The effect of presentation format on the persuasiveness of online consumer reviews

Abstract

Computer-synthesized speech is emerging as a major human-computer interface in post-PC devices like smartphones, tablets or home assistants. Siri, Alexa and Cortana are just a few examples of voices that can be heard around households. However, there is limited research on the effects of computer-synthesized speech on the user experience. We contribute to this stream of research by focusing on the persuasiveness of online consumer reviews. While a typical consumer review's presentation consists of text accompanied by images and numeric ratings, our study uses computer-synthesized speech as the delivery format of online consumer reviews. We find that individuals' purchase intentions and trust beliefs increase when they listen to reviews produced with computer-synthesized speech, instead of reading text reviews. The same effect is not detectable with respect to perceived review credibility.

Our work adds to the literature on online persuasiveness because of its timeliness and novelty. To our knowledge, it is the first empirical study testing the effect of computer-synthesized speech as a mode of delivery for online reviews. More fundamentally our study calls for better theorizing the causes of increased persuasiveness of spoken versus text reviews and to expand this theorizing beyond the online opinions context.

Keywords: Online Reviews, Persuasion, Presentation Format, Laboratory Experiment

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest: none.

1. Introduction

With their first appearance on the Internet in 1999, online reviews – or peer-generated evaluations posted on a company's or third party's website [1] – offered a possibility to express an opinion and rate products and services. Nowadays it is possible to find reviews about almost everything on the Internet, from products and hotels to university professors and medical doctors. The perception of reviews being authored by peers contributed to their popularity and their influence on user behaviors. Since individuals believe that online consumer reviews are written by others like them, documenting the first-hand use of a product or a service [2,3], they highly trust online opinions and often prefer them to commercially-created messages [4–6]. In fact, online reviews are perceived as one of the most credible media for advertising [7,8], and 84% of respondents to a recent survey claim to trust them as much as recommendations from a friend [9].

While there are many effects associated with online reviews, we focus on their persuasiveness because that is their main purpose – to influence users and to spur them into actions, such as booking a hotel or refraining from booking it. In the context of this study, we define online review persuasiveness as the extent to which reviews are capable of influencing a reader to perform a particular behavior (e.g., purchasing, booking, etc.).

Reviews' persuasive effects have been the object of many studies. The bulk of the online review literature focuses on their persuasive effects, trying to explain the elements that have an impact on individuals' decision-making process and behavior [10–14]. Scholars agree that elements of online reviews influence an individual's decision-making processes – no matter the original motivation to read them [15,16]. However, even if the effect of written online reviews is clearly visible, individuals tend to favor realistic communication more. Studies have shown that there is a positive correlation between the perceived reality of a setting, or the behavior of a virtual communicator, and the level of influence and social

interactions that web users exhibit [17,18]. This finding also indicates that there is still a difference between computer-mediated interactions and physical ones. Thus, in order to increase the level of persuasiveness of online reviews, increasing their degree of realism seems beneficial. One approach, as will be taken in this study, is to change a review's presentation format [19].

The prototypical presentation of current online reviews is the written text, accompanied by images and numerical ratings, often expressed as stars or "bubbles." While previous literature focuses on the persuasiveness of review content, source type and readers' characteristics, little is known about the effects of the presentation format on persuasiveness. Other presentation formats may increase the persuasive potential of online reviews [19], but empirical research is still needed. While limited previous work focuses on online video only, there are other emerging formats, such as speech synthesis, being popularized by the likes of Apple, Google, Microsoft and Amazon. Although computerized speech synthesis traces its roots to the early 1900s [20], it is only now becoming a standard feature in digital technology and consumer electronics, changing people's attitude towards computers in general [21,22]. However, knowledge about the topic is still limited, and little is known about the potential effect of computer-synthesized speech in the context of e-commerce transactions. Early research focused on customer service [23] or avatars promoted by retailers [24], but computer-mediated interactions between customers, facilitated, for example, through user-generated content and online reviews, have not been the object of computer-synthesized speech research.

Our work offers a first step toward understanding the mechanisms by which synthesized speech makes a computer-delivered message more persuasive. We investigate whether computer-synthesized speech, as a presentation format of online reviews, can increase a review's persuasiveness and affect an individual's decision-making process by

changing his perception about the subject area of the reviews. Given the exploratory character of our work, we narrowly focus our study to the effect of presentation format on purchase intention, trust belief and perceived credibility of online reviews (**Error! Reference source not found.**). If indeed the presentation format has an effect – as we show in the paper – the design of future online reviews platforms needs to be altered.

Concept	Definition	Source
Purchase intention	The recipient's behavioral intention toward action - the direct indicator of one's readiness to purchase based on reviews.	Fishbein & Ajzen [25] Xia & Bechwati [26]
Trust belief	The recipient's confidence that a firm will deliver a good or service at the quality which the consumer expects.	Sichtmann [27] Sparks, Perkins, & Buckley [28]
Credibility of online review	The recipients' belief in the message's reliability – the believability of the message	C.M.-Y. Cheung, Sia, & Kuan [29]

Table 1 Main concepts used in the paper

The paper is organized as follows: in the next section, we present the literature background on the persuasive effect of online consumer reviews and the effect of computer-synthesized speech on the behavior of individuals. Next, we explain the design of a lab experiment conducted to examine the effect of presentation format on the persuasiveness of online reviews. We then discuss the results and conclude with a discussion of our contributions.

2. Literature background

2.1. Persuasiveness of Online Reviews

Online ratings and reviews are able to "modify people's attitudes about a product to which the online reviews pertain" [12], thus influencing their buying decisions [30]. Previous research has focused on persuasion by measuring the quantitative elements of online reviews, such as star rating [11], or secondary text characteristics, such as emotions expressed within a review's text [31]. While generally trusting online reviews, individuals spend little time on

reading them and comparing different opinions. Survey data in the hospitality context suggests that most individuals (68% of respondents) read less than seven reviews when making a purchase decision [9]. In fact, the number of people reading more than seven online reviews has halved (from 44% to 22%) within a three-year time span (from 2011 to 2013). In short, there is some evidence that people increasingly trust online reviews, but they read fewer reviews overall. This finding, albeit anecdotal, suggests that individuals take into account only a few opinions, but that those opinions carry a disproportionate weight for their ultimate decision-making. Thus, understanding how to maximize the persuasiveness of a review is increasingly consequential.

The majority of scholars in the area of online reviews research have predominantly focused on valence [26,32,33] or volume [34–36] and their effect on persuasiveness. More recently, however, researchers have started shifting their interest towards contextual elements, like platform type: independent versus corporate [37,38]; purchase and review posting timeframe: recent versus outdated reviews [39]; and other elements: product categories or quality certificates display [28,40,41]. The common denominator across these studies is their presentation format – they exclusively used textual reviews, supported by images. To our knowledge only one notable recent exception exists that looks beyond the textual and visual content of reviews. Conducted as an experimental, the study shows that users rate a video review as more helpful, credible, and persuasive than a standard, written review accompanied by an image [19].

2.2. Persuasiveness of Computer-Synthesized Speech

While there is no established theory to predict whether synthesized speech would affect – positively or negatively – the persuasiveness of a message in the context of online reviews, there is evidence that presenting communication messages with avatars [23,42] or

computer-synthesized speech [22,23] does affect an individual's perception of credibility or persuasiveness of the message.

Previous research has investigated the effects of computer-synthesized speech on human-computer interactions. People behave differently and hold different attitudes towards technology when computers deliver a message via changed presentation format. For example, in a lab experiment of 46 student subjects where a virtual driving test was administered, participants tended to drive safer and eco-friendlier when an audio message received from the on-board computer matched with the participants' emotions [43]. Moreover, researchers proved that this kind of communication changed people's attitudes towards computers by increasing an individual's reported liking of the medium and author of the message [22].

The psychology of speech processing is the theoretical underpinning of these findings [21,22]. The recognition of speech, even speech that is computer-synthesized, is innate, and we, as human beings, process it unconsciously. The presence of human characteristics in speech (e.g., the tone of voice or emotions represented within it) have a stark effect on an individual's behavior based on the unconscious belief that only other human beings can produce speech-like sounds. In this perspective, the human brain extends the recognition and understanding of voice to computer-synthesized speech and seeks out social cues of communication as if it were interacting with another person. When people hear computers "speaking," they "make attributions about voice systems using the same rules and heuristics they would normally apply to other humans" [21]. The human brain reads these implicit social cues and forms the belief that the computer is another member of society. In essence, individuals react as if the machine was another social actor [44], thus developing perceptions and following the social norms of a typical communication process between people [45]. Many Amazon Echo owners anthropomorphize the device and refer to it as "she" because it uses a female voice and is known as "Alexa." One of the users found himself constantly

saying “please” at the end of requests made to his Amazon Echo – a natural behavior, but one that is in fact silly as verbal requests made to a speech-to-text synthesizer are interpreted by a machine learning algorithm. Similar anecdotes exist for other devices using computer synthesized speech (e.g., GPS navigation systems).

Empirical studies have found that when an individual knows that a message is produced by a computer, his perceptions are the same. In other words, the effect of human voice on persuasiveness is no greater than the effect of synthesized voice on persuasiveness [46]. In some cases, particularly in situations when problem-solving skills are required, computer-synthesized speech is actually more persuasive [47]. The very limited work on the role of computer-synthesized speech in computer-mediated, peer-to-peer commercial communication [23,24] corroborates this effect. Even if delivered as a computer-generated voice message, speech is perceived more enjoyable than a text message. For example, in a laboratory study of 72 students doing online shopping, recipients tended to focus more on the content of messages when delivered via speech than when experienced text and speech at the same time, or text only treatments [23]. Thus, despite the lack of previous work explicitly guiding research on the effect of computer synthesized speech on the persuasiveness of online reviews, we hypothesize a positive effect. We use purchase intention as a direct antecedent of actual purchase behavior triggered by persuasive online reviews [25,48] Specifically, we state:

H1. Subjects listening to online reviews presented with computer-synthesized speech develop stronger purchase intention than subjects reading text reviews.

The psychology of speech processing literature also posits that computer-synthesized speech has an impact on an individual’s perceptions of trust [22]. Likewise, the online review literature shows that peer opinions affect trust belief. More specifically, the valence of reviews, as either positive or negative [41,49], the volume of reviews, as either high or low

[50], and the presence or absence of a profile picture of a review's author [51] contribute to the level of trust an individual forms. We provide a first empirical test of the proposition that the presentation format also influences trust belief engendered by online reviews. Specifically, we hypothesize:

H2. Subjects listening to online reviews presented with computer-synthesized speech form stronger trust belief than subjects reading text reviews.

The literature on online reviews recognizes review credibility as an important factor affecting perception of the reviews [29,52], contributing to a review's persuasiveness [53,54]. Elements, like argument quality or message sidedness, increase a review's perceived credibility, and if a review is considered credible, a reader trusts its arguments [29,54]. Literature on persuasive processes recognizes that a credible message affects reader's behavior [55]. Taking into consideration that presentation format affects the credibility of a message [19], we hypothesize that:

H3. Computer synthesized speech increases the perceived credibility of online reviews.

3. Research Method

3.1. Design

We designed a posttest only randomized experiment, with participants assigned to one of two groups. Each group had access to only one version of the experimental website. The context chosen for the study was the hospitality industry. We consider this context to be a perfect fit for our inquiry, because the hospitality industry is highly impacted by online reviews as individuals heavily rely on their content when choosing hotels or restaurants [56].

For a fictitious hotel, we designed a hotel review page of the kind hosted on the hotel's own website or a travel intermediary like TripAdvisor or Expedia. Each website

presented the hotel's information (such as name, address, phone number), a description of hotel's offerings and images of its interiors. Both websites had exactly the same non-treatment content and layout design, inspired by the most popular hotel reviews platforms, to increase users' familiarity with the layout and to reduce potential usability errors. The difference between treatments pertained only to the method of presentation for reviews (text vs. computer-synthesized speech) (Figure 1).

Due to our focus on presentation format, we standardized all other elements between treatment and control group, including review valence, review length, review volume, etc. The presentation format was varied at two levels: text and computer-synthesized speech. A male voice, produced with a high-quality text-to-speech (TTS) software, IVONA, was used to generate exact computer-synthesized speech replicas of the textual reviews. Given the several options available by IVONA, we selected the most human-like commercial voice available to provide a human voice to all reviews.

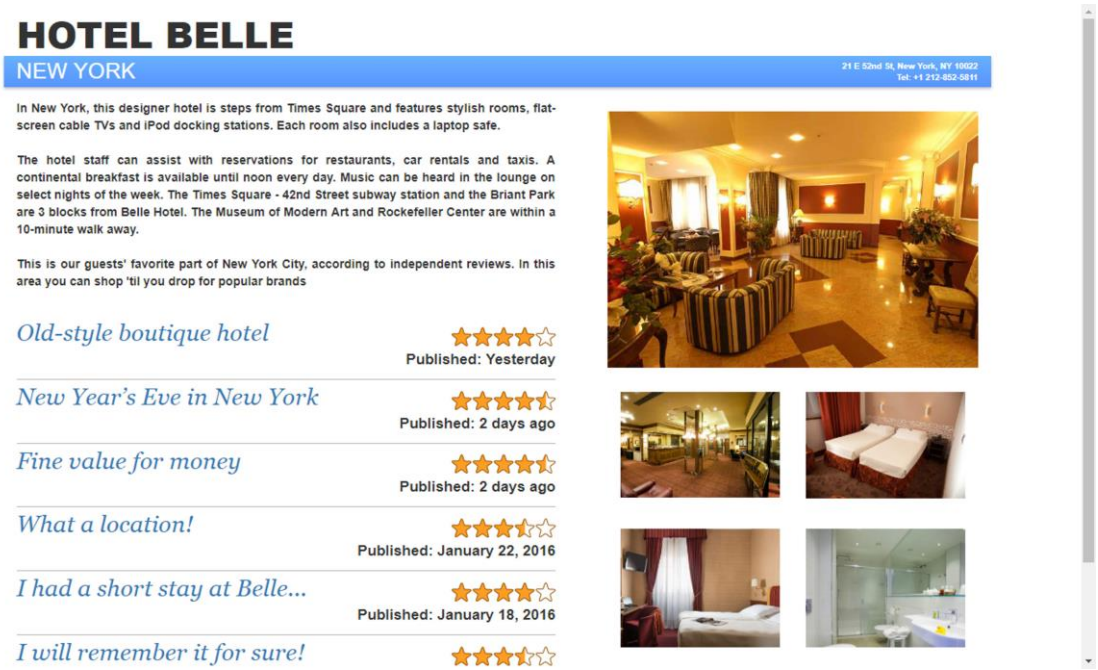

Figure 1 Experimental online reviews website

3.2. Participants

Participants for the study were solicited from a European university; each student received a small course credit as a motivating token to partake in the experiment. We employed convenient, non-probabilistic sampling and recruited 80 participants between 18 and 35 years of age. This age group was deemed representative since it matches the majority of individuals who most often use online reviews to prepare travel plans [57]. All participants remained completely naïve about the aims and purpose of the study during the treatment, but were debriefed after the experiment.

3.3. Variables

The treatment was subject to three dependent variables: purchase intention, trust belief and perceived credibility. Each variable was measured on a 7-point Likert scale, originating from previous research. We measured trust belief (TRB) with five items adapted from Sparks et al. [28], purchase intention (PI) using two items adapted from Xia & Bechwati [26], and perceived review credibility (CRED) with five items adapted from C.M.-Y. Cheung et al. [29]. Reliability of all scales was independently tested and was either high or very high (Table 2).

Construct name	**Source**	**Number of items**	**Cronbach's α**
Purchase intention	Xia & Bechwati [26]	2	0.96
Trust belief	Sparks, Perkins, & Buckley [28]	5	0.85
Perceived review credibility	C.M.-Y. Cheung, Sia, & Kuan [29]	5	0.83

Table 2 Summary of constructs used in the study

3.4. Apparatus

First, we prepared two sets of reviews and an application representing a model hotel review website. The reviews for the study were extracted from a database containing 200,608 real hotel reviews that were posted on one of the biggest hotel review platforms. We crafted

our experimental reviews by adjusting real opinions in the dataset to standardize the length and topics they addressed. Review length ranged from 35 to 75 words with an average of 48.7 words. Based on the recent finding that that majority of people read only less than seven reviews before making a decision [58], our fictitious Web site showed six reviews overall; in addition, it displayed the review's star rating and date of publication since those items are a staple of online reviews. However, given our sole focus on presentation format, these items were standardized across treatment and control conditions (**Error! Reference source not found.**). To avoid ordering effect, we created multiple sets of reviews. Each set presented a range of dates and star ratings and were carefully matched between treatment and control. In total, we had four sets of six textual reviews that were synthesized into four matching speech sets. The recordings lasted 24 seconds per review on average.

Both experimental websites were implemented such that each tracked an individual's behavior on screen, including the number of clicks, the duration of the visit, time spent on reading or listening to each review. All the data from the model websites and the survey were stored in an external database and survey instruments were administered online at the end of the study. Last, we added a simple hearing ability test, which each subject had to complete after the experiment. We included two control questions in the survey, which captured participants' attentiveness.

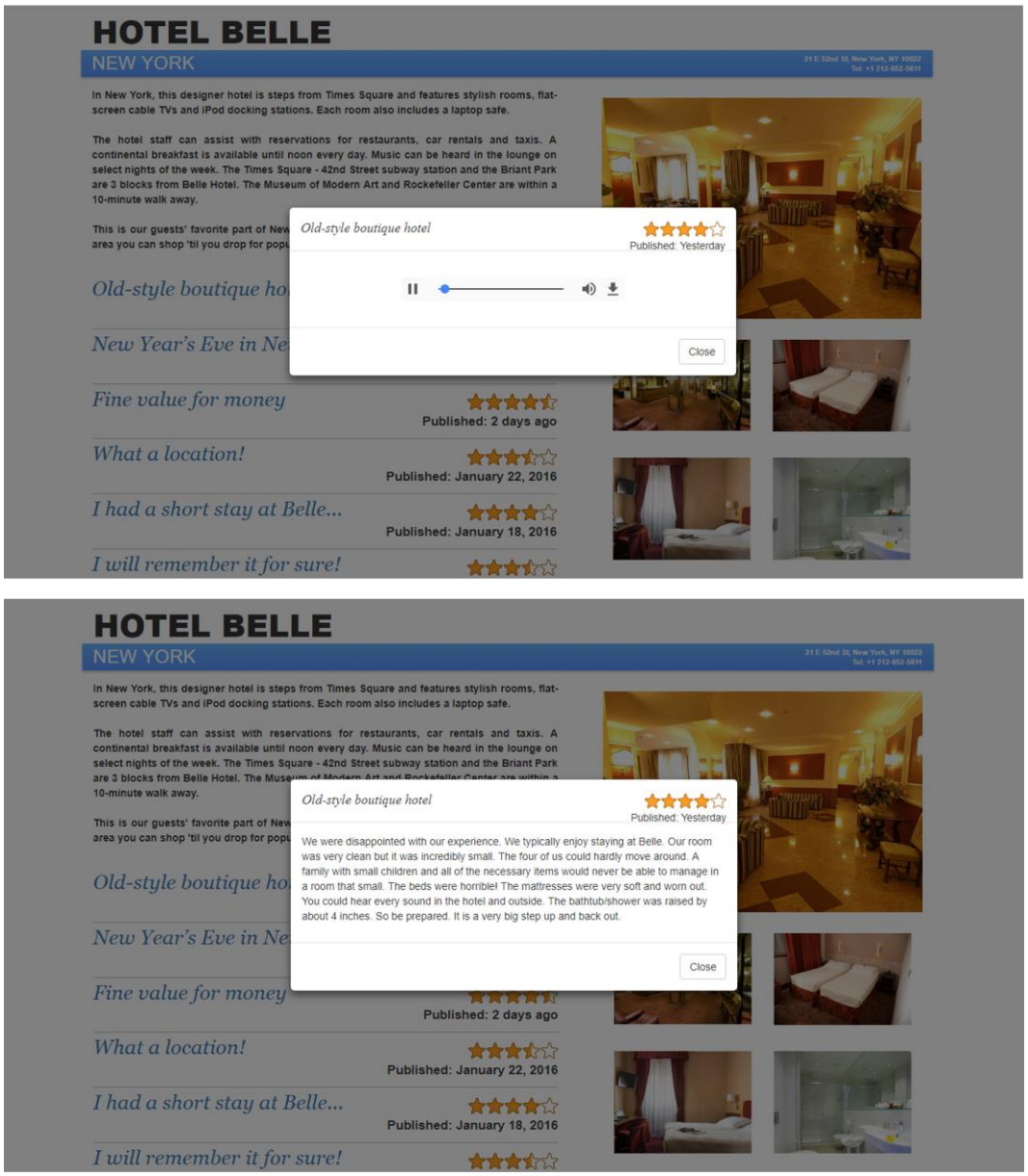

Figure 2 Both experimental websites after opening the reviews

3.5. Procedure

The experiment took place in a university's computer lab. First, participants received a broad introduction about the study in general without revealing the study's real purpose. All participants were asked to wear headphones, not only to provide a clear sound of the computer-synthesized speech, but also to separate them from surrounding noises and potential distractions. After agreeing to the informed consent and reading through the study's instructions, each participant was randomly assigned to one of two experimental groups.

Then, participants were asked to familiarize themselves with the web content in the same way they would when gathering information about a trip. They were free to use all the information provided on the website. To ensure that both groups were exposed to the same conditions, participants had to click on the title of a review to display its text or to produce its sound. Put differently, the number of clicks necessary to access the content of a review was exactly the same for both treatment groups. Participants could read or listen to the reviews as many times as they chose. We did not set any time limits on the task, so that participants would behave in a manner that came natural to them. Next, every participant filled out a survey, capturing their perceptions about hotel qualities and review credibility, as well as their purchase intention. Before leaving, each subject was debriefed and the real purpose of the experiment was revealed.

4. Results

Prior to the analysis, we ensured that the manipulation occurred correctly and that participants followed the experimental procedures. We removed the records of those subjects, who did not pass the control questions or the hearing ability test. The system ensured that participants read or listened to all six reviews to ensure that they were exposed to the same content and only the delivery method varied. We excluded all the participants who received speech treatment and spent less than 2.5 minutes on the page or who received the text treatment and spend less than 1.5 minutes on the page. We deemed these intervals as not enough time to accurately read and process the reviews provided. From the original 80 participants, we had a usable sample of 62. Random assignment to treatments was almost perfectly balanced (Table 3).

Treatment	**Number of participants**
Speech	32
Text	30

TOTAL	**62**

Table 3 Sample size of treatment groups

4.1. Sample description

Overall, there were 25 females and 37 males (Table 4). Control questions included how often participants shopped online and travelled throughout the year, as well as the frequency of their use of online reviews when shopping or booking a hotel. Most participants (80%) used online reviews regularly when performing commercial activities online and reported that they relied heavily on online reviews before travelling (86%). No significant differences were found between the two experimental groups with regards to any of the control questions ($p = 0.91$ and $p = 0.75$, respectively).

Presentation	**Male**	**Female**
Speech	56%	44%
Text	63%	37%

Table 4 Gender distribution in each treatment group

4.2. Difference between groups

Due to the violation of normality of the sample distribution, we conducted a nonparametric Mann-Whitney U test to compare the effect of both computer-synthesized speech and text conditions on all three dependent variables. The test for homogeneity of variance for each of the variables showed an insignificant difference between the groups. Thus, we proceeded with the analysis. Also, mean scores for each of the dependent variables were in the hypothesized direction (see **Error! Reference source not found.**).

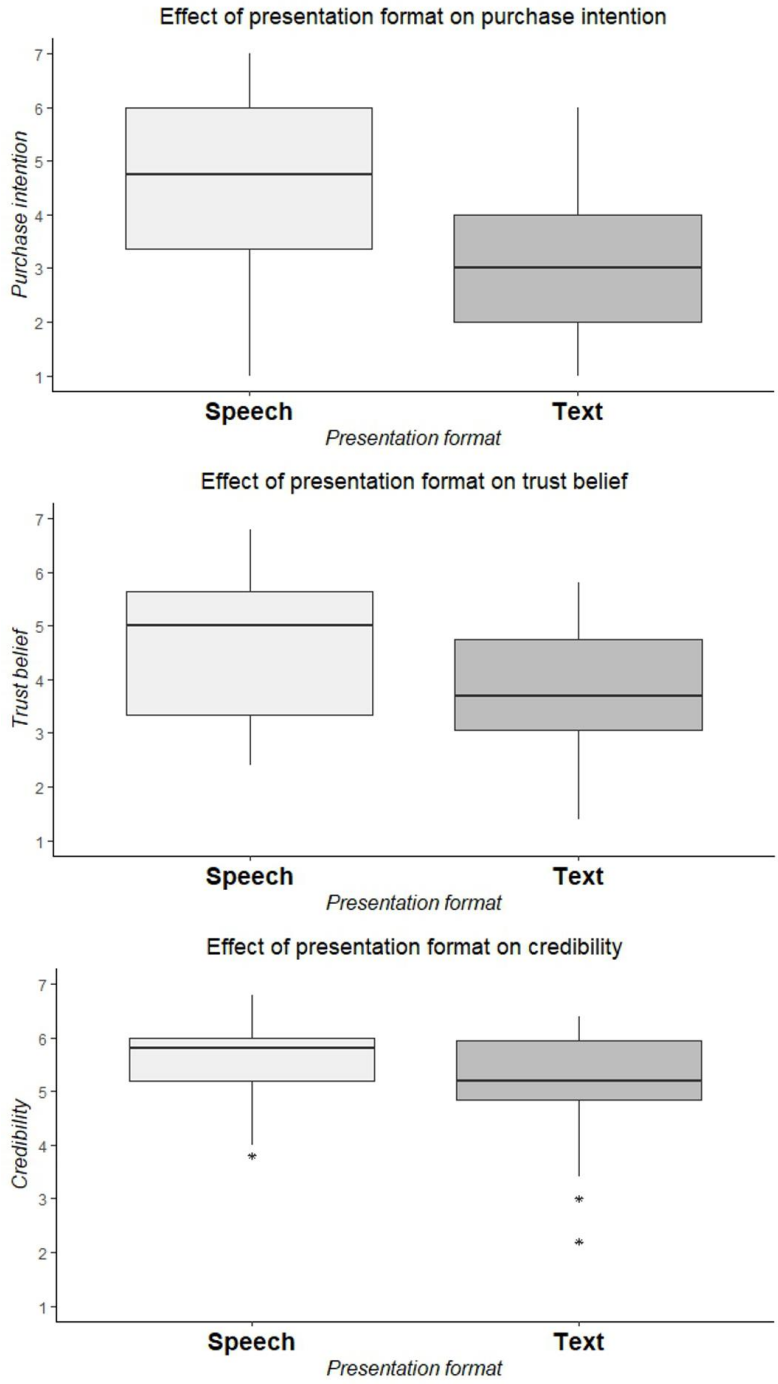

Figure 3 Effect of treatments on dependent variables

As expected, for purchase intention (H1) the median for computer-synthesized speech (4.75) is higher than the median in the text condition (3.00). We find a significant difference (p-value < 0.01) with mean ranks for computer-synthesized speech and text conditions equal 37.34 and 25.27, respectively (U = 667). The effect size of the presentation format on purchase intention is medium, r = 0.334. With regards to trust belief (H2), the median for

computer-synthesized speech (5.00) is also significantly higher than the median in the text condition (3.70) (p-value < 0.05), with mean ranks equaling 36.76 and 25.88 (U = 648.5). The effect size is medium, r = 0.301. Contrary to our expectation about perceived review credibility (H3), we did not detect a significant difference between the median for the computer-synthesized speech (5.80) and text (5.20) (U = 608). Given that the estimated effect size is low (r = 0.2304) and the sample size is small, the difference in means does not clear the threshold of significance (p-value = 0.0707) and should therefore not be over-interpreted.

Taken together, our results confirm our expectations that presentation format does have an effect on purchase intention and trust belief in the context of online reviews decision-making. Specifically, when people listen to online opinions of other customers, rather than reading them, their median purchase intention is 58% higher and their trust belief is 35% higher. Thus, our results suggest that when individuals listen to reviews produced with computer-synthesized speech, their purchase intention and trust belief increase, while they experience no tangible difference in the perceived credibility of the message. Table 5 summarizes our findings.

		Leven's test		Mann-Whitney test			Median	Mean	Standard deviation	Mean ranks	Effect size r
		F	Sig.	U	Z	Sig.					
PI	**SPEECH**	2.2576	.1382	667	2.6483	.0083	4.75	4.5312	1.8091	37.3437	.3363
	TEXT						3	3.3166	1.5056	25.2667	
TRB	**SPEECH**	.3964	.5314	648.5	2.3777	.0178	5	4.6125	1.2860	36.7656	.3019
	TEXT						3.7	3.8133	1.1446	25.8833	
CRED	**SPEECH**	2.0775	.1547	608	1.8142	.0707	5.8	5.5875	.7201	35.5	.2304
	TEXT						5.2	5.1133	1.0408	27.23	

Table 5 The effect of treatments on persuasiveness of online reviews

5. Discussion

Our results show that when simply varying the delivery of the same peer opinions, using computer-synthesized speech rather than the more traditional text format, recipients formulate a stronger purchase intention and trust belief. In other words, the method of message presentation does have a moderate impact on persuasiveness of the message contained in online reviews. These results lend support to hypotheses 1 and 2. Conversely,

the differential in the effect of synthesized speech over text is lower for the perceived credibility of a message, leading us to reject hypothesis 3.

These results are the first empirical test of the basic hypothesis set forth by the psychology of speech processing literature in the context of online reviews and user-generated content. Clearly, systematic replications of our findings with different populations of users and across different contexts are needed. A larger sample of subjects would also help in discriminating whether there is truly no effect of computer-synthesized speech on perceived credibility, or if the effect does exist – albeit weak.

Despite being preliminary, our findings are very promising and should stimulate a search to better understand persuasion of synthesized online reviews. With the relentless evolution of voice interactions in the home (e.g., Amazon Echo), in the car (e.g., navigation systems) and in everyday activities (e.g., Siri, Cortana), conversational interfaces are rapidly becoming the norm in human computer interaction. Thus, the implications of our work are potentially quite powerful since they suggest that decision-making in commercial settings can be influenced by the interface and the presentation format of an online message. Yet, our theoretical understanding as to why this effect occurs, and how stable it is across different conditions, is still rudimentary. Does the presentation format persuade individuals because it acts as a peripheral cue [55]? Or is synthesized speech more persuasive because it is a better catalyst of attention than the written word, and therefore it increases the effect of the arguments in the message (i.e., direct route to persuasion)? This explanation is consistent with some work in the online education context [59], but there is no empirical research addressing this question for online reviews or other types of user-generated content. The hypothesis could be tested by altering the quality of arguments presented in online reviews [60] and measuring its interaction with presentation format.

Another fruitful avenue for future research is influence theory [61]. Scholars need to understand whether it is the user's perception that a vocal review is produced by individuals more akin to him/her that leads to it being more persuasive than text. In other words, is it that a person perceives the review to be more persuasive because the synthesized voice "reading" the reviews makes the messenger more "like the receiver" [61]? The speech psychology literature hints at this explanation [21,62], but the explanation is underdeveloped and untested. A simple replication of our work that can help in testing this hypothesis is to vary the synthesized voice to be congruent with the message recipient's gender. We did not vary the voice in our study, settling on a male voice. Post-hoc analysis of our data suggests that the gap between synthesized speech and text is wider for females than males when it comes to purchase intention (1.52 vs 1.03) and trust belief (0.96 vs 0.72). The results are reversed for credibility (0.37 vs 0.52). While merely suggestive, these results hint at the existence of gender differences when reacting to a male voice in the computer-synthesized speech condition. Another approach to this line of inquiry could be to match other personal characteristics (e.g., age, accent) when using synthesized speech to the user. Because of it being digitized, voice synthesis creates a wide array of possibilities for embedding social cues in online reviews – options that are not available with written reviews. For example, previous research has shown that perceived credibility of online reviews is influenced by disclosing information about a review's author. For example, Xie and colleagues [63] found that the presence of author identifying information increases the perceived credibility of reviews by 8%. Also Q. Xu [51] specified that including an author's photo increases perceived trust and interacts with review valence so that it increases the credibility of negative reviews. Embedding these social cues into synthesized speech may be a promising avenue for future research.

The moderating effect of culture may also provide worthwhile research for future inquiry, focusing on the likeness hypothesis advanced by the psychology of speech processing literature. Previous work suggests that factors, like social norms or cultural differences, may affect an individual's use of, and interactions with, technology [64,65]. For example, Fogg and Izawa [66] demonstrate the importance of adjusting persuasive technology to cultural contexts by showing how the Japanese social network Mixi persuades its users with more subtle techniques than US-born Facebook. One of the limitations of our work is the use of a monocultural sample (i.e., Italian students). Can cultural difference affect the perception of computer-synthesized speech? Future research might expand our line of inquiry and change the presentation format of the interface by testing it with samples of different nationalities. For example, such a presentation format might be adapted to local tastes, as it happens with graphic interfaces (e.g. see McDonald's websites). Would a male vs. female voice make a difference across cultures? Would tone or timbre change the effect of computer-synthesized speech in the commercial context? Studies answering these questions might make an interesting contribution to the literature of human computer interaction.

Beyond the narrow online review context, we can imagine computer-synthesized speech being implemented in transactional systems (e.g., airline booking engines) and even physical stores. We are not aware of any empirical Information Systems research study addressing these contexts. Computer-synthesized speech could be added to interfaces and digital marketing campaigns at the most important digital touchpoints as a final push for the desired behavior. For example, a potential study could examine the effect of computer-synthesized speech in online vendor platforms by applying synthesized messages not only to the section of online reviews, but also to recommendations for other products, such as movies or books. It could also test the effect of computer-synthesized speech messages

accompanying a customer during the process of buying, from the initial search to the final purchase.

On the other hand, our findings may also create the opposite effect. Vendors may be tempted to intentionally manipulate the presentation format of opinions in order to increase sales or to attract more customers. For example, a newspaper recently showed that manipulation through fake reviews can boost the ranking position of non-existing venues on a popular online review platform [67]. Future research could examine whether the computer-synthesized speech can alter the effect of review characteristics, such as valence or volume, by testing for interactions with these variables. Should we manipulate the presentation format of negative reviews in order to change their effect? Likewise, we should tackle the ethics behind this effect by asking about the negative consequences of presentation format manipulation in order to protect individuals from malicious use of technology.

6. Limitations

Our study has some limitations that should be noted when interpreting the results. As any lab experiment, the generalizability of our results is limited until findings are replicated. Moreover, the use of a homogenous sample, valuable for control, also limits the generalizability of the findings. The context is also very specific to online reviews in the lodging sector of the hospitality industry. This narrowing of the domain was necessary to limit the introduction of potential confounds. Thus, the study ought to be replicated in the field with a varied, multicultural sample in a wide array of different contexts.

Giving the initial step in understanding the described phenomenon, in this study we focused only on the main effect of presentation format and only on three possible outcome variables. Yet, we understand that there are possibilities of expanding the study by measuring interactions of presentation format with other characteristics of online reviews platforms.

Moreover, we suggest measuring the effect of presentation format on other variables present in the online reviews literature.

7. Conclusions

We believe that our work contributes significantly to the literature on persuasiveness of online consumer reviews because of its timeliness and novelty. Ours is the first empirical study testing the effect computer-synthesized speech as a mode of delivery for online reviews. In this study, we find an effect of presentation format on individuals' purchase intention and trust belief in online review based decision-making and offer new insights about the persuasiveness of online reviews presentation formats. Namely, we present computer-synthesized speech as a presentation format of online reviews, which increases their persuasiveness and affects individuals' perception of the subject of the reviews. Our results suggest that individuals' purchase intention and trust belief increase when they listen to reviews produced with computer-synthesized speech, instead of reading textual reviews. The paper takes a first step to better understand the appealing expectation that synthesized speech makes the message more persuasive as humans feel closer to computers when they produce speech [22]. As a result, such a change may alter an individual's decision-making based on online reviews, and maybe also in other commercial settings. Therefore, we call for more research on the effects of presentation format on online reviews persuasiveness. If confirmed, this knowledge should be incorporated into the design of future online reviews platforms and online vendor websites. More importantly, this research should guide the development of new interaction channels, including speech interfaces (e.g., Amazon Echo).

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