FORUM

INVESTIGATING ONLINE RESPONSE STRATEGIES FOR ADDRESSING NEGATIVE WORD OF MOUTH

Investigando as estratégias de respostas quanto ao boca a boca negativo on-line

Investigando las estrategias de respuestas respecto al boca a boca negativo online

ABSTRACT

The digital age has transformed how brands communicate and interact with their customers. One consequence is that the effect of negative word of mouth on a brand's reputation has intensified. This study investigates various response strategies employed to protect organizations' reputations in the online environment. Accordingly, it collected data through two methods. First, 10 semi-structured interviews were conducted with brand managers to identify the strategies that they used to minimize negative word of mouth in social media. Second, the social media interventions of different brands under management by agencies were collected to complement the interviews, and determine whether any additional strategies could be identified. The results showed that, when negative word of mouth events occurred, companies preferred to either apologize, hide the original message, respond in private rather than in public, or simply ignore the negative comments from customers.

KEYWORDS | Social media, brand management, word of mouth, response strategy, consumer

RESUMO

A era digital modificou a forma como as empresas se comunicam e interagem com seus consumidores e intensificou a influência do boca a boca negativo na reputação das marcas. O presente artigo investiga quais estratégias de respostas estão sendo empregadas pelas empresas para proteger a reputação organizacional no ambiente on-line. Para atingir o objetivo do estudo, duas coletas de dados foram realizadas. A primeira consistiu na realização de 10 entrevistas semiestruturadas com gestores de marcas para levantar as estratégias utilizadas para minimizar o boca a boca negativo nas mídias sociais. A segunda foi feita com a coleta de conteúdo das marcas geridas pelas agências disponível nas mídias sociais com o intuito de verificar a presença de outras estratégias além das comentadas. Como principal resultado, observam-se situações em que as empresas preferem se desculpar, ocultar a mensagem, responder inbox ou simplesmente ignorar os comentários negativos dos consumidores.

PALAVRAS-CHAVE | *Mídias sociais, gestão de marcas, boca a boca, estratégia de resposta, consumidor*

ROBERTA DUARTE FERNANDES¹
robertadf@al.insper.edu.br
ORCID: 0000-0002-7057-4056

GIULIANA ISABELLA¹
giulianai@insper.edu.br
ORCID: 0000-0002-4502-4327

¹Insper Instituto de Ensino e Pesquisa, Programa de Mestrado Profissional em Administração, São Paulo, SP, Brazil

RESUMEN

La era digital resultó en cambios en la forma en que las marcas se comunican y intejarem con sus consumidores, y intensifico in la influencia del boca a boca negativo en la reputación de la marca. El presente artículo investiga qué estrategias de respuestas se están empleando para proteger la reputación organizativa en el entorno online. Para alcanzar el objetivo del estudio se realizaron dos colectas de datos. La primera consistió en la realización de diez entrevistas semiestructuradas con gestores de marcas para averiguar las estrategias utilizadas para minimizar el boca a boca negativo en los medios sociales. La segunda se llevó a cabo mediante la recolección de contenido de las marcas administradas por las agencias disponibles en los medios sociales, con el objetivo de verificar si otras estrategias, además de las comentadas, se están poniendo en práctica. Como resultado, se observa que, dependiendo de la situación, las empresas prefieren disculparse, ocultar el mensaje, responder inbox, o simplemente ignorar los comentarios negativos.

PALABRAS CLAVE | *Medios sociales, Gestión de marcas, Boca a boca, estrategia de respuesta, consumidor*

INTRODUCTION

The reputation of a company relates to its ability to create brand value. As an intangible asset that is difficult to replicate, reputation affects a company's financial results (Gensler, Völckner, Liu-Thompkins, & Wiertz, 2013). Managing a brand's reputation is a complex operation that involves analyzing the company's internal resources and establishing constant dialogue between the company and its stakeholders (Roberts & Dowling, 2002).

Social media has become an important cultural and social phenomenon, transforming the way millions of people and companies communicate and connect (VanMeter, Grisaffe, & Chonko, 2015). Brand-related communication occurs outside of company control. However, companies determine whether and how they interact with their customers (Kietzmann, Hermkens, Mccarth, & Silvestre, 2011). Customer interactions can add value to companies, as content generation and electronic word of mouth (eWOM) can have a positive influence on the buying behavior of other customers (Bruhn, Schoenmueller, & Schäfer, 2012; Wilson, Giebelhausen, & Brady, 2017).

Customers commonly use eWOM to research a product, service, or brand's evaluations (Krishnamurthy & Kumar, 2018). According to the Mintel.com report (2015), approximately 70% of American customers sought the opinions of online customers about the products or services they considered to purchase. In Brazil, more than 50% of online customers trusted other customers' opinions about products and services (E-commerce Brasil, 2018).

The challenges and difficulties that marketing professionals face when managing eWOM (Kumar, Choi, & Greene, 2017; Munzel, Jahn, & Kunz, 2012; Wilson et al., 2017) have prompted researchers and managers to better understand social media while they find the best ways to deal with this new cultural and social phenomenon (Islam & Rahman, 2016; VanMeter et al., 2015). Some studies address eWOM by focusing on how communication influences the behaviors of potential customers (East, Romaniul, Chawdhary, & Uncles, 2017; Wilson et al., 2017). Other studies try to understand what motivates customers to use social media to interact with brands (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; VanMeter et al., 2015; Zhu & Chen, 2015). Quantitative studies have measured the effect of company responses on buying behavior, customer satisfaction (Kim, Wang, Maslowks, & Malthouse, 2016; Lee & Song, 2010) and potential customers (Manika, Papagiannidis, & Bourlakis, 2017). Most studies have analyzed the effects of eWOM on customer perception, but have not examined how companies dealt with negative eWOM.

Almost all existing studies that have addressed word of mouth response strategies concerned brand crises (e.g., Lee & Song, 2010; Marcus & Goodman, 1991; Munzel et al., 2012; Siomkos & Kurzbard, 1994). Studies in the eWOM field have used experiments to evaluate company response strategies (e.g., Crijns, Cauberghe, Hudders, & Claeys, 2017; Noort & Willemsen, 2012). There is a substantive gap in the literature analyzing the various existing response strategies. The majority of existing research focuses on customer perception of the companies' response strategies (e.g., Li, Cui, & Peng, 2018; Munzel, Kunz, & Jahn, 2017), and not on the companies' strategies or vision.

The objective of this study is to discover the strategies being used by brand managers in response to the content posted by customers on social networks, particularly in cases of negative content related to their brands. This supplements the eWOM literature by identifying strategies that published research has not thoroughly explored. In addition, this article provides a systematic overview of how companies currently employ existing social media strategies in response to negative eWOM.

Semi-structured interviews were conducted with brand managers from 10 digital marketing agencies. In order to compare the results of these interviews with actions taken in response to complaints, a content analysis of the Facebook and Instagram profiles managed by these agencies was performed. One brand from each agency was analyzed, including more than 4,000 comments or posts.

The following section presents a literature review with an emphasis on strategies for responding to negative comments.

LITERATURE REVIEW

A reputable brand can attract customers, generate investors' interest, lure the best employees, motivate existing workers, increase job satisfaction, generate positive media coverage, and elicit positive feedback from financial analysts (Davies & Chun, 2003). On the other hand, crises and harm to a brand can lead to serious negative consequences for a company, particularly in the online environment where information spreads quickly (Laufer & Coombs, 2006).

The online presence of all companies includes, or potentially includes, eWOM, defined as any positive or negative statement made by current, past, or potential customers about a product, service, or company that is publicly available on the internet (Henning-Thurau et al., 2004). eWOM differs from traditional word of mouth due to its transmission medium, which is based on the internet (Krishnamurthy & Kumar, 2018). eWOM

typically takes the form of a written message. It is posted on public forums for customers or businesses and stored electronically, and can be searched for and accessed in the future (Andreassen & Streukens, 2009; Eisingerich, Chun, Liu, He, & Bell, 2015). eWOM requires that participants communicate with a network of people in online communities, where conversations are publicly visible and often impersonal. The individuals who comprise these communities come together through a shared interest in specific products, services, topics, or activities (King, Racherla, & Bush, 2014).

Given the multidirectional nature of the internet, the volume and reach of eWOM is greater than face to face word of mouth (Islam & Rahman, 2016). eWOM is characterized by its unimaginable reach, although it is measurable and mappable (Noort & Willemsen, 2012), and the communication flows from one customer to many (Eisingerich et al., 2015). In general, eWOM is persistent and remains publicly stored (Dellarocas, 2003). The information thus created is available to other customers seeking opinions on products and services (Hennig-Thurau & Wash, 2010). Given the textual nature of eWOM opinions, both the content of the message and the characteristics of the source effect the credibility and usefulness of the broadcast content (King et al., 2014).

In the online world, social media establishes a virtual relationship channel. Over it, people interact and exchange content through the internet. Also, they can disseminate spontaneous information directly to companies and brands. Social media has allowed a new and efficient means of communication between companies and customers. However, this same means of communication has enabled customers to comment online and, therefore, affect a company's reputation (Wilson et al., 2017). Online channels make the transmission of complaints to companies and other potential customers much easier. Customers can compose a complaint in the digital environment in just a few minutes (Gregoire, Salle, & Tripp, 2015).

Customers engage in eWOM for several reasons. They include: preventing others from experiencing the same problems; seeking advice on how to solve problems; expressing anger as a way to reduce cognitive dissonance; or retaliation against the company that supplied the product or service (Hennig-Thurau et al., 2004; Sundaram, Mitra, & Webster, 1998). Negative complaints affect companies for two reasons: first, due to the spread of the negative information to many other online customers (Noort & Willemsen, 2012); and second, because individuals always seek information before making purchase decisions. eWOM is used by customers to develop expectations for a brand, product, or service (Krishnamurthy & Kumar, 2018; Munzel et al., 2012). Thus,

a concordant opinion can lead to more positive attitudes and greater intents to purchase. On the other hand, negative opinions can create attitudes of rejection and lower intents to purchase on the part of customers (Liu, Wang, & Wu, 2010).

Strategies for responding to negative word of mouth

Although customers are more cautious about complaining on social media than in face-to-face situations (Eisingerich et al., 2015), online venting or complaining can significantly and negatively influence a brand's image (Wilson et al., 2017). In order to minimize this negative impact and protect their brands, companies have begun to respond. A study by Xie, Zhang, Zhang, Singh, and Lee (2016) examined hotel companies' responses to complaints on the TripAdvisor website, and discovered that companies that responded to complaints had higher rankings than companies that did not respond. Although responding to complaints appears to be a promising technique for customer communication, this strategy can have disastrous consequences if poorly implemented (Lee & Song, 2010; Noort & Willemsen, 2012). Consequently, companies should carefully define their response strategies for dealing with complaints made by dissatisfied customers about a problem with a service or product.

In the context of corporate crises, Marcus and Goodman (1991) classified response strategies into two types: accommodative and defensive. Accommodative strategies refer to strategies where companies recognize and accept the existence of problems and take action, including providing explanations, compensation, and recovery. Defensive strategies are those that deny the problem by insisting that there is no problem, claiming that the company is not responsible for what occurred, accusing the complainant of causing the situation, and even shifting the blame to other companies (Marcus & Goodman, 1991). Griffin, Babin, and Darden (1992) explained that proactive companies, through apologies, refunds, or other corrective actions, helped reconstruct their positive images. Coombs (1999) added that defensive strategies could be useful when the origin of the problem is difficult to identify.

Siomkos and Kurzbard (1994) defined four strategic responses to product crises: legally mandated recall, voluntary recall, super effort, and denial. A mandated recall involves a response by the company that is (usually) provoked by an external agent – for example, a judicial order requiring the recall of a product. A voluntary recall consists of remedying a failure without judicial obligation – for example, by exchanging a defective

product. Super effort goes beyond simple remedies and offers additional benefits. Laufer and Coombs (2006) promoted the idea that consumer-based cues such as gender and nationality could potentially be utilized in the corporate strategy responses. With social media, an online complaint can become a brand crisis. Consequently, many companies treat complaints on social media as if they are already a crisis (Manika et al., 2017).

An organization's acceptance of a crisis's existence may seem honorable, and sometimes manages to reduce the probability of negative responses. In addition, accepting responsibility for a negative event can inspire sympathy and forgiveness (Griffin et al., 1992).

In the context of social media, Munzel et al. (2012) used experimental studies to demonstrate the importance to companies of responding to comments and apologizing to their customers. According to the accommodation strategies they analyzed, the authors argued that a social media response increased positive attitudes and customer benevolence towards the brand or company. The authors also showed that apologies strengthened company/customer relationships. People expected a response from the company, especially when they understood that the company was responsible for the negative event (Coombs, 1999). A company's assumption of responsibility in response to a negative event facilitates the development of customer confidence, which, in turn, affects their assessment of the company and increases their intent to purchase. Attempting to deny organizational responsibility for negative events created unfavorable perceptions with respect to the company (Lee, 2005).

Lee and Song (2010) proposed three eWOM response strategies: accommodation, no action, and defensive. That is, in addition to the accommodation strategies, in which responsibility is accepted (accepting responsibility, compensation, corrective action), and the defensive strategies, in which responsibility is denied (transferring blame, minimization), the authors included "no action," in which the comment is treated as insubstantial, thus making it essentially a strategy of silence (Lee, 2004). This strategy simply tries to separate the negative events from the company, opting for the permanence of silence on social networks (Lee, 2004).

According to Lee and Song (2010), organizations commonly used six responses. These were (a) shifting the guilt: a claim that others were responsible for the crisis; (b) minimization: a claim that the consequences of the crisis were not as bad as they were portrayed; (c) no comment: a refusal to comment; (d) apology: a verbal statement of apology, i.e. a defensive statement; (e) compensation: monetary compensation to the victim(s); and (f) corrective action: taking action to prevent a recurrence of the problem.

Transferring blame involves admitting that a crisis occurred while claiming that others were responsible. Thus, it reflects the greatest denial of responsibility among the six possible responses to a crisis. Minimization involves the second-most significant denial of responsibility, because the organization tries to reduce the perceived severity of the crisis by diminishing its significance. An organization that refuses to comment usually finds itself in a situation in which it cannot mitigate the crisis, and tries to dissociate itself from the crisis by remaining silent. This "no comment" response represents the third-most significant denial of responsibility. It can be useful when a company feels less responsible for the negative event, when there is no explicit guilt, or when there is a high potential for inappropriate responses that could cause offence (Mclaughlin, Cody, & O'Hair, 1983).

Finally, corrective action represents the greatest acceptance of responsibility for a problem because, by identifying the source of the problem, the organization has taken responsibility for the event, attempted to correct the problem, and tried to avoid a recurrence (Laufer & Coombs, 2006). When the organization's employees apologize, they accept responsibility for the crisis (Manika et al., 2017). In addition, compensation extends the organization's acceptance of its responsibility by offering monetary reparations.

Noort and Willensen (2012) argued that companies should perform interventions, preferably proactive ones, on web pages with complaints – including in cases of brand defamation by customers, since they result in more positive assessments from the customers who visit those pages. The authors also demonstrated that customers preferred a more humanized and less robotic response. Crijns et al. (2017) later supported this finding.

Following an investigation of guest complaints on TripAdvisor, Sparks and Bradley (2014) developed a response strategy called "Triple A" (Acknowledge, Account, Action). According to this strategy, there are three categories of responses. The first, Acknowledgement, involves thanking, appreciation, apology, recognition, admission, and acceptance. The second, Account, relates to explanations, such as providing an excuse, justifying the error, offering another point of view, or denying the incident. The third, Action, means the company investigates the incident, changes the product (repair, exchange, or improvement), changes the company's process, or forms a relationship with the customer. Regardless of the strategy used, or the company's level of involvement in solving the problem, it is crucial that the explanation offered to the customer is honest, sincere, transparent (Sparks & Bradley, 2014) and fast. According to Istanbulluoglu (2017), customers on Facebook expected a response within 3 to 6 hours.

Exhibit 1 summarizes the principal components of the response strategies. It presents the key research that investigated eWOM response strategies on social media in chronological order. None of the studies investigated the response strategies from the perspective of the companies involved; published research focused almost exclusively on customers. In addition, the existing literature has a theoretical or conclusive character. In contrast, this study investigates eWOM response strategies by integrating data gathered in semi-structured interviews with brand management agencies and adding observations and analysis of the companies' responses on social media platforms.

Exhibit 1. The existing research on negative word-of-mouth internet response strategies

RESEARCH FOCUS	STRATEGIES INVESTIGATED	AGENTS	METHODOLOGY	AUTHORS
The impact of consensus and authenticity of the message on the allocation and evaluation of the companies	Accommodation Defensive No action	M-turkers	Experiment	Lee & Song (2010)
How companies should respond to the effects of eWOM	Apologies	Students	Experiment	Munzel, Jahn, & Kunz (2012)
Investigating complaint response strategies on websites/blogs via experiments	Proactive vs. Passive Customer vs. Brand platforms	Participants	Experiment	Noort & Willemsen (2012)
Investigating responses to online complaints from hotel guests	"*Triple A*" Accommodation Acknowledge, Account, Action	Consumers	*On-line* TripAdvisor Examination	Sparks & Bradley (2014)
The factors that influence the perception and impact of various response strategies on hotel reviews	Response by the company or a company representative	Participants	Experiment	Waiguny, Kniesel, & Diehl (2014)
Effect of social media apologies on a company's customer and non-customer behavior	Apologies, compensation	Customers and potential customers	Questionnaire	Manika, Papagiannidis, & Bourlakis (2015)
How companies should respond to positive and negative comments	Company response or personalized – *human voice*	Participants	Experiment	Crijns, Cauberghe, Hudders, & Claeys (2017)
The effect of negative response strategies on customer perceptions	Apologies (pretext, excuse)	Participants	Experiment	Munzel, Jahn, & Kunz (2017)
Investigating the semantics and impact of responses to complaints	Accommodation Defensive	Consumers	Field Experiment	Li, Cui, & Peng (2018)

METHODOLOGY

The methodology chosen for this research is qualitative, and seeks to interpret the meanings and intentions of the social actors involved. Thus, the gathered data is best understood as representations of human acts and expressions (Godoi & Balsini, 2010).

The research utilized two complementary strategies and studies. First, it conducted semi-structured, in-depth interviews with brand management agencies. Then, it collected secondary data by analyzing the social media pages of the companies managed by those agencies. It then completed a systematic analysis of the documents and records on the relevant websites.

Study 1

Ten advertising agencies that focused on communication and brand management in social media were selected for the sample using non-probability methodology. This is a valid technique when a selected set of information is necessary in order to study a chosen phenomenon (Flick, 2009).

The selection criteria for the agencies included accessibility by the researcher, having at least one year of experience in social media content and brand management, conducting business in several Brazilian states, and having customers in different sectors. The respondent selection criteria included experience in

marketing, as well as content and brand management in a digital environment. Table 1 presents the information on each company and the respondent's profiles.

Table 1. Profiles of the agencies in the sample

AGENCY	COMPANY AGE	NUMBER OF EMPLOYEES	CLIENT SECTORS	STATE	POSITION OF RESPONDENT
A	5 years	12	Events, politics, retail	RN	Executive director
B	4 years	12	Construction, education, retail	MG, PE, RJ, RN, SP	Director & founding partner
C	2 years	10	Food, real estate, retail	RN	Content director
D	15 years	40	Communication, education, retail, technology	AM, CE, MG, PB, RJ, RN, SC, SP	Executive director
E	19 years	63	Food, education, politics, retail	AL, CE, DF, PB, RN, SP	Technology director
F	8 years	34	Communication, education, pharmaceutical, technology	SP	Senior Copywriter
G	1 year	6	Food, events, health	PB, RN, RS	Director & founding partner
H	6 years	6	Education, politics, retail	DF, MT, RN	Director & founding partner
I	15 years	105	Food, technology, retail	ES, MG, RJ, SP	Social media analyst
J	50 years	400	Food, health, retail	CE, RJ, SP	Copywriter

Information collection was completed during the months of March, April, and May of 2018. For the majority of participants, the in-person interviews were conducted at their workplaces. Two interviews were conducted using Skype (teleconferencing). Participants received consent forms prior to all interviews that allowed for the recording and transcription of their content. The interview script contained 18 questions, and interviews lasted an average of 40 minutes. At the end of the conversation, respondents specified at least one brand that their company managed.

Interview Analysis

All interviews were transcribed, resulting in 44 pages of text (using Microsoft Word, in 10-point Times New Roman font) that was inputted into QSR NVivo 8.0 software in order to categorize the material. Based on the literature review, a predefined list of codes was used to analyze the interview contents. These codes consisted of labels attached to portions of the text that the researcher identified as important for interpretation (Cassell & Symon, 2004), and that helped categorize the text. The primary codes created for the analysis were complaint channels, types of negative comments, identifying negative comments, the relationship with the customer, accommodation strategies, defensive strategies, and non-action strategies. Excerpts of the

texts that did not relate to any category were discarded during the analysis process.

Results

The differences, similarities, and information summaries that emerged from the respondents' reports were summarized in the categories presented below. The text presents excerpts from interviews (with sources and agencies indicated) to exemplify specific themes.

Driving customers towards closed complaint channels

According to the respondents, the customers who contact them are predisposed towards negative comments and complaints. Most criticisms are made publicly, in posts on the brands' web pages, and often tag the companies in order to stand out. Agency J commented that, "The vast majority use open channels, especially when [our] customer is a brand with a large number of followers, and when the subject is controversial. Customers want their complaint to be seen by the company and other customers, with the intention of arriving at a solution."

One of the respondents believed that a lack of intimacy with technology influenced the choice of social networks users

to comment openly. "Most people have little intimacy with technology, or have limited intimacy, so they don't know exactly how the tool works and end up using the easiest method, the open comment" (AGENCY B).

However, a consensus existed among the agencies that brands preferred customers to use closed means of communication that did not exposure the content to the public, thus minimizing possible damage to the brands. Thus, companies employed specific strategies to promote the use of closed channels such as email and chat. "We have a movement to try to take the customer to closed channels to try to understand the situation, but most customers prefer to complain openly and publicly" (AGENCY A). "Already, in our first public contact, we explained that the communication will be in a closed environment like an email" (AGENCY F). "Depending on the situation, we request a private point of contact (telephone, e-mail, chat) to talk" (AGENCY D).

Characteristics of the claimants/customers and their claims

The ability to influence the complainant's public is a peculiarity of social networks that alters how agencies act. "I think that what will influence the complaint, and have more or less repercussion, is the complainant's power of influence" (AGENCY B). "The measure of the greatest repercussion of a negative comment is the number of followers and friends that the user has" (AGENCY J). "In general, we use automatic responses to respond to some complaint patterns, but sometimes our staff takes extra care when dealing with people with a lot of influence" (AGENCY A).

Images tend to influence readers more than text comments. Thus, Agency F commented on the need to be careful when the complaints include photos. "The repercussions are greater when photos are included in the publication. We avoid requesting images or proof in the open channels" (AGENCY F).

Acting while acknowledging

eWOM in social media comments can affect brand reputations and even decrease the number of potential customers. The possible lack of response to customer complaints had an influence on the creation of eWOM. "The customer needs to know that someone has heard and will handle that information" (AGENCY B). "When complaints reach viral potential, it is usually a consequence of

the brand's neglect of its public, so we always respond to the customer" (AGENCY F). "The only certainty is that, if the interaction is not quick and the brand is not willing to assist the customer, customers will continue broadcasting their negative comments until they are heard" (AGENCY I).

Personalizing the response

According to most agencies, there were no standards for responding to complaints. The agencies worked on each case to understand the problem and avoid losing the brand's "personalization." "Each case is different because it depends on the focus of the problem, it depends on the situation" (AGENCY A). "For complaints, we prefer to analyze each case" (AGENCY C). "Many times we create a `script' related to each situation, but we do not like to close the script, leaving space to respond in a more `human' way" (AGENCY H).

The interaction between the agencies that manage the websites and profiles of the brands, and the companies that own the brands, is part of the creative process. "So we make the first contact, as we say, and then we pass the situation to the company, which will take the initiative in more critical cases" (AGENCY B). The agencies admitted that, due to volume, complaint recurrence, or the need for agility, often a more automatized response is given. "To create the answer, we follow a step-by-step [process] that begins with the identification of the problem, investigation of the facts with the company, and creation of the best response strategy" (AGENCY C). "Since we hold weekly meetings with the companies, we can automatically respond up to a certain point, so the customer knows that their complaint is being dealt with" (AGENCY E).

Accommodation: Acceptance of responsibility

Prevalent in respondents' testimonials were accommodation strategies that involved accepting responsibility for the problem through an apology, a retraction, a corrective action, and sometimes compensation. The responses related to these strategies were made in several ways, including direct responses in the form of comments, contacts via closed channels, or through public posts. "The company admitted guilt and made a public statement. The statements were placed on social networks and, depending on the client, they were also obliged to place them in large circulation media such as newspapers" (AGENCY D). "In the answers that we already have authorization to give, we try to understand the reason for the complaint; for example, poor

service, and we have already apologized. Sometimes we offer a gift or a discount" (AGENCY E).

Silence as a strategy

All respondents reported having used the strategy of non-action, or silence, at some point. Some participants affirmed they employed this type of response due to directions from the company that owned the brand, or because of strategic questions: "Depending on the situation, it is best not to answer" (AGENCY G). "There are nonsense or relatively negligible complaints where it is ideal not to answer" (AGENCY H).

There were also those who stated that silence was the best strategy for containing the expansion of eWOM. "The internet is interesting. You have the peak of the complaint, but it can quickly fall off. You have to consider very carefully whether the complaint is worth defending against; if so, defend. But when you don't think so, don't – as in the shopping mall case, where everything you were going to say was going to come back at you, then you [had] better let it go and shut up" (AGENCY E).

Denial and information "hiding"

Although not commented on openly as a utilized strategy, the interviews subtly identified some indicators of defensive strategies. "Often, the problem did not exist; the customer was not always the victim" (AGENCY A).

Sometimes, concealing and excluding comments from the brand's website developed more clearly into a strategy. "Hiding was used when we saw that the person wanted to cause a riot. So, we hid it from the other users, but the complainant and their followers kept seeing it" (AGENCY C). "We hide information when the comments involve cursing, when there are rude slang terms, and when the situation is more complex" (AGENCY B).

Discussion of interview results

Based on the interviews, and in accordance with the literature, a company's foremost interest is to minimize the negative effects on a brand's image (Xie et al., 2016). To accomplish that, companies managed by the agencies avoid the spread of the negative message, steer the customer into closed channels of communication, and use silence when the goal is to reduce the problematization and propagation of complaints (Lee, 2004). Companies also give priority to more humanized communication

(Crijns et al., 2017), choose the effort they dedicate to each complaint based on the complainant's level of influence, and have "automatic" or scripted responses at their disposal.

Respondents routinely commented on accommodation strategies used by brands in times of crisis (Marcus & Goodman, 1991), especially in the context of accepting the problem and issuing apologies (Munzel et al., 2012). During the interviews, respondents rarely commented on the use of forced or voluntary complacency strategies, including publications in mass media (Siomkos & Kurzbard, 1994). The brand managers shared very little regarding strategies that involved financial compensation (Lee & Song, 2010). Their proactivity and agility in responding to a complaint were clear, and reinforced Istanbulluoglu's (2017) work on customers expected response time on Facebook.

One strategy that emerged that was not present in the literature was the hiding of information, where companies chose to delete, or partially delete, the complainant's comment from their profile or web page, allowing only both sides (complainant and company) to see the original message and responses. Implementing this strategy results in a controlled brand environment (brand website, blog, Facebook page) that only includes positive information.

As indicated above, the respondents (brand managers) were asked to specify at least one brand that they were currently managing. Study 2 is an analysis of these social media strategies in action.

Study 2

Facebook and Instagram were chosen for collecting secondary data, as these two platforms were most frequently mentioned in Study 1. Social networks are composed of actors (e.g., customer complainants) and connections linked through electronic devices and websites. Facebook stands out as the largest social media operation in the world (Islam & Rahman, 2016), with two billion users. It was the first platform to exceed one billion users (Eisingerich et al., 2015). Brazil has the third-largest number of Facebook users in the world, after the United States (230 million) and India (250 million), with about 130 million users (Statista, 2018).

Brands mentioned by an agency in Study 1 were analyzed. Only agency H chose not to disclose a brand under its management. Table 2 displays the brand and sector from each agency that was analyzed, and the number of posts published on Facebook and Instagram about the brand in Brazil from January 1, 2018 to May 31, 2018.

Table 2. Agency, sector, and number of posts/comments

AGENCY	SECTOR	NUMBER OF POSTS
A	Entertainment	1113
B	Retail	1176
C	Restaurant	296
D	Education	611
E	Education	512
F	Retail	116
G	Restaurant	142
I	Telecommunications	131
J	Retail	1215

Only the public comments available on the brands' social media pages and profiles were analyzed.

Analysis of the social media content

Social networks are systems open to the general public that allow interaction through comments. Many of these posts and comments are visible and archived on the internet, making it is possible to analyze older posts. To analyze the content on the social networks, the relevant information (the complainants' posts and their comments) was downloaded onto an off-line system. Then, the data was cleaned by removing many comments, leaving only the complaints that received responses from the companies. Images included in the posts were also removed. The remaining information was then manually categorized according to the strategies established by the theoretical framework. Supporting analysis and context was developed by researching the web pages of the nine brands, in order to better understand the way they functioned. The following is an analysis of the most relevant response strategies taken from the brands' social network pages.

It is important to emphasize that the responses were reproduced exactly, but the names of the users (customers) and the brands, products, or phones were replaced by XXX. During transcription of the complaints and negative comments, grammar adjustments, without loss of meaning, were made to improve clarity.

Results

Consistent with the analysis of the respondents' contributions included above, the strategies for the most common complains on the brands' social media profiles or web pages were as follows:

Towards closed complaint channels

Some brands made an effort to take complaints out of public view (out of sight of other customers) in cases of systemic and operational problems, such as system failure or delivery delays. Customers were directed to private means of communication, including email or direct messages. "My signal is terrible; XXX's internet never works when one needs it. I've tried everything, and nothing solves it" (AGENCY CLAIM I); "Oh, XXX! What happened? Do you need support? Come chat on facebook.com/XXX email. I'll be happy to serve you!" (RESPONSE AGENCY I)

Accommodation: Acceptance of responsibility

Accommodation strategies identified in the responses included apologies, guidance/orientation, and displaying a concern towards understanding the problem identified in the customer's comments. During the period under analysis, an exceptional event that closed roads throughout Brazil directly impacted some of the brands handled by this study's agencies. One of the brands in question had to cancel a musical show because equipment had not arrived. A popular site called The Buzz, which aggregates negative reviews and questions, received over 1000 comments on Instagram, and 200 on Facebook, in less than a month. Clarifications were given in the form of posts with information on how customers could either obtain refunds for the ticket value or tickets for a new date. This is a concrete example of an accommodation strategy, as identified in the interviews that were part of Study 1.

Using proper names and emojis

Many companies used emojis (graphic symbols of emotions or words), most likely with the aim of humanizing their responses. They were regularly used to complement company apologies. For example, "I'm very upset, I registered the coupon and I didn't get a refund for the promotion, I've already tried contacting and nothing" (CLAIMANT AGENCY B) received the response, "Hello XXX . Good afternoon. After receiving the validation email, the refund of the amount paid for XXX product will be made by bank transfer within 10 working days, limited to a maximum of $60.00. You should be receiving it shortly" (AGENCY B).

Defensive strategy

A small number of companies opted for defensive strategies. They responded in a generic manner, and transferred responsibility to

the complainant. "This institution doesn't care about students, have you thought about how many students live away from campus? Many depend on public transportation. Where's the respect? It's the students who support this college. You are hurting us directly. Yesterday, we were warned that there would be no exams for the law course, in the morning we agreed with the news that the constitutional exam will be held, how will I arrive on time? So you think I ride a jet?" (CLAIMANT AGENCY E); "XXX students who feel harmed should contact their course administrators and report the situation" (AGENCY E).

Silence as strategy

Despite the importance of being proactive and responding to customer complaints (Noort & Willemsen, 2012), there were companies that, according to the complainants, chose to respond with total silence. "Lack of respect for students who live far from college, lack of sensitivity. They communicate that there will be no evaluation, but it is not just a matter of missing an exam, but of missing class and losing content when I am paying for it" (CLAIMANT AGENCY E).

Information "hiding"

Five of the companies identified in the interviews disabled customers' abilities to evaluate their brands on Facebook. Thus, customers had no ability to evaluate the companies with a ranking (stars). The ranking was visible on the brand's page, but the link for evaluating was not, indicating that the company was protecting itself against bad evaluations.

Results

Observations and content analysis of company websites confirmed the use of several strategies described by the managers in Study 1. As reinforced in the literature, the accommodation strategy – apologizing, accepting the error, reimbursing for the error (Lee & Song, 2010; Munzel et al., 2012, 2017) – was widely employed. Also, commonly adopted was humanized personalization (Crijns et al., 2017). While not identified by the interview participants as a strategy, companies regularly referred to customers by their names, referring and tagging their names on the website, and also using emojis. All three elements of the Triple A approach (Acknowledge, Account, Action) detailed in the TripAdvisor study by Sparks and Bradley (2014) were also part of these companies' social media strategies.

A defensive strategy that stands out is the concealment of the customer response field. This strategy makes it difficult for customers to evaluate or complain about brands publicly. This strategy deserves attention, because it minimizes customer contact with the company and prevents them from making a public complaint. It is important to emphasize that this defensive strategy also limits this study, because it is not possible to verify this type of contact between the customer and the company, or to analyze comments and responses that were excluded or hidden from public view.

CONCLUSION

This study investigated the response strategies that brand managers have employed to protect organizational reputations in the online environment. The research on the subject of eWOM is fragmented, usually aimed at investigating the consequences of specific actions on customer perceptions through experiments. The present study makes a novel contribution to the literature by providing an integrated and current overview of the various strategies and responses employed by brand managers working in social media. This research offers marketers and other professionals insights into what strategies can be, and currently are, used by brands managers while reinforcing the importance of brand management. This paper carried out two complementary studies. Exhibit 2 summarizes the key results of the interviews and the analysis of online comments.

These studies reinforce the importance of eWOM, as previously identified by Chebat, Codjove, and Davidow (2005) and Gregoire and Tripp (2011). According to the respondents, they give greater attention to eWOM because of the understanding that social media users are willing to generate negative comments and complaints. The respondents also indicated that the majority of users make open (public) comments instead of sending private emails and direct messages.

Based on a combination of the interview data (Study 1), and collection and analysis of information from the social media pages of the specific brands mentioned by the respondents (Study 2), it is possible to conclude that a significant gap exists between the response strategies implemented by different agencies in cases of complaints, negative comments, and expected outcomes. This disparity may be due to the volume of complaints, brand restrictions on resources (time, money), a lack of knowledge regarding existing strategies, or even the substantial diversity of complaints.

Exhibit 2. **Principal customer response strategies**

PRINCIPAL RESPONSE STRATEGY	CONCEPTS/ACTIONS/PRIMARY CHARACTERISTICS OF THE STRATEGY
Accommodation	Concept: The brand accepts responsibility for possible errors and seeks solutions, including an apology. Actions: Apologizing, showing interest in understanding and solving the problem, ready-made solutions, offering a financial or other benefit to the customer, and notes on guidance and clarification.
	This strategy is the response: customers most expected; brands felt most comfortable admitting to using; most advisable, according to the agencies interviewed; that most employed techniques such as "humanization." To develop a conversation with the customer, companies may use programs with automatic messages, inbox messages (on Facebook), or direct messages, solving the problem privately and out of sight of other customers. When this strategy was applied, one could observe the exercise of the Triple A strategy through online comments.
No Action	Concept: In this strategy, the brand offers either a superficial (non-substantial) response, or complete silence.
	Actions: None.
	This strategy is recommended when: the customer's comment/complaint is an opinion that lacks strong arguments; there are no satisfactory response options; the negative comment is related to a strategic decision taken by the company, such as raising prices; the comment is related to a controversial or sensitive issue. In an analysis of comments made on Facebook and Instagram, accommodation and no action were the most common response strategies. Respondents indicated that they did not employ the "no action" strategy.
Defensive	Concept: In this strategy, the brand denies the problem, claims that the company is not responsible for the problem, and may even accuse the complainant or another company for the situation.
	Actions: Excluding and hiding comments, generic responses, transferring responsibility to the complainant.
	This strategy is: the least expected by customers; perceived negatively by customers; often used when the customer uses inappropriate language, such as cursing; employed when the brand wants to explain itself in private (without fuss); recommended for clarifying any misunderstood or dubious fact that may have been misinterpreted by the customer. This strategy is easily identified in the explanatory notes submitted by companies, mainly regarding events or problems that have reached a large number of customers.

Despite the rigor provided by combining two complementary studies that produced an overview of complaint response strategies, some limitations must be considered. This study was limited to only 10 agencies operating in Brazil. These companies may use different strategies than those operating in other countries. Companies that managed customer responses internally were not approached. Finally, this study was restricted to the two most popular social media platforms, Facebook and Instagram.

A gap in the literature remains, related to which response strategies minimize the weakening of, or damage to, brands. Thus, future investigations could address: (i), which strategic response actions generate the most positive responses from customers; (ii), how customers react to strategic response actions that include concealing or deactivating the brand ranking system; (iii), how customers perceive and interpret differentiated strategic response actions (variations that are based on the number of followers the customer has on social media); (iv), the motivations that lead customers to engage in eWOM; (v), the impact of eWOM on internal company structures and marketing in general; (vi), how companies identify and prioritize customers with more or less social media influence; (vii) the best times for a company to respond to customer complaints; (viii) the differences in the strategies of internal versus external (agency) brand managers; and finally (ix), whether companies of different sizes employ similar strategies, and whether those strategies have identical impacts on their customers.

REFERENCES

Andreassen, T. W., & Streukens, S. (2009). Service innovation and electronic word-of-mouth: Is it worth listening to?. *Managing Service Quality*, *19*(3), 249-265. doi: 10.1108/09604520910955294

Bruhn, M., Schoenmueller, V., & Schäfer, D. B. (2012). Are social media replacing traditional media in terms of brand equity creation? *Management Research Review*, *35*(9), 770-790.

Cassell, C. & Symon, G. (Eds.) (2004). Essential guide to qualitative methods in organizational research London: SAGE Publications Ltd. doi: 10.4135/9781446280119

Collis, J., & Hussey, R. (2005). *Business research: A practical guide for undergraduate and postgraduate students* (2nd ed.). Porto Alegre, RS: Bookman.

Chebat, J. C., Davidow, M., & Codjovi, I. (2005). Silent voices: why some dissatisfied consumers fail to complain. *Journal of Service Research*, *7*(4), 328-342. doi: 10.1177/1094670504273965

Coombs, W. T. (1999). Information and compassion in crisis responses: A test of their effects. *Journal of Public Relations Research*, *11*, 125-142. doi: 10.1207/s1532754xjprr1102_02

Crijns H., Cauberghe V., Hudders L., & Claeys, A. S. (2017, October). How to deal with online consumer comments during a crisis? The impact of personalized organizational responses on organizational reputation. *Computers in Human Behavior*, *75*, 619-631. doi: 10.1016/j.chb.2017.05.046

Davies, G., & Chun, R. (2003). The use of metaphor in the exploration of the brand concept. *Journal of Marketing Management*, *19*(1/2), 45-71. doi: 10.1080/0267257X.2003.9728201

Dellarocas, C. (2003). The digitization of word of mouth: Promise and challenges of online feedback mechanisms. *Management Science*, *49*(10), 1275-1444. doi: 10.1287/mnsc.49.10.1407.17308

East, R., Romaniul, J., Chawdhary, R., & Uncles, M. (2017). The impact of word of mouth on intention to purchase currently used and other brands. *International Journal of Market Research*, *59*(3), 321-344. doi: 10.2501/IJMR-2017-026

E-commerce Brasil. (2018). *Estudo revela a evolução do consumidor digital no Brasil*. Retrieved from https://www.ecommercebrasil.com.br/noticias/estudo-revela-evolucao-do-consumidor-digital-no-brasil

Eisingerich, A. B., Chun, H. E. H., Liu, Y., He, J. M., & Bell, S. J. (2015). Why recommend a brand face-to-face but not on Facebook? How word-of-mouth on online social sites differs from traditional word-of-mouth. *Journal of Consumer Psychology*, *25*(1), 120-128. doi: 10.1016/j.jcps.2014.05.004

Flick, U. (2009). *Desenho da pesquisa qualitativa*. Porto Alegre, RS: Artmed.

Gensler, S., Völckner, F., Liu-Thompkins, Y., & Wiertz, D. (2013). Managing brands in the social media environment. *Journal of Interactive Marketing*, *27*, 242-256. doi: 10.1016/j.intmar.2013.09.004

Godoi, C. K., & Balsini, C. P. V. (2010). A pesquisa qualitativa nos estudos organizacionais brasileiros: Uma análise bibliométrica. In A. B. Silva, C. K. Godoi, & R. Bandeira-De-Melo, *Pesquisa qualitativa em estudos organizacionais: Paradigmas, estratégias e métodos* (2. ed., pp. 89-113). Saraiva: São Paulo, SP.

Gregoire, Y., & Tripp, T. (2011). When unhappy customers strike back on the internet. *MIT Sloan Management Review*, *52*(3), 1-8.

Grégoire, Y., Salle, A., & Tripp, T. M. (2015). Managing social media crises with your customers: The good, the bad, and the ugly. *Business Horizons*, *58*(2), 173-182. doi: 10.1016/j.bushor.2014.11.001

Griffin, M., Babin, B. J., & Darden, W. R. (1992). Consumer assessments of responsibility for product-related injuries: The impact of regulations, warnings, and promotional policies. *Advances in Consumer Research*, *19*, 870-878.

Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing*, *18*(1), 38-52. doi: 10.1002/dir.10073

Hennig-Thurau, T., & Wash, G. (2010). Electronic word-of-mouth: Motives for and consequences of reading customer articulations on the internet. *International Journal of Electronic Commerce*, *8*(2), 51-74.

Islam, J. U., & Rahman, Z. (2016). Linking customer engagement to trust and word-of-mouth on Facebook brand communities: An empirical study. *Journal of Internet Commerce*, *15*(1), 40-58. doi: /10.1080/15332861.2015.1124008

Istanbulluoglu, D. (2017). Complaint handling on social media: The impact of multiple response times on consumer satisfaction. *Computers in Human Behavior*, *74*, 72-82. doi: 10.1016/j.chb.2017.04.016

Kietzmann, J. H. K., Hermkens, K., Mccarth, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, *54*, 241-251. doi: 10.1016/j.bushor.2011.01.005

Kim, S. J., Wang, R. J., Maslowks, E., & Malthouse, E. (2016). Understanding a fury in your words: The effects of posting and viewing electronic negative word-of-mouth on purchase behavior. *Computers in Human Behavior*, *54*, 511-521. doi: 10.1016/j.chb.2015.08.015

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*, *28*(3), 167-183. doi: 10.1016/j.intmar.2014.02.001

Krishnamurthy, A., & Kumar, S. R. (2018). Electronic word-of-mouth and the brand image: Exploring the moderating role of involvement through a consumer expectations lens. *Journal of Retailing and Consumer Services*, *43*, 149-156. doi: 10.1016/j.jretconser.2018.03.010

Kumar, V., Choi, J. B. & Greene, M. (2017). Synergistic effects of social media and traditional marketing on brand sales: Capturing the time-varying effects. *Journal of the Academy of Marketing Science*, *45*(2), 268-288. doi: 10.1007/s11747-016-0484-7

Laufer, D., & Coombs, W. T. (2006). How should a company respond to a product harm crisis? The role of corporate reputation and consumer-based cues. *Business Horizons*, *49*, 379- 385. doi: 10.1016/j.bushor.2006.01.002

Lee, B. K. (2004). Audience-oriented approach to crisis communication: A study of Hong Kong consumers' evaluation of an organizational crisis. *Communication Research*, *31*(5), 600-618. doi: 10.1177/0093650204267936

Lee, B. K. (2005). Hong Kong consumers' evaluation in an airline crash: A path model analysis. *Journal of Public Relations Research*, *17*(4), 363-391. doi: 10.1207/s1532754xjprr1704_3

Lee, B. K., & Song, S. (2010). An empirical investigation of electronic word-of-mouth: Informational motive and corporate response strategy. *Computers in Human Behavior*, *26*, 1073-1080. doi: 10.1016/j.chb.2010.03.009

Li, C., Cui, G., & Peng, L. (2018, July). Tailoring management response to negative reviews: The effectiveness of accommodative versus defensive responses. *Computers in Human Behavior*, *84*, 272-284. doi: 10.1016/j.chb.2018.03.009

Liu, T. C., Wang, C. Y., & Wu, L. W. (2010). Moderators of the negativity effect: Commitment, identification, and consumer sensitivity to corporate social performance. *Psychology and Marketing*, *27*(1), 54-70. doi: 10.1002/mar.20319

Manika, D., Papagiannidis, S., & Bourlakis, M. (2017). Understanding the effects of a social media service failure apology: A comparative study of customers vs. potential customers. *International Journal of Information Management*, *37*, 214-228.

Marcus, A. A., & Goodman, R. S. (1991). Victims and shareholders: The dilemmas of presenting corporate policy during a crisis. *Academy of Management Journal*, *34*(2), 281-305. doi: 10.2307/256443

McLaughlin, M., Cody, M., & O'Hair, H. D. (1983). The management of failure event: Some contextual determinants of accounting behavior. *Human Communication Research*, *9*, 208-224. doi: 10.1111/j.1468-2958.1983.tb00695.x

Mintel.com. (2015). *Seven in 10 Americans seek out opinions before making purchases*. Retrieved from http://www.mintel.com/press-centre/social-and-lifestyle/seven-in-10-americans-seekout-opinions-before-making-purchases

Munzel, A., Jahn, B., & Kunz, W. H. (2012). The power of saying sorry– insights on customer service in new media online channels. *12th International Research Conference in Service Management*, França.

Munzel, A., Kunz, W. H., & Jahn, B. (2017). Serving in a social media world: How to react online to negative word of mouth. *SSRN Electronic Journal*. Retrieved from https://ssrn.com/abstract=2898312. doi: 10.2139/ssrn.2898312

Noort, G. Van, & Willemsen, L. M. (2012). Online damage control: the effects of proactive versus reactive webcare interventions in consumer-generated and brand-generated platforms. *Journal of Interactive Marketing*, *26*(3), 131-140. doi: 10.1016/j.intmar.2011.07.001

Roberts, P. W., & Dowling, G. R. (2002). Corporate reputation and sustained superior financial performance. *Strategic Management Journal*, *23*(12), 1077-1093. doi: 10.1002/smj.274

Statista. (2018). Number of monthly active Facebook users worldwide as of 2nd quarter 2017.

Siomkos, G. J., & Kurzbard, G. (1994). The hidden crisis in product harm crisis management. *European Journal of Marketing*, *28*(2), 30-41.

Sparks, B. A., & Bradley, G. L. (2014). A "Triple A" typology of responding to negative consumer-generated online reviews. *Journal of Hospitality & Tourism Research*, *41*(6), 719-745. doi: 10.1177/1096348014538052

Sundaram, D. S., Mitra, K., & Webster, C. (1998). Word-of-Mouth Communications: A motivational analysis. In J. W Alba, & J. W. Hutchinson, Advances in consumer research. 25, eds. Joseph W. Alba & J. Wesley Hutchinson, Provo, UT : Association for Consumer Research, 527-531.

VanMeter, R. A., Grisaffe, D. B., & Chonko, L. B. (2015). Of "likes" and "pins": The effects of consumers' attachment to social media. *Journal of Interactive Marketing*, *32*, 70-88. doi: 10.1016/j.intmar.2015.09.001

Waiguny, M. K., Kniesel, H., & Diehl, S. (2014). Is it worth responding? The effect of different response strategies on the attitude toward the reviewed hotel. *International Conference on Research in Advertising*, Netherlands, 1-13.

Wilson, A. E., Giebelhausen, M. D., & Brady, M. K. (2017). Negative word of mouth can be a positive for consumers connected to the brand. *Journal of the Academy of Marketing Science*, *45*(4), 534-547. doi: 10.1007/s11747-017-0515-z

Xie, K. L., Zhang, Z., Zhang, Z., Singh, A., & Lee, S. K. (2016). Effects of managerial response on consumer eWOM and hotel performance: Evidence from TripAdvisor. *International Journal of Contemporary Hospitality Management*, *28*(9), 2013-2034. doi: 10.1108/IJCHM-06-2015-0290

Zhu, Y., & Chen, H. (2015). Social media and human need satisfaction: Implications for social media marketing. *Business Horizons*, *58*, 335-345. doi: 10.1016/j.bushor.2015.01.006

AUTHORS' CONTRIBUTIONS

The authors declare that they contributed equally in the conceptu-alization and theoretical-methodological approach, the theoretical review (literature survey), as well as data analysis, and finally, writing and final review the article. The data collection was realized by first author.