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## Faculty of Business Economics

Master of Management

### **Master's thesis**

#### **Verbatim from Twitter: does context matter?**

##### **Olesia Nikulina**

Thesis presented in fulfillment of the requirements for the degree of Master of Management, specialization  
International Marketing Strategy

##### **SUPERVISOR :**

Prof. dr. Allard VAN RIEL



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### ***Preface***

This thesis is the original unpublished research by the author, O. Nikulina. All the work presented henceforth was conducted at the Faculty of Business Economics of the University of Hasselt. The project stemmed from the author's passion for the electronic word of mouth and its impact on consumer decision-making.

With boundless appreciation, I would like to express my heartfelt gratitude to people who made the study possible. First, I wish to give my special thanks to the research supervisor, Prof. Dr. Allard van Riel who has given me unfailing support and patient guidance. His willingness to share his time and expertise so generously has been much appreciated.

My gratefulness is also extended to my friends Irina Astafyeva, Alexandra Alferova, Valentýna Hýlová, and Daniel Esparza Fernandez for providing me continuous encouragement through the process of researching and writing my thesis.

Finally, I must acknowledge my parents for their wise counsel and sympathetic ear. Without them, I would never achieve the current level of success.

Thank you for your unwavering support.



## ***Summary***

### *Purpose*

The main purpose of the study is to identify how the presence of irony and/or comparisons in customer reviews from Twitter affect the intention to use a service. Also, we aim to discover how individual differences in information processing (e.g., the need for cognition) may impact the comprehension of irony and comparisons and, consequently, purchase intentions.

### *Methods*

We conduct a quasi-experiment with the presence of irony and comparisons being externally manipulated. An online survey is used to assess: 1) consumers' ability to identify the presence of irony and/or comparisons; 2) their intention to use a service after reading an opinion tweet conditional on the irony/comparisons presence; 3) their individual need for cognition that is claimed to play a moderating role in the relationship between tweets' context (ironic/non-ironic; comparative/non-comparative) and customers' intentions to use a service. A t-test is conducted to assess the success of the manipulation, and 2×2 ANOVAs are employed to test the hypotheses.

### *Findings*

Our findings demonstrate that even though consumers clearly identify irony and comparisons in social media posts, these linguistic instances do not play a major role in the formation of customer purchase intentions. Also, individual need for cognition is found to have only a neglectable role in irony/comparisons comprehension.

### *Limitations*

One potential limitation of the present research may be the use of only one dependent variable rather than several metrics. Moreover, we only relied on tweets mentioning a well-known hotel brand. However, its brand equity may absorb the negative effects of unpleasant online reviews. Finally, rejection of the hypotheses may be partly caused by the insufficiency of data for analysis and/or by the lack of variability in the sample.

### *Value*

The research contributes to the body of research in consumer decision-making as it provides an opportunity for further, more sophisticated analysis on how online reviews from social media impact purchase intentions. Businesses may also rely on the results of the research to structure their online communication with a customer. Customers themselves may benefit from the analysis by learning that ironic and/or comparative posts are not better off than non-ironic/non-comparative ones.

*Keywords:* eWoM, electronic word of mouth, customer reviews, online reviews, elaboration likelihood model, ELM, need for cognition, NFC, schema incongruity theory, consumer behavior, Twitter



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## **Introduction**

Many modern customers\* are found to be overwhelmed by the abundant advertising and marketing campaigns of many brands (An, 2016). Becoming more discerning and resistant to promotional claims (Brown, 2004), buyers start looking for alternative sources of reliable information about a product or service. Several decades ago, people mostly relied on personal recommendations of relatives and friends. However, with the rapid proliferation of the Internet, online reviews have become as trustworthy and influential in shaping customer attitudes as regular word of mouth (WoM). Today, 90% of people trust online references as much as they trust offline testimonials (Murphy, 2018). Thus, the role of electronic word of mouth (eWoM) in consumer decision-making is increasing.

Marketing researchers have demonstrated that online reviews may affect customers' attitudes toward the brand (Misopoulos et al., 2014), loyalty and trust (Browning & Sparks, 2011), and intentions to buy a product or service (Ye et al., 2009). However, most of the existing studies focus on reviews from special review websites such as TripAdvisor (e.g., Gretzel & Yoo, 2008). Meager research in the marketing domain examines consumer opinions as present on social networking sites. Yet, it has been shown that consumers tend to trust reviews from social media better compared to those from other sources, due to the higher perceived credibility of a review's author (Lin & Fang, 2006). Therefore, the present research deals with product-related posts from the social networking site Twitter – most widely-used microblogging platform (Singh, 2018).

Another limitation of existing papers is that they mostly examine the cumulative impact of online reviews without explaining how consumers are affected by message context. For example, Grétry et al. (2017) show that the wording used in the promotional message can influence consumer engagement. In the present research, we focus on two distinct contextual instances frequently found in social media posts: irony and comparisons. Research from the field of advertising finds that textual ads that contain irony and comparisons enjoy greater attention and involvement from consumers than regular ones (Kim & Kim, 2015). However, to the author's best knowledge, no previous studies on online reviews examined these utterances' effects on consumers.

Thus, to address two abovementioned limitations, we raise the following **research question**:

- *How does the presence of irony and/or comparisons in online reviews affect the intention to use the service?*

The cross-sectional study is conducted to address the research question. We expect that the findings of the research will allow for the enrichment of the understanding of brand-consumer communication. First, brands will get a deeper understanding of what kind of reviews affect customers most, which could lead to better management of the online voice of the customer. Second, the findings might also be used in brands' social media marketing campaigns. Understanding how consumers perceive various irony- or comparison- containing messages, companies may adjust the wording of their posts. Finally, for customers, the research can provide a clue on how our perception works. It will enable them to, on the one hand, generate influential eWoM and, on the other, apply this knowledge while gathering product-related information on social media. It is expected that it will lead to more rational decision-making.

*\*Note that in the present paper, terms 'consumers' and 'customers' are used interchangeably*



## ***Literature review***

### *WoM, eWoM*

The pervasiveness of digital culture is constantly increasing. In 2019, there were 4,162 million Internet users worldwide (54% of the world's population) – a rise of 24 percentage points (p.p.) compared to the year 2010 (Internet Live Statistics, n.d.). Drastic changes are seen not only in the size of the online community but also in online behavior patterns. While ten years ago time spent online was mostly dedicated to the information search and email communication, nowadays people are mostly involved in the interaction and community building on social networking sites – platforms that allow people to send personal messages, generate textual, visual, and audio content by posting and commenting on others' posts. From 24 hours being spent online weekly, time on social networks accounts for more than five hours (Internet Live Statistics, n.d.).

Having become an integral part of our everyday life, online platforms are ever-increasingly used by people to search and share product-related information. Sharing consumption experiences has been termed electronic word of mouth (eWoM) as a derivative from the word of mouth (WoM) concept. Word of mouth refers to the informal oral exchange of product-related information (Arndt, 1967) claimed to account for up to 50% in buy/no buy decision-making (Bughin et al., 2010). With the explosive growth of the Internet that has digitized consumer communication, the term electronic word of mouth has emerged to stress the major shift from offline to online interaction of customers (Litvin et al., 2008).

EWoM proliferation seems to indicate that many users are no longer passive recipients of information from the Internet. Rather, they are content creators who define how the future Web will look like. They interact online, discuss products' and companies' advantages and disadvantages, give recommendations, and share product use cases. This makes the Internet a potentially reliable 'marketplace' of consumption experiences that helps to facilitate buyer decision-making.

### *Motives to generate and rely on eWoM*

Abundant online data providing ample information about consumers, their habits and needs, intents and desires have led to an outburst of publication activity in the eWoM-related fields. The citation database Scopus witnessed an eightfold rise in the number of eWoM-related publications between 2010 and 2018 (Scopus, n.d.), while the number of searches on the Google resource Google Scholar shows a six-fold increase (Google Scholar, n.d.).

One body of academic literature has been attempting to discover the psychological reasons behind the generation of eWoM. Despite having minor disagreements, researchers concur that the most common motive of writing about a product or service online is a pecuniary incentive provided by a company (Dichter, 1996; Sundaram et al., 1998). In other words, consumers are most prone to share their consumption experience when they are encouraged by a product manufacturer or service provider. At the same time, an altruistic motive to help other customers in their decision-making remains another strong determinant of consumers' proneness to post product-related information (Hennig-Thurau et al., 2004). Important eWoM drivers also include product involvement, or personal interest in a good or service, and message involvement defined as a consumer's response to the company's marketing efforts (Dichter, 1966).

Another stream of research is focused on what makes people read and trust other customers' reviews. Besides the apparent need for the information and advice-seeking, consumers read online reviews to mitigate financial and functional risks associated with a purchase (Lin & Fang, 2006). It is especially the case of service purchases as consumers cannot estimate their utility prior to the service use (Murray & Schlacter, 1990). Recent statistics show that eWoM is trusted more than twelve times

better than company-driven marketing, with up to 80% of customers relying on online recommendations while looking for product-related information (Kats, 2018).

#### *Effects of eWoM on consumer purchasing behavior*

This striking propensity to rely on eWoM to make a product or service choice has led marketers to realize its crucial importance in shaping consumer purchasing behavior. An influential paper by Ye, Law, and Gu (2009) focuses on the eWoM impact on the purchase intentions in the hotel industry. The authors discovered that an increase in hotel ranking by 10% engenders 5% growth in the number of bookings. Browning and Sparks (2011) validated the outcomes of their research and showed that customer trust and loyalty may also be affected by eWoM. Comparable findings were reported for restaurants (Lu et al., 2013) and transportation services (Mostafa, 2013).

EWoM also allows to identify how product or service is perceived by customers and what affects their satisfaction most. For example, eWoM analysis for airline companies' services showed that clients are most susceptible to the queuing time, comfort in lounge zones, and staff attitude (Lacic et al., 2016). Though dealing with reviews on different types of products and services, academicians agree that eWoM may be useful for predicting customer satisfaction and product perception (Misopoulos et al., 2014; Mostafa, 2013).

Thus, eWoM may affect consumers' purchase intentions, satisfaction, value, loyalty, and product perceptions, as it is considered to be an unbiased and therefore trustworthy source of information about a product or service. Yet, existing research mainly considers overall polarity of reviews (positive versus negative) without careful consideration of contextual cues that may also impact consumer behavior. We argue that knowledge of how consumers perceive various types of online reviews may contribute to the deeper understanding of consumer behavioral patterns and further refinement of digital marketing strategies of firms. Two concepts are selected that are frequently encountered on social media: irony and comparisons. To the author knowledge, no prior research has attempted to investigate the impact of these linguistic forms on consumer proneness to buy a product.

The following **research question** is to be addressed:

- *How does the presence of irony and/or comparisons in online reviews of a service affect the intention to use the service?*

By answering the question, we aim to get an insight into how sensitive consumers are to the use of various wordings and linguistic forms in the text. The study would allow to identify future focus areas for the improvement of digital marketing strategies. Knowing how consumers react to various types of messages and which words and combinations enjoy the highest attention, companies may adjust their online communication and customer support service to better fit into consumers' needs and requirements.

## Research hypotheses

### Research hypothesis: irony

To proceed with the formulation of the hypothesis, we start with defining the concepts of irony and sarcasm. Then, we briefly elaborate on existing literature in the field to describe how irony is perceived by consumers. This discussion will enable to find research gaps and propose research methodology to eliminate them.

#### Definition of irony

There is no academic consensus on what distinguishes irony and sarcasm. The Cambridge Dictionary (n.d.) defines the concepts as follows:

*'Irony is the use of words that are the opposite of what you mean, as a way of being funny'.*

*'Sarcasm is the use of remarks that clearly mean the opposite of what they say, made in order to hurt someone's feelings or to criticize something in a humorous way'.*

Comparable definitions are found in Macmillan Dictionary (n.d.) and Oxford Dictionary (n.d.). This enables us to conclude that both sarcasm and irony are humor types aimed to disguise the literal meaning by using words opposite of what is meant. Differences between terms are found in the object of the joke (sarcasm is normally aimed at a person) and the degree of its subtlety (sarcasm is claimed to be more aggressive and apparent than irony) (Attardo, 2000). However, in some cases, the distinction of the concepts remains tricky if not impossible. That is why, in marketing research, terms are frequently used interchangeably to avoid subjectivity and misinterpretations. Following Gibbs and Colston (2007) and Reyes et al. (2012), in the present paper we only employ an umbrella-term 'irony' that is also meant to embrace the notions of sarcasm and even skepticism.

Stern (1990) lists four distinctive features of irony: its intent to persuade, intellectual orientation, implicit nature, and ambiguity of interpretation. Combining definitions found in the literature with Stern's findings, we define irony as follows:

*Irony is an argumentative humorous statement with a literal meaning covert by the use of words opposite of what is being said or written.*

Thus, ironic opinion tweet is the post from the microblogging platform Twitter where irony is used to describe a consumption or service use experience. Non-ironic opinion tweet is the post from the microblogging platform Twitter that describes the consumption or service use experience without irony involved.

#### Comprehension of irony

Comprehension of irony may sometimes be challenging even in face-to-face communication, not to mention textual messages. Muecke (2017) describes how textual ironic communication works. According to the researcher, the process always involves two sides: an ironist and an audience-interpreter. An ironist encodes the real meaning into an ironic statement (the process termed by Muecke 'irony-work'). An audience-interpreter receives a textual message and attempts to derive the real meaning (interpretation) (see Figure 1).

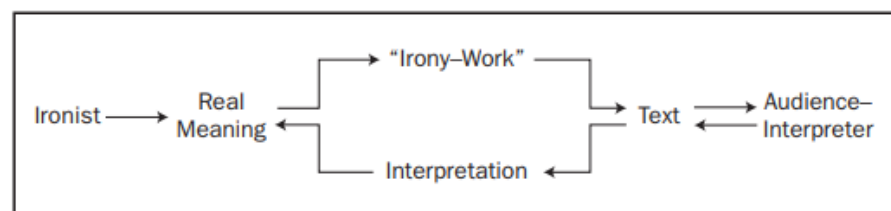


Figure 1: Ironic communication in texts (Muecke, 2017)

At the stage of irony interpretation, the audience-interpreter relies on linguistic cues provided by the ironist. While in face-to-face communication kinesics (e.g., facial expression, mimics, gestures, posture, etc.) and prosodic (e.g., intonation, tone) cues remain among the main signalers of irony, in written language, accent or modifier cues (counterfactual statements and hyperboles) and direct cues (e.g., the use of the word 'ironically') enable audience-interpreter to grasp the literal meaning successfully (Pehlivan et al., 2011).

*Schema incongruity theory: effects of ironic opinion tweets on the intention to use the service*

When encountered an ironic tweet, consumers feel incongruity between the written text and the underlying meaning of the utterance. This incongruity is caused by consumers' preexisting knowledge about the subject, which is termed 'schema' (Collins & Bobrow, 2017). Let us consider the following tweet: '"A" is the best restaurant! The plates are dirty, and food is just disgusting'. Already acquired knowledge (e.g., previous consumption experience) lead audience-interpreter to associate 'dirty plates' and 'disgusting food' with a bad service quality, which mismatches the description of 'A' being 'the best restaurant'. Thus, schema incongruity arises (Mandler, 1981).

Numerous studies have attempted to describe the effect of schema incongruity on people's attention to the message. Meyers-Levy and Tybout (1989) found that incongruity leads to greater cognitive load. Faced with an ironic message, consumers feel cognitive discomfort and stress because of the perceived mismatch between the written text and implied meaning. They attempt to resolve the incongruency by looking for embedded ironic cues. Studies show that consumers do so by reading an ironic message more times and at a slower pace than a non-ironic message (Attardo, 2000). Thus, ironic opinion messages evoke greater cognitive processing than non-ironic ones (Goodstein, 1993). This, in turn, facilitates greater brand recall (Dimofte et al., 2003), ads involvement and attention (Kim & Kim, 2018).

In the marketing domain, existing studies on the matter are mainly focused on irony in the company-generated context with no attention given to eWoM. However, consumer reviews are claimed to make a significant contribution to the formation of attitude toward product or service (e.g., Senecal & Nantel, 2004). This explains the importance of studying the impact of irony from online reviews on consumers' intention to use a product or service.

We hypothesize the following:

*H<sub>1</sub>: Negative ironic opinion tweets reduce the intent to use the service more than negative non-ironic opinion tweets.*

We build our research using only negative tweets, because irony is mainly used in online reviews to criticize or express dissatisfaction (Reyes & Rosso, 2012).

**Research hypothesis: comparisons**

*Definition*

Another relatively under-researched topic has to do with opinion tweets containing comparisons. We define a comparative opinion tweet as a post on the microblogging platform Twitter that contains comparison(s) of a product/service or specific features of those with the competing offerings (Wilkie & Farris, 1975). Non-comparative opinion tweet is the one that does not include comparison(s) with competing offerings. As in the case of irony, existing marketing research is strongly focused on comparisons in the advertisement. Though the findings in terms of the perception of comparisons from the text can be generalizable, the effect of comparisons in eWoM needs further examination.

### *Elaboration Likelihood Model*

How comparisons are processed can be explained with the use of the Elaboration Likelihood Model (ELM) of persuasion by Petty & Cacioppo (1986). The model features two routes of persuasion – central and peripheral. The central route requires deep evaluation and elaboration of arguments with additional cognitive load involved, while peripheral has to do with automatic and somewhat superficial processing of information.

According to Petty and Cacioppo (1986, p. 175), 'under the central route, attitude changes are based on a thoughtful consideration of issue-relevant information and an integration of that information into an overall position', which leads to the 'strengthening the interconnections among the components' (p.176). Existing research on ELM shows that more attention and higher involvement with a message are present when the information is processed under the central route (Petty et al., 1983).

Droge (1989) conducts a study in the advertisement domain and concludes that comparative textual messages tend to be comprehended under the central route while non-comparative ones follow the peripheral route. Academic literature offers several possible reasons for that. The first explanation is that when consumers are presented with two alternatives, more elaboration is involved in evaluation than in a one-case scenario (Wilkie & Farris, 1975). Secondly, as in the case with irony, comparative ads are claimed to activate schema – preexisting knowledge (Wood et al., 1985) and links between it and newly acquired information. This, in turn, facilitates the closer elaboration of the issue and determines that information will follow the central rather than peripheral route (Petty & Cacioppo, 1986). This leads us to the following hypothesis:

*H<sub>2</sub>: Negative opinion tweets that contain comparisons reduce the intent to use the service more than negative opinion tweets without comparisons.*

### **Research hypothesis: moderating role of the need for cognition (NFC)**

Following Kim and Kim (2015), we consider the need for cognition (NFC) to be a moderator for irony and comparisons perception. NFC is a personality trait described as an 'individual tendency to engage in and enjoy effortful cognitive endeavors' (Cacioppo & Petty, 1984, p.306). People scoring high in NFC rely on facts and high-qualitative arguments to process stimuli and are likely to engage in effortful thinking (Fennis & Stroebe, 2010, p.180). Low-NFC individuals, on the contrary, tend to use heuristic rules in information processing and are less interested in problem-solving and reasoning tasks than people with high NFC. Overall, NFC is found to be a reliable predictor of how people process information and deal with various tasks (Cacioppo & Petty, 1982) and has direct effects on individual consumers' attitudes and behavior (Cacioppo et al., 1996), as well as persuasion (Haddock et al., 2008).

Though no previous research considered the role of NFC in irony perception from online reviews, there exist several studies on the advertising that attempt to explain the role of NFC in ads perception. For example, in the study by Putrevu et al. (2004), the influence of NFC on complex advertising perception was investigated. The outcomes of the analysis showed that NFC may indeed moderate the perception of complex textual ads. Among the four dimensions of ad complexity distinguished, there is a lexical complexity which refers to the structure and linguistic utterances used in the message. Thus, ironic and comparative opinion tweets belong to the category of complex textual messages. This leads us to assume the moderating role of NFC in the perception of ironic consumer opinion and hypothesize the following:

*H<sub>3</sub>: The reduction in the intent to use the service after reading an ironic opinion tweet would likely to be greater for individuals with high NFC than for those with low NFC.*



*H<sub>4</sub>: The reduction in the intent to use the service after reading a comparative opinion tweet would likely to be greater for individuals with high NFC than for those with low NFC.*

## ***Method***

To discover the effects of the presence versus absence of (1) irony and (2) comparisons in opinion tweets on consumer intentions to use the service, we conducted a quasi-experiment. Further in the paper, the stimuli, data collection method, sampling strategy, and research approach are described.

### ***Procedure***

We opted to study the effects of irony and comparisons from online reviews of services from Twitter. The website enables its users to constantly interact in the 'one-to-many' mode. The distinction from other social networks stems from its microblogging nature that enables users to post regular updates on their daily activities and experiences. Twitter is the most popular and widely-used microblogging service with 326 million active users generating around 500 million posts (tweets) per day (Grothaus, 2018). Tweets are publicly available and can be easily 'retweeted', i.e., shared by other users.

There are several features of tweets that make them a feasible object of analysis within the scope of the present paper. Firstly, the number of characters in a tweet is limited to 280 symbols, which encourages authors to avoid tedious descriptions and stay concise. It results in consumer opinions from tweets being more 'concentrated' and easier to grasp than those from online reviews on review websites. Secondly, people tend to use informal language with strong sentiment words, which also fosters the understanding of tweet polarity. Finally, since Twitter is considered to be a platform for experience sharing with an abundant number of posts about consumption experiences. Recent research shows that over 80% of users (around 260 million people) tend to share their experiences daily (Thelwall et al., 2011). This makes tweets increasingly popular in opinion mining tasks for marketing research (e.g., Chamliertwat et al., 2012) and leads us to use eWoM from Twitter in the analysis.

We chose tourism services as a starting point for the analysis, as they are consumed with a certain degree of regularity by demographically and geographically dispersed groups. Also, there is a higher level of dissatisfaction involved if a tourism service does not match travelers' expectations (Atilgan et al., 2003). As a basis for research, we took hotel services provided by Hilton Hotels & Resorts. The company is one of the largest hotel chains in the world and enjoys a global presence with properties in 78 countries (Hilton Hotels & Resorts, n.d.). Hilton chain targets a wide range of customers from business to leisure travelers in different price segments. Finally, the brand is associated with good quality, which results in guests' proneness to have high expectations from their stay. Prior research has demonstrated that higher expectations lead to greater disappointment if a provided service does not match a pre-consumption image in the consumer's mind (Bell, 1985), which, in turn, fosters the generation of negative eWoM. However, in case a service exceeds already high expectations, elation (i.e., euphoria) comes into play. If initial expectations are already high enough, any further reinforcement of positive feelings will lead to a greater degree of client's happiness (Bell, 1985) thus encouraging the creation of positive eWoM. This leads us to conclude that Hilton guests, having higher expectations prior to service use than clients of lower-class hotels, will tend to be more willing to share their consumption experiences if any kind of incongruity arises.

To develop strong stimuli for the quasi-experiment, we first extracted opinion tweets related to the Hilton chain using the open source software package 'R' freely available to download. We used the hashtags #Hilton, #HiltonHotel, #HiltonResort and stop words 'Perez' and 'Paris' to prevent confusion with tweets about the popular actress. Also, the combination of the character '@' and the name of the hotel chain (@HiltonHotels) was used to find tweets addressing the official account of the company. Following Thelwall and colleagues (2011), we fetched tweets only in English. Extracted tweets were stored in the e-table on Google Spreadsheet. We analyzed the dataset to choose an irony-containing utterance to be further used in a questionnaire to ensure stimuli are perceived as Twitter posts. For this purpose, original spelling, punctuation, and the use of hashtags (#) and mentions (@) were left intact.

The selected tweet was modified to suit four experimental conditions regarding the presence of irony (I) and comparisons (C): (I+ C+; I+ C-; I- C+; I- C-). The following tweets corresponded to the scenarios:

**I+ C+:** *Always fun to check into your room and find the last guest's trash behind the furniture. Something that would never happen in @Marriott... Will never stay at @Hilton again!*

**I+ C-:** *Always fun to check into your room and find the last guest's trash behind the furniture. Will never stay at @Hilton again!*

**I- C+:** *I checked into my room and found the last guest's trash behind the furniture. Something that would never happen in @Marriott... Will never stay at @Hilton again!*

**I- C-:** *I checked into my room and found the last guest's trash behind the furniture. Will never stay at @Hilton again!*

#### *Sample*

Qualtrics software was used to develop a questionnaire estimating how the presence of irony and comparisons in tweets may affect consumer intention to use the service. The survey targeted people from 16 to 50 years old with different educational and professional backgrounds, as well as countries of residence. Before starting to distribute the questionnaire, we ran a pre-test with 10 people. All participants were asked to evaluate the ease of understanding and completing the survey, as well as to give feedback on the questionnaire design and user-friendliness.

A non-probability sampling strategy (virtual snowball sampling) was applied as it has been demonstrated to increase the response rate through a higher level of respondents' trust towards the researcher (Baltar & Brunet, 2012). We used a self-administrated survey that is distributed online. Participants were encouraged to recruit other respondents from their network by sharing the survey link. To avoid community bias stating that the initial set of respondents tends to have a substantial influence on the survey results (Ochoa, 2017), we attracted as demographically diverse respondents as possible by publishing the link to the questionnaire in the open access on the Facebook page with more than 200 followers aging from 14 to 52 y.o. Respondents were informed about the voluntary nature of the survey and offered to receive the results of the research via email. In total, 109 fully completed questionnaires have been collected.

The surveys were analyzed with the use of statistical software SPSS. Regression analysis was further employed to establish whether the data support the hypotheses.

#### *Descriptive statistics*

The majority of survey respondents were females (78% compared to 19% of males). More than half of the participants (52%) were aged between 18 and 24 years, 40% fell within the range from 25 to 34 years. Students accounted for 60% of the sample followed by working professionals (32%), and currently unemployed (5.3%) individuals.

*Measures: need for cognition*

Because the present research aims to assess a moderating effect of NFC on irony and comparisons perception, the first block of the survey was designed to estimate NFC of the respondents. We employed a shortened 6-items version of the original questionnaire developed by Cacioppo et al. (1984) (De Holanda Coelho et al., 2018). It is claimed to save respondents' time and prevents survey fatigue, to mitigate the lack of concentration and the number of dropout rates (Rammstedt & Beierlein, 2014). A 5-point Likert scale ranging from 'extremely not like me' to 'extremely like me' was used.

*Measures: intention to use the service*

In the second block, each of the respondents was randomly assigned with one of four possible scenarios (I+ C+; I+ C-; I- C+; I- C-). In this part of the survey, we aimed to identify customers' sensitivity to the presence of irony by asking them whether they find that the literal/surface meaning of the tweet differs from its real/hidden meaning. The question was taken from the survey of Kim and Kim (2015). Participants specified their opinion using 5-point Likert scale with answers from 'totally disagree' to 'totally agree'. The same logic was applied to check a participant's ability to identify comparisons.

Finally, participants were also invited to specify whether they would consider staying at a Hilton hotel after reading ironic and non-ironic reviews (given they need to stay in a hotel and can afford it). This approach was expected to help in comprehending the degree to which people are affected by irony and comparisons in consumer reviews.



## Results

### Manipulation check

First, the data for analysis were tested for normality and found to be normally distributed thus satisfying the assumptions of the statistical analysis methods used.

As stated above, survey respondents were randomly assigned to one of four scenarios where the presence of irony and comparisons was externally manipulated (I+ C+; I+ C-; I- C+; I- C-).

Firstly, we assessed whether respondents comprehend the presence of irony and/or comparisons in tweets. The ability to identify irony was examined by asking survey takers whether, in their opinion, the literal/surface meaning of the tweet differs from its real/hidden meaning. 5-point Likert scale with answers ranging from 'totally disagree' to 'totally agree' was used.

As for comparisons perception, participants were asked to specify the degree of their agreement with the statement 'I find that the tweet compares Hilton with another hotel chain' with answers 'totally disagree', 'totally agree' used as anchors.

A t-test showed that respondents could easily distinguish ironic/comparative utterances from non-ironic/non-comparative ones (see Table 1), which demonstrates that the manipulation has been successful.

	Mean	t-value	p-value
Ironic tweet	1.49	25.67	0.00
Non-ironic tweet	2.73	16.27	0.00
Comparative tweet	1.48	25.48	0.00
Non-comparative tweet	2.75	14.39	0.00

Table 1: t-test results for irony/comparisons comprehension

### Hypotheses testing

We hypothesized the following: (1) intention to use a service will be lower after reading a negative ironic opinion tweet rather than after reading a negative non-ironic opinion tweet; (2) intention to use a service will be lower after reading a negative comparative opinion tweet rather than after reading a negative non-comparative opinion tweet. To test the hypotheses, we conducted a univariate 2×2 (comparative/non-comparative; ironic/non-ironic) ANOVA with the intention to use a service after reading the tweet as a dependent variable. The analysis demonstrated that there was no significant effect of irony (p-value = 0.55), comparisons (p-value = 0.54) or their simultaneous presence (p-value = 0.98) on the intention to use a service. Thus, H<sub>1</sub> and H<sub>2</sub> were not supported by the data. The potential causes of such the research outcomes and advice on how to overcome them are provided in the 'Limitations' section of the present study.

### Moderating role of the need for cognition (NFC)

Further, the research considered the intention to buy a service after reading an ironic/comparative opinion tweet conditional on the individual need for cognition (NFC). We previously described NFC as an individual inclination to ruminate. The findings from the literature review allowed for the assumption that the higher NFC leads to a better irony and/or comparisons comprehension and, hence, impacts the intention to use a service.

It was expected that the intention to use a service would be lower for people with higher NFC when a negative opinion tweet is ironic rather than non-ironic. Similarly, higher NFC was expected to lead to a lower intention to use a service when an individual is exposed to a negative comparative opinion tweet rather than to a non-comparative one. Thus, NFC was considered as a moderator in the

relationship between the information from ironic/non-ironic tweets; comparative/non-comparative tweets and the dependent variable (intention to use a service).

To test the assumption, we only used answers of respondents with high/low NFC scores neglecting those with the average NFC. The approach is taken from Kim and Kim (2015) and is found to more accurately compare top and bottom groups.

We separately consider the influence of NFC on ironic/non-ironic and comparative/non-comparative tweets perception. Following Kim and Kim (2015), we conduct two 2×2 ANOVAs (low/high NFC and ironic/non-ironic tweet; low/high NFC and comparative/non-comparative tweet). The results of the analysis showed that there was no significant effect of the individual NFC level on the dependent variable (intention to use a service) in any of the scenarios. Thus, H<sub>3</sub> and H<sub>4</sub> were not supported. Tables 2 and 3 provide an output of the analysis.

	<b>df</b>	<b>MS</b>	<b>F</b>	<b>Sig</b>
Irony	1	.027	.005	.943
NFC	1	6.357	1.192	.283
Irony×NFC	1	2.439	.457	.504

*Table 2: 2×2 ANOVA results (irony, NFC)*

	<b>df</b>	<b>MS</b>	<b>F</b>	<b>Sig</b>
Comparisons	1	13.435	2.726	.109
NFC	1	8.489	1.723	.199
Comparisons×NFC	1	1.344	.273	.605

*Table 3: 2×2 ANOVA results (comparisons, NFC)*

## ***Discussion***

### *Limitations*

The present study contributes to the body of research on consumer decision-making. To the author's knowledge, it is the first study of its kind to assess the effects of irony and/or comparisons presence in tweets on the intention to use a service. Previous research either addressed online reviews in general without considering special contextual utterances or dealt with ironic and/or comparative messages in the advertisement domain. Thus, our main contribution is an insight into how sensitive consumers are to various contextual instances in online reviews on social media.

Our analysis has revealed that consumers can identify the presence of irony and/or comparisons in online reviews on Twitter with a high degree of certainty. Further, we investigated whether the perception of a tweet as ironic/comparative rather than non-ironic/non-comparative affects the intention to use a service. In building the hypotheses, we relied on the research from the field of advertisement claiming that ironic and comparative ads get more attention and hence results in greater involvement. This led us to test whether the same relationship is present if people are presented with consumer-generated service-related messages rather than company-driven ones.

Our results suggest that there are no significant differences in the effect of ironic rather than non-ironic opinion tweets ( $H_1$ ) and comparative rather than non-comparative ones ( $H_2$ ). We offer several explanations for these outcomes.

Firstly, we used only one dependent variable 'intention to use a service'. However, the presence of irony and/or comparisons in tweets may affect other metrics, for example, attitude toward a brand, perception of brand quality, brand satisfaction, or even loyalty. We are prone to believe that using various dependent variables might bring different results.

Secondly, we used a well-established and worldwide recognized brand Hilton Hotels & Resorts associated with high-quality services. High brand equity of Hilton could have absorbed the negative effects brought about by reviews on social media. Therefore, in succeeding research, the use of an imaginary service brand to avoid the prior knowledge bias might prove useful.

Thirdly, rejection of the hypotheses may be partly caused by the insufficiency of data for analysis and/or by the lack of variability in the sample. As most of the participants were female students at the age of 18-24 years, the data might mostly correspond to the perceptions of this demographic group. To ensure the dataset is representative, longer data collection with more sources involved could be used.

### *Implications*

Our research shows that even though consumers clearly identify irony and comparisons in social media posts, these linguistic instances do not play a major role in the formation of customer purchase intentions. This understanding allows for more simplified management of the online voice of the customer with fewer resources (both IT and human resources) involved. At the same time, brands may use the findings of the paper to prioritize answering to customers' complaints: ironic or comparative messages should not be given higher priority.

For the research community, the algorithm used in the present work may give a start to a more sophisticated analysis of contextual instances from customer reviews on social media. Also, the absence of differences in the effects of ironic and non-ironic tweets may be born in mind while performing automatic eWoM analysis tasks.

For consumers, the findings are twofold. For review authors, it might be important to realize that irony and comparisons do not make a review more influential and to use other mechanisms to communicate their message more effectively. From the readers' perspective, the present research



demonstrates that there are no risks of a brand image distortion that might arise when reading posts on social media.

#### *Suggestions for further research*

For marketing researchers, the present paper may become a starting point of further investigation of contextual instances from eWoM on social media.

Firstly, consecutive research may study different contextual instances like, for example, metaphors, hyperboles, personification, juxtaposition, and even the use of emojis. It would be of great interest to conduct comprehensive research summing up all the most frequently encountered contextual utterances and analyze their impact on consumer purchase intentions.

Secondly, in the present paper, we used Twitter posts alone without comparing them to customer opinions from other social media with different properties of posts (lengths, language, the punctuation used). However, researchers might also compare the effects of online reviews from various social media (like Facebook, Instagram) on purchase intentions. To this aim, thorough linguistic analysis first needs to be conducted to define the specific features of online reviews on each of the social networking sites and estimate their contribution in shaping customer opinions.

Finally, the present paper dealt exclusively with the effects of opinion tweets on the purchase intentions for services. However, testing the same hypotheses for goods might also bring different results.

We are confident that if all the limitations of the present paper are elaborately overcome, the research may bring a significant contribution to the sphere of social media eWoM understanding.

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