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## **Article**

Online dating apps as a marketing channel: A generational approach

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# Online dating apps as a marketing channel: a generational approach

Online dating apps as a marketing channel

## 1

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#### Abstract

Purpose – This study aims to understand if an online dating app is considered an acceptable channel to conduct advertising activities and understand the differences between Generations X, Y and Z for such acceptance.

**Design/methodology/approach** – A total of 411 Tinder users' reactions were obtained and analyzed using text mining to compute the sentiment score of each response, and a Kruskal–Wallis H test to verify if there are statistical differences between each generation.

 $\label{eq:Findings} Findings - The results showed positive acceptability toward the marketing campaign on Tinder, especially Z Generation. Nevertheless, the statistical analysis revealed that the differences between each generation are not statistically significant.$ 

**Research limitations/implications** – The main limitation relates to the fact that the participants, during the data collection, revealed their identification, perhaps leading to acquiescence bias. In addition, the study mainly covered the male population. A balanced sample would be positive to examine any possible differences between gender.

**Practical implications** – Results provide an essential indication for companies regarding their marketing activities conducted on Tinder to fully exploit the possibility of using Tinder as an alternative and valuable channel to conduct marketing activities.

**Originality/value** – Up until now, no studies tried to understand the effect of a marketing activity online on an online dating app.

**Keywords** Social media, Marketing communication channel, Online dating apps, Tinder, Text mining, Sentiment analysis

Paper type Research paper

#### 1. Introduction

In a world driven by electronic word-of-mouth based on Social Media (SM) platforms, marketers have taken it into an advantage to procure new relationships between brands, potential customers and developing existing ones (Litterio *et al.*, 2017). On this less tangible and sophisticated era, individuals have changed their roles as consumers, since they take an



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European Journal of Management and Business Economics Vol. 30 No. 1, 2021 pp. 1-17 Emerald Publishing Limited e-ISSN: 2444-8494 p.:SSN: 2444-8491 DOI 10.1108/EJMBE-10-2019-0192 autonomous part in seeking information about products/services of their interest, making it possible to acquire nearly everything with a simple "click" (Ramos *et al.*, 2019). On a global scale, there are 2.25 billion users of SM daily (Statista, 2017). The average adult (18+) spent about 2 h and 25 min a day in navigating on SM in 2017, with Generation Y taking the most significant portion of that daily usage, with around 3 h and 72 min (Statista, 2017). This shift in user behavior entails companies to reconsider their marketing strategies inside the digital world, by turning their head to relationship-based interactions with their target market, to improve marketing engagement (Stojanovic *et al.*, 2018). As a result, marketers have transformed their roles. In this paradigm, there are two leading SM platforms marketers tend to focus on when they decide to invest in digital marketing: Facebook and Instagram (Voorveld *et al.*, 2018).

Nevertheless, the increasing number of media channels turned the media effectiveness challenging. Time and attention have turned into a rare assent for users, and the number of alternative ways of communication influence the quantity and type of communication (Hartemo, 2016). Although advertising has a positive effect and visibility on brand equity (Abril and Rodriguez-Cánovas, 2016), it has become less efficient. In a situation of high quantity, there are too many ads concentrated in one channel claiming for the users' attention, putting in jeopardy the effects of memory, behaviors toward the ad, attitude, advertised product and even the channel itself where the communication occurs (Rejón-Guardia and Martínez-López, 2014).

The main reason to download a dating app is due to its mass marketing popularity and peer influence (LeFebvre, 2017). The game-like swiping characteristic of these apps makes its navigation almost addictive, resulting in placing them into the entertaining app category (Sumter *et al.*, 2017). The age group of 25–34 holds a substantial share of online dating activity with a value of 42.2%, with a total of 279.2 million worldwide users in 2017, and a forecast to reach 331.3 users by 2022 (Statista, 2018).

Although a few marketing campaigns have been executed on dating apps, academia has not developed efforts to understand the receptivity of a dating app as a marketing tool. Therefore, the purpose of this investigation is to explore the willingness to receive intrusive marketing communications through a dating app, and if there are statistical differences between generations for its acceptance. To achieve this objective, 411 user reactions were collected from Tinder after the launch of a marketing campaign, providing the corpus for analysis. Sentiment analysis was adopted to rank the responses, thus enabling us to understand the types of user feedback toward marketing communication and a Kruskal–Wallis H test to comprehend if there are statistical differences between each generation. Although the creative aspect of marketing communication is not considered, from a marketer's perspective, it is crucial to understand how dating apps users react facing marketing communication, considering that the channel influences its effect.

Using generational cohorts permit an additional understanding of the users' response toward a marketing campaign, as each group is perfectly delimited by a particular period and involves people who were born within a specific period, with similar values, experiences and priorities (Bento et al., 2018). The period when the audience was born can provide indicators of target groups and interests and particular insights of each generational microculture.

By uncovering the users' reactions, this paper intends to bring valuable insights for scientific literature and marketers by understanding if an online dating app is an appropriate channel to conduct marketing activities since there is a positive correlation between channel acceptance and ad attitude (Bakr *et al.*, 2019), and if audience generation is a determinant for its acceptance.

#### 2. Literature review

#### 2.1 Social media advertising

The reason marketers have begun to consider SM as one of the most valuable marketing channels is their inexpensive characteristic to engage and communicate with a worldwide

audience (Ashley and Tuten, 2015; Jaakonmaki et al., 2017). Firms who take advantage and invest in SM marketing consider SM an ongoing corporate communication channel more effective than company-sponsored messages (Clark et al., 2017). SM aims to generate content engaging enough to lure social network users into interacting with them to create digital exposure (Ramos et al., 2020). Hence, the opportunity to connect, create and bring customer value became higher and much easier to obtain (Vrontis et al., 2017).

SM networks have become indispensable, bringing up a revolution in how SM affects peoples' views and participation in political and civil life, in terms of marketing campaigns surrounding political and social causes (Boulianne, 2015). Promotion via SM channels has become a technique pursued by marketers, by a single share of a picture or by creating a contest to win a prize or a reward (Királová and Pavlíčeka, 2015).

Due to humans' relationship toward their own unconscious emotions, marketing campaigns whose backbone is to reach consumers' vulnerability and their emotional side, turn almost immediately into success, since such feelings related to advertising get effortlessly retained on the audience's mind (Hudson *et al.*, 2015; Schivinski and Dabrowski, 2016). Such content influences consumers' willingness to recommend and comment on experiences with the advertising to their peers (Hudson *et al.*, 2015).

Consumers' emotions respecting SM advertising can differ, as seen in Knoll's (2016) review of several studies regarding users' attitudes toward SM advertising, which emphasized some of the most valuable conclusions obtained. In essence, advertising can be bothersome, especially when disrupting an activity that was being executed on a SM platform. The participants noted that advertising, which features nothing more than a simple link, is often not engaging; thus, these authors recommended that advertising on SM should be mostly concerned about interaction, enjoyment and cocreation between companies and the SM users (Sashittal *et al.*, 2012; Soares and Pinho, 2014). Moreover, studies such as Yang's (2014) and McCoy *et al.*'s (2017) regarding contrary acceptance toward advertising on social platforms, concluded that ads invasive and distractive play a negative influence regarding users' attitudes toward them. However, such a consequence takes a much smaller impact compared to the positive influence resulted from advertising's entertainment aspect. Expanding with time, SM users tend to be more accepting of the vast amount of advertising, coupled with the need to create credible, entertaining, interactive, trust-worthy and personalized marketing activities (Alalwan *et al.*, 2017; Knoll, 2016).

Furthermore, several studies determined the highly positive value of entertainment's influence on positive attitudes toward SM advertising: when comparing to information, entertainment took up four times more influence (Knoll and Matthes, 2017; Saxena and Khanna, 2013). Set on Killian et al. (2015) research, several senior managers responsible for the digital planning of their respective companies were asked to recognize the four key customer engagement strategies regarding SM networks' purposes. Once more, entertainment was claimed to be the most critical factor, as entertaining SM activity quickly enhances users' engagement and curiosity.

Marketers must invest their time in being attentive to feedback and emotions are given by users on their SM platforms, since marketing and advertising should be a result of a constant co-creation process and firms must be conscious of their audiences' deliberation toward their marketing activities (Bernabé-Moreno *et al.*, 2015; Hartmann *et al.*, 2018).

# 2.2 Online marketing campaign effect on different generations

For understanding the effectiveness of online advertising, it is relevant to understand the users' responses toward them. In this context, consumer motivation plays an essential role in the online environment since it affects how advertising is perceived on social media (Lin and Kim, 2016). Need, drive and desire are psychological states that reveal the way a user processes information, makes decisions and is involved. User response toward advertising is

associated with the motivation that drives a user to find information or good deals on the internet and make a purchase (Zhang and Mao, 2016). For instance, the perceived usefulness of a Facebook ad revealed to be a significant predictor of attitude toward advertising and product purchase intention (Lin and Kim, 2016).

Similarly, the effectiveness of an ad depends on the possibility of engagement before the action is taken. An entertaining ad will have a positive reaction toward an online ad (Zhang and Mao, 2016). For that, it is essential that ads are interactive, appealing and permit a direct virtual experience. The ad personalization also plays a vital role in response to an ad. Moderated personalized ads have increased the click-through intention and click-through rate on online ads when compared to a nonpersonalized ad. Click-through rates also increase when an ad meets user interests (Boerman *et al.*, 2017). Brand consciousness also has a relevant impact on an online ad, influencing users' attitudes toward it, affecting their behavioral response (Boateng and Okoe, 2015). Clearly, there is a positive relationship between users' attitudes toward an online ad and their behavioral responses.

Generation X includes those who were born between 1965 and 1980 (Kitchen and Proctor, 2015) with specific characteristics that have an impact on the perception of online marketing campaigns. Although this generation is not acquainted with the new technologies, they tend to be more responsible when using SM platforms, but, on the other hand, are more effectively targeted by marketers through advertisements. This generation is not susceptible to many factors within marketing and tends to ignore online advertising due to the lack of interest, they are not significantly influenced, and their purchasing behavior is not determined by them (Slootweg and Rowson, 2018). Nevertheless, this generation frequently uses the internet as a source of information and tend in general to be participative in online activities. A significant majority uses online social media on a daily basis (Kitchen and Proctor, 2015).

Generation Y (born between 1981 and 1995) (Kitchen and Proctor, 2015), also known as millennials, have a particular way to respond to online advertisements. Since they are digital natives, their interaction with SM is more natural and intuitive, and they share and consume content actively on SM. They are both consumers and producers of information and are more likely to spread marketing messages than Generation X (Bento *et al.*, 2018). This cohort is exceptionally tolerant, give especially attention to social responsibility campaigns and promotion campaigns. This generation spends a considerable amount of time on SM platforms and considers the online environment more trustworthy and safer, making them easy to target using online marketing strategies. However, they are suspicious regarding marketing tactics (Lissitsa and Kol, 2016). Nevertheless, there are few ways in which this generation is consistently affected by marketing since they highly value opinions from others online. Their preference for online advertising is spots and clips broadcast on YouTube, game advertising and pop-up ads from websites (Smith, 2011).

Generation Z is concerned with a target group of people born after 1995 (Kitchen and Proctor, 2015). This generation is more SM savvy and with high levels of swapping online information and conversation. They do not know the world without the internet and are the most educated and connected users among all generations (Chaney *et al.*, 2017). As Generation Y, they are highly tolerant, have a positive attitude toward SM advertising, and prefer online advertising formats that offer control. For these reasons, this generation finds SM advertisements more informative than other generations (Southgate, 2017). By facing these assumptions, it is expected that the reaction toward the marketing campaign on Tinder will differ.

#### 2.3 Users' reaction to ads

The theory of psychological reactance refers to intrusiveness as a threat that exposes the lack of freedom and autonomy (Quick et al., 2015). A reaction occurs when an individual's freedom

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of choice happens, usually creating a motivation to regain the lost freedom (Wottrich *et al.*, 2018). Contextualizing this concept to the SM advertising, when a user is confronted with a highly intrusive ad, a reactance occurs, leading the user to advertising evasion. Intrusiveness is considered a critical factor in explaining the avoidance of a consumer toward and advertising (Riedel *et al.*, 2018).

Perceived intrusion measures the user's distraction during the conduction of a task. Ads that appear without the user's permission can be perceived as an invasion into an individual's private subjects (Rejón-Guardia and Martínez-López, 2014). Users consider ads intrusive if they are not expecting them or, if not, find them familiar. The intrusion or nondesired ads could cause the user to perceive them as adverse. In a situation where the user sees self in a case of ad intrusion or without permission, the reaction can be annoyance and negative, leading to a possible ad evasion to complete their planned tasks. Therefore, users can develop negative feelings toward the ad, the advertised brand and the channel itself (Varnali, 2014). The perception and attitude toward the channel can be damaged by the perceived intrusion or absence of permission.

One other emotional reaction related to intrusiveness is irritation. Irritation occurs when a user is unable to close the unwanted ad, being forced to view it, requiring a tremendous cognitive effort, triggering an adverse emotional reaction toward the ad, leading to avoidance behavior (Heinonen and Strandvik, 2007).

Channel acceptance/disturbance refers to the extent to which users accept/reject a particular channel as an advertising channel. It portrays the communication context, meaning that includes how, when and where the user accesses the information (Heinonen and Strandvik, 2007).

The channel can be perceived as acceptable or disturbing, influencing user responsiveness (Boateng and Okoe, 2015). If a channel is perceived as convenient, it will intensify the acceptance of marketing communication. However, if considered as disturbing, it will influence the attention of the user toward the message, revealing a feeling of irritation and avoidance behavior, compromising the efficacy of the communication (Bakr *et al.*, 2019; Boerman *et al.*, 2017). This means that the acceptance of a specific channel is a prerequisite for a positive ad attitude and that when a user understands the channel as disturbing, the negative emotions will not accept the ad regardless of its relevance or usefulness.

#### 3. Methodology

For this empirical research, the reactions toward a marketing campaign promoting a hypothetical clothing website on the dating app Tinder were collected.

The choice for collecting data from Tinder is due to its great success among the digital dating world: users swipe right and left about 1.5 billion times per day (March *et al.*, 2017). An average Tinder user logs onto the app 9 to 11 times per day (LeFebvre, 2017). Males make up 62% of users, females 38% and 85% of the total number of users are aged between 18 and 34, with an average user age of 27 years (Smith and Anderson, 2018).

For the campaign, we adopted a familiar clothing website to give the research a digital backbone and credibility. Adopting an intrusive marketing communication, and with the adoption of an unstructured questionnaire to understand the reaction of users toward the marketing campaign, a total of 411 users' reactions were collected at the end of the campaign execution.

For setting up the campaign, two Tinder profiles were created, a woman and a man, who were the faces of the campaign. These two individuals were fictional characters, whose Tinder profile pictures were taken from a free stock photograph website, for commercial purposes. Carlos and Maria, respectively the male and female accounts, had their location setting set to its maximum (160 km), the age gap for potential matches from 18 to 55+ years

old, and their sexual preference as heterosexual. The type of communication used toward the dating app users was formal, along with some nuances of classic Portuguese, for it is highly uncommon and entertaining for the users in a scenery that is usually quite ordinary. For it to be possible, a script was drawn (Table 1).

The developed script was implemented for both accounts, and the dialog was kept considering the users' answers, never allowing the conversation slide away from the friendly and more professional side (Wang *et al.*, 2017). The creation of the script was based on the need for it to be entertaining, credible, interactive and personalized (Alalwan *et al.*, 2017; Knoll, 2016) to capture the users' attention since the first interaction, as throughout the entire conversation. Since the objective of this unstructured survey was to acquire the reactions of users after letting them know the conversation was part of a marketing campaign (step 6 of Table 1), it was requested their permission to be part of it. After their acceptance, the capture of responses was proceeded, along with retaining the age and gender of each user. In Table 2, it is possible to find the gender characterization of the sample.

Ages of respondents ranged from 18 to 58 years old (M = 30.00 years; 23.3% were from 18 to 24 years old, 64.5% from 25 to 39 years old and 12.2% from 40 to 58 years old). From a total of 411 respondents, 91.5% were male, and 8.5% were female. Such discrepancy of genders exists since Tinder users are generally males (Ward, 2017), and therefore, most reactions obtained were from the female account used, for heterosexual men have no hesitation in engaging and initiating conversations on the app.

Step	Script
1st	[If the user is smiling in any of their profile pictures] It was pointed out to me your striking and endless smile, and therefore, I succumbed to the urge to contact you. How have you been? [If the user is not smiling] Greetings, dear gentleman/madam. How have you been? or [If a user starts a conversation first without a "how are you?"] Greetings, dear gentleman/madam. How have you been? [If a user starts a conversation with a "how are you?"] Greetings, dear gentleman/madam. I am afraid to declare that my heart has lived better days. How have you been?
2nd	[When the user answers to how are they] I'm quite glad to hear so
	[When the user asks "how are you?"] I am afraid to declare that my heart has lived better days
	[Reason:] This untiring struggle to find love with fashion sense has been leaving me breathless and unhopeful
3rd	[When the user comments and says reassuring things] Thank you for your words
	[If the user asks to meet, we skip to the 4th question.]
	[If the user asks to contact via Instagram or WhatsApp] I'd prefer it if we talked via this platform for now. [Then proceeding to the 4th question.]
4th	May I ask what brings you to this quite modern application?
5th	[The user answers the question and then we tell them our reason:] The pursuit of such human being of exquisite tastes and special fashion sense
6th	[The user will say something and regardless, we reply:] What would you tell me if right now you were being part of a marketing campaign? I'm currently studying Tinder's users' receptivity toward a marketing campaign

**Table 1.** Script used on Tinder's users

Table 2. Sample characterization

Generation	Age	Male	Female	Total
Z	18–24	82	14	96
Y	25–39	245	20	265
X	+40	49	1	50
	Total	376	35	411

The collected dataset was analyzed using the R statistical software, with the developed script for the text mining being implemented through the RStudio interactive environment. The R tool is a free and open software for data analysis benefitting from a large online community, including packages such as the "sentiments", which computes a sentence's sentiment score (Cortez, 2014).

Text mining is a multidisciplinary field to extract information from a significant portion of nonstructured textual data, eliminating irrelevant text to find pertinent details and to uncover patterns of relevant knowledge (Brochado *et al.*, 2019; Moro *et al.*, 2015). Text mining tools are well suited to automate, refine and transform business intelligence activities that are traditionally conducted employing intensive work of manual literature revision in the search for patterns among the data. Text mining has been used in competitive intelligence, customer management, research, among others.

Sentiment analysis enables us to understand how the users express themselves in text, revealing a positive or negative reaction (Calheiros *et al.*, 2017; Guerreiro and Rita, 2019). A large amount of studies has used sentiment analysis. For instance, Calheiros *et al.* (2017) applied sentiment analysis to characterize a given hospitality issue. Lee *et al.* (2017) used text mining techniques specifically to sentiment classification analysis to understand the relationship between the entropy of review text sentiment and the online word of mouth effects. Pathak and Pathak-Shelat (2017) used sentiment analysis to explain the negative sentiments expressed by virtual tribes. Therefore, the use of sentiment analysis to conduct unstructured text data has been used in different contexts revealing fascinating results. The reactions obtained from the users function perfectly as feedback/reviews, therefore the adequate way to analyze the collected data.

The sentiment analysis developed script was run to score the 411 user responses via a scale of sentiments: sentiments can be negative, neutral, or positive. In the present research, values above zero count as positive, values below zero are negative, and the values equal to zero are neutral.

To understand if the reaction toward the marketing campaign on each generation is different, we have used generational cohorts as Generation X (born between 1965 and 1980), Generation Y (born between 1981 and 1995), and Generation Z (born after 1995), following the approach of Kitchen and Proctor (2015). A normality Shapiro–Wilk test was conducted first to test the assumptions for a One-way ANOVA analysis. As those assumptions failed, we then did a Kruskal–Wallis H test considering a significance level at p < 0.05. All inferential statistical calculations were performed using SPSS (26.0).

#### 4. Results and discussion

First, it was proceeded to examine the frequency of words from all user responses to be able to get more insights and scrutinize the vast information that was obtained in text format. As it can be found in Table 3, the ten most frequently used objectives are displayed. From the ones that are considered negative, there were only two found – "bother", with a frequency of 0.79% and "bad" with 0.28%. Also, we can see "good", "well", "interesting", "luck", "interest", "funny", "great" and "nice" as positive words, the most relevant ones with the frequencies of 2.31% ("good") and 1.15% ("well"). Positive influence is a crucial driver to SM users/consumer's reactions by commenting their opinion on the subject, in opposition to negative feelings, giving the audience a lack of motivation to comment and merely leading them to ignore such experience (Berger, 2014; Boateng and Okoe, 2015). Remarkably, these results acknowledge a generally positive reaction toward the possibility of receiving marketing information through Tinder.

For understanding the sentiment of users behind their responses, data were analyzed through text mining and the sentiment scale. For the analyzed dataset of reactions, the most **Table 3.** Top 10 more frequent words

**Table 4.** Sentiment scale

**Table 5.**Descriptive analysis (Absolute, relative, mean and standard deviation)

negative one scored -0.76 of sentiment, while the most positive scored 1.34. For an exhaustive analysis, a sentiment scale was created using SentiWordNet (Ahmed and Danti, 2016) (Table 4).

A descriptive analysis of the overall results is presented in Table 5.

From the 411 user's perspective, 34.31% declare a fragile positive sentiment toward the perspective of receiving marketing communications through Tinder. On the negative side, 25.30% report a fragile negative sentiment. These results indicate that Tinder users have a generally positive attitude toward advertising through this platform and less irritated when approached. A positive feeling affects the users' response and attitude toward advertising positively and legitimates Tinder as a communication channel to conduct marketing activities (Rejón-Guardia and Martínez-López, 2014).

Word	Frequency	Percentage
good	100	2.31
well	50	1.15
interesting	39	0.9
bother	34	0.79
luck	31	0.72
interest	22	0.51
funny	17	0.39
great	16	0.37
bad	12	0.28
nice	11	0.25
Total	4,330	100.00

Scale
≥0.60
[0.30, 0.59]
[0.01, 0.29]
0
[-0.29, -0.01]
[-0.59, -0.30]
≤-0.60

	Absolute values	Relative values	Mean	Std. deviation
Solid Positive	34	8.3%	0.77	0.16
Regular Positive	89	21.7%	0.43	0.08
Fragile Positive	144	35.0%	0.16	0.08
Neutral	23	5.6%	0	0
Fragile Negative	104	25.3%	-0.12	0.08
Regular Negative	13	3.2%	-0.36	0.06
Solid Negative	4	1.0%	-0.69	0.05
Total Positive	267	65.0%	0.33	0.23
Total Negative	121	29.4%	-0.17	0.14
Total	411	100%	0.16	0.30

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It is significant to reference the variance between both positive and negative means: the mean of positive value corresponds to a regular positive in the sentiment scale, while the mean of negative values fits on the fragile negative scale. The absolute mean shows a general fragile positive reaction toward the possibility of users to receive marketing information through Tinder, confirming the results obtained in Table 3. The relevance of these results is the recognition of Tinder as a potential marketing channel, ready to be explored. Companies need to understand the potential of a channel before invest in it with marketing campaigns (Verbraken *et al.*, 2014).

Neutral sentiments toward the campaign (values equal to zero on the scale) were 5.60%, and they can be considered quite optimistic, as only very few people felt "nothing" toward the marketing campaign. The percentage of positive reactions and negative reactions were of 64.96% and 29.44%, respectively. More than half of Tinder users' emotions toward the campaign were positive.

Results were transformed into a scatter plot for a visual interpretation and analysis of the dispersion of the results.

On the scatter plot from Figure 1, it can be noticed that it is considerably more condensed above zero value, the positive scale of sentiments' area, as expected, since 65.9% of the values obtained were above zero.

Most of the negative emotions' values stand between 0.01 and -0.29 in the scale of sentiments, which is meaningfully low. Many Tinder users are receptive while coming across a marketing campaign, widening the range of opportunities that can be taken when creating advertising.

For a detailed examination of the results, data were segmented by generation (Table 6). The only generation that revealed a solid negative result was Generation Y (1.5%), showing high resistance to receive marketing communications through Tinder. This information is validated by a user, 27 years old, stated, "I would say it would be annoying" after being asked for his opinion. Generation Z (4.2%), followed by Generation X (4.0%), revealed the highest results within the regular negative effects. In the fragile negative sentiment scale, Generation Y declared the highest results (28.3%). A user, 19 years old, expressed his opinion by saying: "Seriously? Very strange", while a user, 29 years old revealed that: "I would say that everything is enough to get the desired message to the consumer, it is unheard of on this platform, but it does not surprise me".

Users with the best results within the fragile positive sentiment scale were those from Generation X (46.0%) and Generation Z (40.6%), while on the regular positive results, those who showed more receptivity was Generation Y (25.7%). A user, 47 years old stated, "it does

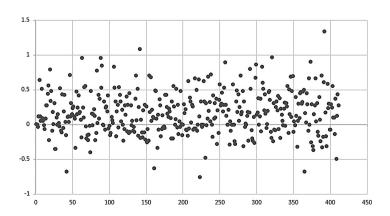


Figure 1. Scatter plot, including all 411 users' reactions

Table 6.
Descriptive sentiment
distribution by
generation (%)

	Solid negative	Regular negative	Fragile negative	Neutral	Fragile positive	Regular positive	Solid positive	Total negative	Total positive
Gen Z $(n = 82)$	0	4.2	18.8	6.3	40.6	17.7	12.5	22.9	70.8
Gen Y $(n = 265)$	1.5	2.6	28.3	5.3	29.8	25.7	6.8	32.5	62.3
Gen X $(n = 50)$	0	4.0	22.0	6.0	46.0	14.0	8.0	26.0	68.0

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not bother me at all, but I do not think it is a big hit either", showing a fragile positive sentiment. A user, 20 years old, revealed his regular positive reaction by saying, "I already know the store! It is funny".

Among all generations, Generation Z revealed to be one with the highest acceptability to receive marketing information through Tinder (12.5%).

By observing general results, the age gap with the most favorable results were those from Generation Z (70.8%), followed by users from Generation X (68.0%). A user, 24 years old, revealed his opinion by saying, "I would give sincere congratulations for the creativity", confirming this result.

On the other hand, Generation Y, revealed more resistance to receive marketing communications through Tinder (32.5%), confirming previous studies that highlight that this generation is considered to be skeptical and distrustful toward marketing campaigns (Lissitsa and Kol, 2016; Valentine and Powers, 2013). Negative results will reveal negative emotions, such as irritation and annoyance (Varnali, 2014).

To understand if the reaction toward the marketing campaign on each generation is different, parametric and nonparametric analyses were undertaken, considering the descriptive statistics of sentiment scores grouped by generation (Table 7).

The result obtained by the parametric test (one-way ANOVA) was unfeasible due to the nonnormal distribution of outcomes ( $W_Z(96) = 0.97$ , p = 0.020;  $W_Y(265) = 0.99$ , p = 0.017;  $W_X(50) = 0.97$ , p = 0.184).

Sentiment scores of Generation Z (Mdn = 0.17) were higher than those of Generation Y (Mdn = 0.12), and Generation X (Mdn = 0.12). A Kruskal–Wallis test showed that the differences were not statistically significant (H(2) = 1.099, p = 0.577).

Kruskal–Wallis test showed that generation does not significantly affect the sentiment of Tinder users. Nevertheless, the descriptive statistics revealed that the generation with more willingness to receive marketing campaigns on Tinder could be Generation Z. Every age group has a positive mean, although the results are considered fragile positive. Generation Z (0.20) is the one showing the most positive reaction to receiving marketing communications through Tinder, confirming that this generation has a great willingness and positive attitude toward SM advertising (Southgate, 2017). On the other hand, Generations Y and Z showed less propensity (0.15) to receive marketing communications through Tinder, although the results are considered positive (fragile).

#### 5. Conclusions, limitations and future research

This study aimed to analyze online dating apps users' responsiveness toward a marketing campaign promoting a clothing website, making use of a text mining analysis using a sentiment scale, and a Kruskal–Wallis test to understand the statistical differences between each generation. In general, results showed that online dating apps users have positive feelings toward the marketing campaign, revealing to be an acceptable channel to conduct intrusive marketing activities. First, not only the percentage of positive reactions was of

		Sentimen	t			Statistics	
Generation	Frequency	Mean (SD)	Mdn (IQR)	Mean rank	df	Kruskal–Wallis H	Þ
Z	96	0.20 (0.31)	0.17 (0.0;0.39)	217.11	2	1.099	0.577
Y	265	0.15 (0.31)	0.12 (-0.07; 0.36)	202.46			
X	50	0.15 (0.24)	0.12 (-0.01;0.29)	203.42			
37 . ( ) OD	0. 1 1	T 3.51	3.6.11 7070	T	-	10 70 00	

Note(s): SD = Standard Deviation; Mdn = Median; IQR = Interquartile Range; df = Degrees of freedom; p = p value

Table 7.
Descriptive statistics of sentiment score grouped by generation

65.94% and the negative ones of 30.17%, but the difference of the range of values of both poles was significant: the mean of the positive reactions was 0.32, much higher than the negative reactions mean of -0.16, which lead us to conclude the general positive feeling of users to accept a marketing campaign through an online dating app. The conduction of an intrusive marketing campaign through an online dating app will have a positive influence on user's responsiveness and intensify the acceptance of marketing communication (Bakr et al., 2019).

Generation Z were the ones who revealed more receptivity toward the campaign, highlighting that this is the generation that shows a propensity to engage with an online dating app campaign. Companies with an audience according to these criteria should bet in an online dating app to conduct marketing campaigns. Nevertheless, the statistical analysis revealed that the differences between each generation are not statistically significant.

For academia, this research contributes to the literature by revealing the acceptance of an online dating app as a marketing channel and particularly those who are more receptive to a marketing campaign on this type of SM platform. From a managerial standpoint, companies can benefit from the exposure obtained by the number of active users present on Tinder and its possible segmentations. Firms can engage with Tinder users, as they are open to communicate with everyone and seek. Additionally, this research reinforced the need to be interactive with users so that their acceptance turns positive, and develop and create a relationship to become a long-term continuous relationship (Gummesson, 2017), especially with consumers' age gap that makes the most use of SM.

The present research contains various limitations that can be imperative for future research, as well as for a deeper understanding of this study. A limitation is the fact that the participants, during the data collection, revealed their identification, perhaps leading to acquiescence bias. This usually happens when the respondents tend to agree to agree-disagree questions (Kam and Zhou, 2015). For future research, it would be relevant to collect data from users that do not reveal their name or face, to prevent bias.

The difference between the number of answers of both genders must do with the different behaviors they pursue while navigating on dating applications. For example, male users have minimal criteria when it comes to "swiping right", while female users are very particular and demanding while doing so (Ward, 2017). Nevertheless, for future research, a more balanced sample in terms of gender would be positive to examine any possible differences of emotions toward the campaign. A balanced generation sample would be relevant since the Generation Z and Generation X were smaller compared to Generation Y. Another limitation is the generalization of the obtained results since the marketing campaign was applied only for the clothing business.

Additionally, the data analysis process, while using the text mining analysis and respective sentiment classification to analyze the reactions has the limitations of not being able to detect sarcasm, which was sometimes present in a few users' responses. However, these possible limitations do not inflict the results of the present study regarding the potential found on Tinder for future successful marketing campaigns.

Furthermore, it is critical to have in consideration the type of product/service that is going to be advertised on Tinder, to verify if it somehow connects with the concept of the app, trying to avoid incongruency. It would be interesting to apply a similar marketing campaign to not only fashion related but also to other areas of business such as cosmetics. Hence, the acceptance toward the marketing campaign on the dating app might be affected by different cultural perspectives, revealing the pertinence to be validated in a future study.

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