-Commerce

Maria Madlberger<sup>1</sup> <sup>a</sup> and Ruslan Tagiev<sup>2</sup>

<sup>1</sup>Department of Business and Management, Webster Vienna Private University, Praterstraße 23, 1020 Vienna, Austria

<sup>2</sup>Optimus Consulting, Ivan Mihaylov 14, Blagoevgrad, Bulgaria

**Keywords:** Perceived Product Quality, Intrinsic Cues, Extrinsic Cues, e-Commerce, User Ratings.

**Abstract:** Previous e-commerce research has largely investigated the role of extrinsic cues for the assessment of product quality by online consumers. In addition, online retailers are also providing intrinsic cues to reduce uncertainties on product quality. This paper empirically investigates the role of intrinsic and extrinsic cues by an experimental design involving the average user rating as well as a product sample in the context of a printed textbook. The research design is a two-by-two between-subjects factorial experimental design with four conditions (high/low average user rating, presence/absence of sample pages). The results show that the average user rating impacts perceived product quality, however a main effect of sample availability and the interaction effect with average user rating could not be demonstrated. The study contributes to research on perceived product quality in e-commerce and the utilization of cues by investigating how online consumers use intrinsic and extrinsic cues to evaluate product quality.


## 1 INTRODUCTION

In electronic commerce (e-commerce), the evaluation of an offered product's quality is based on information that is provided by the online shop, so-called cues. Since products cannot be physically examined prior to order and often also consumption, the availability and attributes of such cues are paramount in an e-commerce setting. Numerous studies have investigated how quality cues impact perceptions of product quality as well as purchase intention, perceived value, or satisfaction. This body of literature is predominantly focused on extrinsic cues, which can be changed without changing the product itself, such as the brand, the product origin, or price. In contrast, intrinsic cues which are inherent properties of a product (e.g., physical attributes or ingredients), are examined to a lesser extent. There are only few studies that address the role of both types of cues, i.e., Chen & Dubinsky (2003), Choi et al. (2018; 2019), Hu et al. (2010), Kim (2021), and Weathers et al. (2007). The studies that are examining both cue types in e-commerce are using secondary data from existing online stores such as Amazon.com which limits the generalizability for other online

retailers. Moreover, these studies do not fully disclose how consumers are using quality cues.

The study at hand aims to empirically investigate the role of intrinsic cues, extrinsic cues, and their interaction in the formation of perceived product quality, a factor that has received limited attention in previous research. By collecting data in an online survey in an experimental design with a two-by-two between-subjects factorial design, the role of average user rating as an extrinsic cue and the availability of a text sample as an intrinsic cue of an online sold textbook has been investigated.

The study contributes to literature on quality cue utilization and product quality perception by addressing both types of cues simultaneously in an e-commerce setting. By doing so, the study provides insights into how consumers are using textbook samples in order to evaluate the perceived quality of textbooks that are sold online. The experimental study allows the disclosure of underlying motives of online consumers' use of quality cues in a setting where intrinsic and extrinsic cues are offered.

<sup>a</sup> <https://orcid.org/0000-0003-2850-0499>

## 2 LITERATURE REVIEW

### 2.1 Product Quality

Product quality is strongly associated with a company's profitability, sales, customer satisfaction, and loyalty. In this respect, not the objective product quality itself matters most, but consumers' perceptions of quality as a driver of purchase decisions (Mitra & Golder, 2006; Steenkamp, 1990). Several researchers note that a buyer's perception of quality reflects an "objective" product quality, i.e., a measurable and impartial product characteristic (Mitra & Golder, 2006). However, in an e-commerce context where direct experience with products is often impossible, the term "perceived quality" is more accurate (Chen & Dubinsky, 2003).

Consumers establish product quality perceptions by experiencing beliefs about different product quality attributes, i.e., benefits they expect to receive as a result of consuming the product (Steenkamp, 1990). Following the notion of the cue utilization theory, consumers use different quality cues as indicators when they are deciding between various product alternatives, since product quality attributes cannot be directly experienced prior to consumption (Chen & Dubinsky, 2003).

### 2.2 Quality Cues

Quality cues are "information stimuli that are, according to the consumer, related to the quality of the product, and can be ascertained by the consumer through the senses prior to consumption" (Steenkamp, 1990, p. 312). They can be categorized as either intrinsic or extrinsic (Zeithaml, 1988). Intrinsic cues are inherent properties of a product and thus, cannot be changed without altering the product itself (Bhuan, 1997). In contrast, extrinsic cues are not inherent to a product, however, they are related to it (Choi et al., 2018).

Many consumers are likely to use both intrinsic and extrinsic cues to form beliefs about the quality of a product (Hu et al., 2010). The relative importance of intrinsic and extrinsic cues is subject to different conditions. Intrinsic cues are getting less important while extrinsic cues are becoming more salient in presence of the following conditions (Zeithaml, 1988): (1) limited availability of intrinsic cues (2), more required time and/or effort than perceived as feasible to evaluate intrinsic cues, and (3) generally a difficult assessment of product quality.

#### 2.2.1 Average User Rating as Extrinsic Cue

An important extrinsic cue in e-commerce that can influence purchase intention is word-of-mouth of other users (Zhou et al., 2013). Online consumer reviews provide such extrinsic cues, since they reflect other users' individual product quality perceptions (We et al., 2010; Zhou et al., 2013). Hence, they are related to the respective product, but are not inherent to them.

Among different investigated attributes of online consumer reviews, their sentiment is one of the most important features (King et al., 2014). It defines a unique nature of electronic word-of-mouth, especially when compared with offline word-of-mouth. Sentiment denotes positive, neutral, or negative evaluations, whose expression is often supported by online shops in the form of numerical ratings. These are usually provided in the form of 5-point scales, typically organized as star ratings which help consumers assign positive or negative evaluations to single products (King et al., 2014). Hence, average user ratings which are usually provided in addition to single online consumer reviews offer a popular extrinsic cue that is used for decision-making in e-commerce.

#### 2.2.2 Product Sample as Intrinsic Cue

Whereas intrinsic cues are often difficult to convey in e-commerce settings, information goods, such as software, music, or books (Wang & Zhang, 2009) are valued for their content and benefit from free sampling that can help consumers in their decision-making process. When online retailers provide product samples together with online consumer reviews, consumers refer more strongly to their assessment of the product samples to evaluate the product quality, compared with the user ratings (Hu et al., 2010). In the case of a book, such a sample may consist of further product information, e.g., on the front or back cover, sample text, or sample chapters (Choi et al., 2019).

#### 2.2.3 Interaction Effect

Choi et al. (2019) studied the interactive effects of e-book samples and online consumer reviews on e-book sales. This study hypothesizes that the relationship between e-book samples and purchase decisions becomes more salient as the average user ratings decrease, because consumers tend to combine their direct and indirect experiences in order to make the purchase decisions, especially if the information asymmetry is high.

The data set used for the study by Choi et al. (2019) was obtained from a Korean e-book retailer and contained detailed browsing data (e.g., exposure to e-book previews and online consumer reviews), transactional data, and various e-book characteristics, including author popularity, publication date, price, etc. Only the data on nonserial romance and fiction e-books were analyzed. The results suggest that the positive effect of e-book samples on purchase decisions decreases when the average user rating (online review valence) is high. Moreover, this effect diminishes as the number of reviews increases. However, the effect of e-book samples on purchase decisions becomes more salient as the disagreement among the reviewers (online review variance) intensifies.

The study by Choi et al. (2019) is among only a handful of research works that found empirical evidence on how consumers utilize both intrinsic and extrinsic cues to decide whether to purchase a product. Choi et al. (2019) demonstrated that many consumers rely on a combination of direct and indirect product experiences, if both are available to them, in order to make a purchase decision. However, giving the fact that Choi et al. (2019) used only fiction and romance e-books, the results of their study may not hold for other book categories.

### 3 HYPOTHESIS DEVELOPMENT

Previous research revealed the key role of average user ratings as an indicator of product quality (Hu et al., 2010), so that we hypothesize:

**H1:** The average user rating impacts the level of perceived product quality of textbooks sold online.

For product quality evaluation and uncertainty reduction, consumers are using different sources of information, including intrinsic cues where available (Hu et al., 2010). In an e-commerce context, product samples of information goods serve as a reliable source to obtain this information (Hu et al., 2010), so that we assert:

**H2:** The availability of a product sample impacts perceived product quality of textbooks sold online.

The average user rating is the collective assessment of other consumers on a product and its perceived quality (Hu et al., 2010). This evaluation is the result of different individuals' tastes and prior experiences, turning the assessment into a largely subjective statement (Hu et al., 2010). A consumer may attribute the average user rating more to other users' experiences and not so much to the product itself (Hu et al., 2010). Hence, consumers may look

for other relevant information and thus review an available product sample (Hu et al., 2010). This leads to the following consideration: If a product's average user rating is low, a consumer may still conclude with a high-quality perception after the product sample has been reviewed. On the other hand, the consumer may also experience doubts about their own conclusions about consumption experience after reviewing the sample (Steenkamp, 1990). In that case, opinions of other users, expressed in the average user rating, can be used as a reference. Hence, we propose the following:

**H3:** The interaction term of the average user rating and the product sample impacts perceived product quality of textbooks sold online.

## 4 RESEARCH DESIGN

The experimental research design in this study follows Chen & Cheng (2013) who examine the impact of website design and appeal on perceived product quality, perceived information quality, and customer satisfaction as dependent variables. In our study, the experiment is a two-by-two between-subjects factorial design which employs four experimental conditions that are displayed in Table 1.

Table 1: Experimental design overview.

		Sample pages	
		No	Yes
Average user rating	High (4.3 stars)	(1)	(2)
	Low (1.0 star)	(3)	(4)

Data has been collected via an online survey among American consumers who were recruited by Qualtrics (n = 504 after removal of incomplete questionnaires). 32.7% of the respondents are females, 67.3% are males. The age distribution is as follows: 18–24 years: 5.6%, 25–34 years: 19.3%, 35–44 years: 20.3%, 45–54 years: 16.5%, 55–64 years: 21.3%, 65 years or older: 16.9%. 51.6% are full-time or part-time employed, the remaining respondents are either retired, studying, homemakers, or others.

According to Qualtrics' methodology (Qualtrics, 2014), to ensure that the sample is representative, the company selects at random the survey participants from the certified third-party panels and randomizes the respondents in every sample before the survey. Qualtrics is taking appropriate measures to make sure that no respondents have participated in the survey twice or more (Qualtrics, 2014).

Each respondent has been randomly assigned to only one of the four experimental condition. Thus,

each of the four conditions has been provided to a sub-sample all of which had approximately the same size. All other information provided to the participants, except for the stimuli, (e.g., product details, the front and back cover of the textbook), were kept constant in the experiment. Respondents rated the perceived quality of the shown textbook on a single-item Likert scale (1 = “terrible”, 5 = “excellent”). The scale for measuring the perceived quality of a textbook has been applied from Boulding & Kirmani (1993).

As a stimulus for the experiment, an existing textbook has been used (Ian Tuhovsky: “Emotional Intelligence: A Practical Guide to Making Friends with Your Emotions and Raising Your EQ”; (Tuhovsky, 2015). This textbook has been chosen for two reasons: first, the topic of the textbook is rather broad and not overly controversial; second, it has received overall positive average ratings (4.4 average user rating in 2023 based on more than 360-star ratings on Amazon.com). This rather high average user rating was used as a reference point for the interpretation of the study results.

To avoid a potential bias due to the author’s name (Amblee & Bui, 2011), the real name has been replaced with a fictive author name. The textbook sample text matched all details, such as the text length, page layout, font types of the real sample provided on Amazon.com and it also visually resembles the samples provided on Amazon’s “look inside” feature. The content of the sample text included the title page of the textbook, the table of contents, a 3-pages extract from the introduction section, and a 5-pages extract from the first chapter. 475 of the 504 respondents were not familiar with the existing textbook and therefore qualified to take the survey.

## 5 RESULTS

### 5.1 Hypothesis Tests

Data analysis to test the hypotheses was done with two-way ANOVA. In the test of hypothesis 1, the main effect for average user rating yields an F-ratio of  $F(1, 312) = 27.5$  ( $p < .001$ ,  $\eta_p^2 = .081$ ), resulting in a statistically significant difference between quality perception levels for high ( $M = 2.09$ ,  $SD = 0.75$ ) and low average user rating ( $M = 2.66$ ,  $SD = 1.04$ ). Hence, in case of a high average user rating, participants rated perceived quality of the textbook as higher, compared with participants who were shown a low average user rating.

The test of hypothesis 2 results in a main effect for the availability of the textbook sample of as follows: F-ratio of  $F(1, 312) = 0.88$  ( $p > .5$ ,  $\eta_p^2 = .003$ ). Hence, the main effect for the availability of the sample is not significant (provided sample pages:  $M = 2.25$ ,  $SD = 0.85$ , no provided sample pages:  $M = 2.40$ ,  $SD = 0.98$ ).

For hypothesis 3, the interaction effect between average user rating and availability of the sample was tested. This outcome is not significant either: F-ratio of  $F(1, 312) = 0.001$  ( $p > .5$ ,  $\eta_p^2 < .001$ ). The availability of text sample does therefore not show a moderating impact on the relationship between average user rating and perceived textbook quality.

The results of the hypothesis tests are shown in Table 2:

Table 2: Hypothesis test results.

H1 (average user rating):	supported
H2 (sample availability):	not supported
H3 (interaction effect):	not supported

### 5.2 Sample Use

In the following, some further details on the use of the intrinsic cue are provided in order to shed light on the motives of intrinsic cue utilization. 137 individuals were exposed to the second experimental condition with high average user rating and availability of sample text. 72 of them (52.6%) stated that they had reviewed the sample, i.e., either read or have skimmed through the text. As shown by Table 3, most participants only skimmed through the sample text.

Table 3: Sample text use with high average user rating.

	Did not Read	Skimmed Through	Read
First page	6.9%	75.0%	18.1%
Table of contents	18.1%	56.9%	25.0%
Introduction	22.2%	65.3%	12.5%
Chapter 1	41.7%	43.1%	15.3%

The most important reasons for not reading the pages of the introduction and first chapter were: “lack of time and/or motivation”, “lack of interest in the topic of the textbook”, and “sample length”. Other reasons were preference to read the whole book or preference to skim through sample text only to determine whether the book is worth reading at all.

65 (47.4%) participants have decided not to read or skim through the sample pages. Most of them stated a lack of interest in the topic as the main reason for not reviewing the sample text, followed by lacking time and/or motivation to do so and other reasons

(i.e., use of the other provided intrinsic cues, such as the book title or front cover description).

112 respondents were exposed to the fourth experimental condition (low average user rating and availability of sample text). 47 of them (42.0%) said that they have reviewed the sample, i.e., read or skimmed through the sample pages. Also, this sub-sample mainly skimmed through the sample pages (see Table 4).

Table 4: Sample text use with low average user rating.

	Did not Read	Skimmed Through	Read
First page	6.4%	66.0%	27.7%
Table of contents	14.9%	63.8%	21.3%
Introduction	21.3%	59.6%	19.2%
Chapter 1	25.5%	61.7%	12.8%

Reasons why respondents have not read the introduction and first chapter were mainly the length of the sample and lacking interest in the textbook topic, whereas a lack of time and/or motivation was the least frequently mentioned factor. Reasons why the sample pages have not been read or skimmed through were primarily a lack of interest in the textbook's topic, a lack of time and/or motivation, and other reasons (availability of other intrinsic cues that provided sufficient information for quality assessment).

## 6 DISCUSSION

### 6.1 Major Findings

The study at hand investigates the role of intrinsic cues (provided as product description on the front and back cover and sample pages) and extrinsic cues (average user rating) on the perceived quality of a printed textbook sold online. The hypothesis tests confirm the strong effect of the average user rating for the perception of product quality (H1 being supported by data). Where average user rating was high, the textbook was considered having superior quality compared with respondents who were shown a low average user rating.

This result is in line with previous research that has pointed at the relevance of online consumer reviews for the assessment of product quality before or after purchase (see King et al. (2014) for a review). Studies drawing on signalling theory have shown that extrinsic cues that can be easily observed and assessed by consumers in e-commerce have the

highest impact on quality assessments (Wells et al., 2011).

The availability of the sample text as well as the interaction term of sample text availability and average user rating did not show a significant effect on consumers' quality perceptions (H2 and H3 are rejected). Hence, unlike anticipated, the sample text neither had a direct nor a moderating impact on perceived product quality. Hence, the availability of the sample text did not override or minimize the effect of a high/low average user rating on perceived quality.

The absence of the interaction effect is countering the findings provided by Choi et al. (2019) who conducted a similar study in nonserial fiction and romance e-books sold in an online store. Although most respondents have made use of the sample (as also revealed by Hu et al., 2010), the importance of the intrinsic cues has diminished in presence of the extrinsic cues (Zeithaml, 1988). In the current findings, the most likely reason is a heightened perceived effort or time consumption (Zeithaml, 1988), since intrinsic cues were provided and product quality assessment was not difficult. Hence, the result is interpreted against this background:

52.2% of the respondents who were provided with the sample text neither read nor skimmed through the materials due to lack of interest in the topic, lack of time and/or motivation, or perceived sample length. Hence, the majority of these participants used average user rating to support their assessment of product quality, resulting from the intrinsic cues to be not appropriate to make a judgment about the textbook quality.

Only 15.1% of the respondents who have reviewed the sample pages at all, have read the introduction and first chapter pages that were offered in the sample. Most participants preferred to skim through the text because of the text length, lacking interest in the topic, and lack of time. Hence, also these individuals ultimately used the extrinsic cue to evaluate the product quality.

Hence, we can conclude that textbook samples offered by online retailers can be perceived as too complex for product quality assessment processes in books for many consumers. On the other hand, extrinsic cues, such as the average user rating, are readily available and easy to interpret and therefore become more salient to online consumers for quality perception formation.

## 6.2 Research Implications

The study contributes to the literature on product quality perception in e-commerce in several ways. First, it simultaneously investigates extrinsic and intrinsic cues as well as their interaction as potential drivers of product quality perception and thus responds to the need for such an approach as expressed by Hu et al. (2010). In an e-commerce context, findings on this subject are limited. Second, the study sheds light on motives of online consumers to use intrinsic cues for product quality evaluation by examining the extent and preferred parts of text samples that are utilized by consumers. In doing so, the study at hand complements extant findings originating from analyses of secondary data available from online retailers (Choi et al., 2018; Choi et al., 2019; Hu et al., 2010), which helps to deepen the understanding of how consumers use different kinds of cues in product quality evaluation in greater detail. Third, our study shows that the role of intrinsic cues may be contingent upon the respective product category. Unlike the study by Choi et al. (2019) which revealed a strong effect of the interaction term of an intrinsic and extrinsic cue in the categories of nonserial fiction and romance e-books offered by an online bookstore. Fourth, our study adds to research on both intrinsic and extrinsic cues on perceived product quality (Chen & Cheng, 2013; De Langhe et al., 2014; Kim & Min, 2014; Wells et al., 2011) by addressing the contemporaneous effect of the intrinsic and extrinsic cue. By focusing on informational goods where product quality is difficult to assess prior to consumption, the findings provide useful insights into the formation of product quality assessment (Steenkamp, 1990).

## 6.3 Managerial Implications

The study offers implications for online consumers, online retailers, and textbook authors. For consumers the average user ratings matter for the assessment of product quality in textbooks due to the easy access and availability of average user ratings and the ease to interpret them (Hu et al., 2017). However, such ratings do not always reflect product quality in an accurate manner since they are based on other users' subjective assessments based on criteria that may be different from those of an individual consumer. For example, around two thirds of books that had been launched on Amazon.com have shown positively biased ratings shortly after their launch (Xinxin & Hitt, 2008).

Online retailers that offer online reviews to their customers may decide to complement subjective user ratings with intrinsic cues that can provide a less biased stimulus for product evaluation assessment. While also extrinsic cues may be provided in a more objective manner, e.g., by offering expert reviews that are complementing user reviews (Zhou & Duan, 2016) or applying scoring systems with multiple criteria on single attributes (e.g., content, writing style etc.) rather than one overall assessment (Amblee & Bui, 2011), intrinsic cues offer a different source of information and hence a useful contribution to formation of quality evaluation based on own assessment criteria. As the findings show, such a provision of intrinsic cues needs to be simple and easy to use since consumers may otherwise quickly turn to referring to simpler extrinsic cues.

This consideration leads to the recommendation that retailers may undertake some effort to motivate consumers to make use of intrinsic cues by an appropriate design of sample pages and other stimuli. This may particularly be relevant for products, in this case textbooks, where the maximum number of feasible extrinsic cues are rather rare, e.g., in cases where the author or the subject is not very well known and there are only few consumer reviews available. Simply providing extensive sample texts appears not to be sufficient as many respondents stressed that they did not need all information provided for product quality assessment.

Hence, for book authors, particularly unknown authors, we recommend using unconventional and innovative approaches of intrinsic cue provision to overcome consumers' hesitation to review them. Possibilities are offering substantial parts of the text or supplementary materials, for example case studies or exercises, free of charge, if permitted in the publishing contract. Authors and publishers may also apply different formats of content provision, such as visuals, audio or video content, or chat functions. This way, intrinsic cues may be made more salient to prospective buyers, especially among younger generations.

## 7 CONCLUSION

The study results suggest that the provision of intrinsic cues in online sold textbooks may require too much time and effort from consumers to use them for product quality evaluation. Hence, extrinsic cues such as the average user ratings and simple intrinsic cues such as visuals of the textbook's front cover and back cover description, become more salient to them, as

these cues are easily observable and can be interpreted very quickly.

Like any research, this study has several noteworthy limitations. First, the findings cannot be generalized to other product categories, including books of other genres, such as novels, drama, or romance. They are not applicable to e-books either. Second, results may be biased due to respondents' usage scenario of personal use. Third, the intrinsic and extrinsic cues have been manipulated only at two levels (high/low and present/absent). Therefore, potentially important levels such as an average user rating close to three stars or different lengths or types of samples were not used. Also, the number of extrinsic and intrinsic cues was limited to one, respectively, leading to a limited external validity, as real online shops offer a multitude of cues. Hence, future research may add further extrinsic cues, for example the level of disagreement among reviewers, text-based reviews and features of those (e.g., writing style, sentiment), but also attributes like product price, perceived author popularity or quality and reputation of the online retailer. Further, the study at hand has omitted personal contextual factors, such as interest in the subject or overall need for the applied textbook in general, which may also be a causal factor of a higher or lower willingness to review especially the more extensive intrinsic cues. Finally, the experimental setting was different from a real purchase situation, thus potentially leading to a biased process of product quality evaluation. While this was intentional to avoid a possible bias when introducing purchase intention as a dependent variable, this factor would contribute to a more complete understanding of consumers' product evaluation and their decision-making process.

As a result, future research may apply different experimental setups. Possible designs involve an experimental website with a mock-up purchase situation that involves a product purchase and a payment process. Also, post-experimental surveys may help better understand motivations of online consumers when using particular intrinsic and extrinsic quality cues to assess product quality. Finally, also innovative digital formats of intrinsic and extrinsic cue provision (e.g., by means of voice communication and/or artificial intelligence applications) may shed more light on the role of intrinsic and extrinsic cues in the dynamically changing e-commerce environment.

## REFERENCES

- Amblee, N., & Bui, T. (2011). Harnessing the influence of social proof in online shopping: The effect of electronic word of mouth on sales of digital microproducts. *International Journal of Electronic Commerce*, 16(2), 91-114.
- Bhuiyan, S. N. (1997). Marketing cues and perceived quality: Perceptions of Saudi consumers toward products of the U.S., Japan, Germany, Italy, U.K. and France. *Journal of Quality Management*, 2(2), 217-234.
- Boulding, W., & Kirmani, A. (1993). A consumer-side experimental examination of signaling theory: Do consumers perceive warranties as signals of quality?. *The Journal of Consumer Research*, 20(1), 111-123.
- Chen, S., & Cheng, F. F. (2013, May). *The influence of online atmosphere on perceived quality, satisfaction and purchase intention*. Paper presented at the 5th International Conference on Service Science and Innovation (ICSSI), Kaohsiung, Taiwan. Retrieved from <http://ieeexplore.ieee.org/document/6599368/>
- Chen, Z., & Dubinsky, A. J. (2003). A conceptual model of perceived customer value in e-commerce: A preliminary investigation. *Psychology & Marketing*, 20(4), 323-347. doi:10.1002/MAR.10076
- Choi, A. A., Cho, D., Yim, D., Moon, J. Y., & Oh, W. (2019). When seeing helps believing: the interactive effects of previews and reviews on e-book purchases. *Information Systems Research*, 30(4), 1164-1183. doi:10.1287/LSRE.2019.0657
- Choi, H. S., Ko, M. S., Medlin, D., & Chen, C. (2018). The effect of intrinsic and extrinsic quality cues of digital video games on sales: An empirical investigation. *Decision Support Systems*, 10686-96. doi:10.1016/J.DSS.2017.12.005
- De Langhe, B., Fernbach, P. M., & Lichtenstein, D. R. (2014). Navigating by the stars: What do online user ratings reveal about product quality?. *Advances in Consumer Research*, 42, 453.
- Hu, N., Liu, L., Bose, I., & Shen, J. (2010). Does sampling influence customers in online retailing of digital music?. *Information Systems & E-Business Management*, 8(4), 357-377. doi:10.1007/S10257-009-0116-6
- Hu, N., Pavlou, P. A., & Zhang, J. (2017). On self-selection biases in online product reviews. *MIS Quarterly*, 41(2), 449-A17.
- Kim, J.-H., & Min, D. (2014). The effects of brand popularity as an advertising cue on perceived quality in the context of internet shopping. *Japanese Psychological Research*, 56(4), 309-319.
- Kim, R. Y. (2021). When does online review matter to consumers? The effect of product quality information cues. *Electronic Commerce Research*, 21, 1011-1030. doi:10.1007/S10660-020-09398-0
- King, R. A., Racherla, P., & Bush, V. D. (2014). What we know and don't know about online word-of-mouth: A review and synthesis of the literature. *Journal of*

- Interactive Marketing (Mergent, Inc.)*, 28(3), 167-183. doi:10.1016/J.INTMAR.2014.02.001
- Koh, N. S., Hu, N., & Clemons, E. K. (2010). Do online reviews reflect a product's true perceived quality? An investigation of online movie reviews across cultures. *Electronic Commerce Research & Applications*, 9(5), 374-385. doi:10.1016/J.ELERAP.2010.04.001
- Mitra, D., & Golder, P. N. (2006). How does objective quality affect perceived quality? Short-term effects, long-term effects, and asymmetries. *Marketing Science*, 25(3), 230-247.
- Qualtrics. (2014, June 20). *ESOMAR 28: 28 questions to help research buyers of online samples*. Retrieved from <https://communication.illinoisstate.edu/graduate/documents/ESOMAR28.pdf>
- Steenkamp, J.-B. E. M. (1990). Conceptual model of the quality perception process. *Journal of Business Research*, 21(4), 309-333.
- Tuhovsky, I. (2015). *Emotional intelligence: A practical guide to making friends with your emotions and raising your EQ*. Available from [https://www.amazon.com/Emotional-Intelligence-Practical-Emotions-Psychology/dp/1508645914/ref=tmm\\_pap\\_swatch\\_0?\\_encoding=UTF8&qid=1520857752&sr=1-3-spons](https://www.amazon.com/Emotional-Intelligence-Practical-Emotions-Psychology/dp/1508645914/ref=tmm_pap_swatch_0?_encoding=UTF8&qid=1520857752&sr=1-3-spons)
- Wang, C., & Zhang, X. (2009). Sampling of information goods. *Decision Support Systems*, 48(1), 14-22. doi:10.1016/J.DSS.2009.05.011
- Weathers, D., Sharma, S., & Wood, S. L. (2007). Effects of online communication practices on consumer perceptions of performance uncertainty for search and experience goods. *Journal of Retailing*, 83(4), 393-401. doi:10.1016/J.JRETAI.2007.03.009
- Wells, J. D., Valacich, J. S., & Hess, T. J. (2011). What signal are you sending? How website quality influences perceptions of product quality and purchase intentions. *MIS Quarterly*, 35(2), 373-A18.
- Xinxin, L., & Hitt, L. M. (2008). Self-selection and information role of online product reviews. *Information Systems Research*, 19(4), 456-474.
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22.
- Zhou, W., & Duan, W. (2016). Do professional reviews affect online user choices through user reviews? An empirical study. *Journal of Management Information Systems*, 33(1), 202-228. doi:10.1080/07421222.2016.1172460
- Zhou, M., Liu, M., & Tang, D. (2013). Do the characteristics of online consumer reviews bias buyers' purchase intention and product perception? A perspective of review quantity, review quality and negative review sequence. *International Journal of Services Technology & Management*, 19(4-6), 166-186. doi:10.1504/IJSTM.2013.055632