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**Consumer's attitude towards Online Firestorm**

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## **CONSUMER'S ATTITUDE TOWARDS ONLINE FIRESTORM**

By

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## STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledge the Rules of Conduct and Code of Honor from the NOVA Information Management School.

*Lorenza Pavone*

*Lisbon, November 28<sup>th</sup>, 2023*

## DEDICATION

This work is dedicated to all those who have played a part, big or small, in shaping my academic and personal journey. Your contributions are eternally appreciated.

To my beloved parents, whose constant support and encouragement have been my anchor throughout my life and your belief in me has been my greatest motivation, especially during this master's.

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## **ABSTRACT**

Many businesses aim to capitalize on everyone's involvement in Social Networks by engaging with consumers. Companies underestimate the negative effects of the connected internet world on their reputation: people's enthusiasm for a brand can also become highly dissatisfied. Because of the speed and spread of Social Networks, negative publicity about a brand may quickly escalate into something incredibly dangerous. This phenomenon, known as an "Online Firestorm," occurs when hundreds of thousands of people take unfavourable actions that harm a business's reputation with regard to a particular problem. The present research examines the reasons behind customers engaging in a hypothetical Online Firestorm and the impact it has on purchase intentions. An online survey was conducted with a total of 201 participants. This study demonstrated that the moral component and social media use have a positive correlation with participating in an OF while negative emotions and self-brand connection have a mediating role in this scenario. Purchase intentions are not really impacted by taking part in negative word of mouth. These findings extend previous research on the understudied and recent phenomenon related to social media networks.

## **KEYWORDS**

Online firestorm; Social media; Self-brand connection; Consumer engagement; Negative word of mouth; Purchase intentions.



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## LIST OF ABBREVIATIONS AND ACRONYMS

<b>OF</b>	Online Firestorm
<b>WOM</b>	Word of Mouth
<b>NOWOM</b>	Negative online word of mouth
<b>eWOM</b>	Electronic Word of Mouth
<b>NWOM</b>	Negative Word of Mouth

## 1. INTRODUCTION

Social media has altered the way customers connect with brands and businesses. Social media has gradually accepted everyday interactions between consumers and businesses, such as praising a new product release, reviewing a recent purchase, sharing, and posting an issue on a company's social media page. Social media networks are used today for customer service, advertising, public relations, and to show loyalty to a company (Labrecque et al., 2022). Over 65 million businesses use virtual brand communities to interact with clients and get an online reputation, brand support, and consumer expenditure (Herhausen et al., 2019). Social media also has a positive and significant impact on consumer-brand interaction (Rather, 2021).

Social media platforms have simplified the creating and disseminating of content created by users, altering consumer-brand interactions (Labrecque et al., 2022). Online dissatisfaction expression demands companies be mindful of bad information's influence on a wider crowd, and the multitude of additional customers who view the public complaint, increasing the possibility of a firestorm (Labrecque et al., 2022). It's important to note that not every brand connection on social media is beneficial; in fact, bad customer relationships outnumber good ones (Fournier & Alvarez, 2013) since positive and bad brand interactions could happen at the same time (de Villiers, 2015). It has been observed that negative content is becoming more prevalent on review websites and social networking sites (Zhao et al., 2020) also it's important to understand how and why customers interact badly with brands to prevent customer loss and to maintain brand equity (Lievonen et al., 2022). Consumers' negative brand-related attitudes, sentiments, and actions during crucial brand interactions are referred to as negative engagement (Hollebeek & Chen, 2014) and it may result in an unfavourable attitude toward the brand or company (Lievonen et al., 2022). Negative engagement behaviour is based on visual expression (for instance, pursuing justice, criticising, disparaging) also the emotional intensity of the negative engagement.

Every instance of unfavourable eWOM holds the potential to escalate into an online firestorm, hereafter OF, although not every individual post follows this course (Herhausen et al., 2019).

Firestorming has three distinct characteristics that make it stand out more than the other negative behaviours: a highly aroused sense of rage and outrage (affective dimension), a general appeal for boycotting the brand, which isn't always connected to a particular criticism of the main brand (Lievonen et al., 2022). Overall, Firestorm amplifies individual consumer voices and uses the collective strength of social media to create a platform for public discontent. Firestorming featured many negative comments and/or outrage directed towards a certain person, brand, or group. However, the conduct is not necessarily indicative of a specific complaint (Lievonen et al., 2022). Users posting any problematic brand behaviour and/or unpleasant, inappropriate, and offensive brand material pose a significant risk since it hurts reputation and may result in so-called OF (Delgado-Ballester et al., 2021). There are few studies regarding the phenomenon of OF as a recent and understudied phenomenon. So, the aim of this paper is to go and expand the knowledge of the phenomenon by bringing in new knowledge.

While the results of the negative WOM studies might be helpful, it may not be acceptable to generalise them to the setting of OFs. Instead, fresh empirical data is needed to investigate and pinpoint the specific impact that bad WOM has on brands (Delgado-Ballester et al., 2020).

This paper aims to understand what consumers' attitudes are towards OFs and the role of self-brand connection regarding this topic.

Research questions can be summarised in two points:

Q1: How does self-brand connection impact participation in the OF?

Q2: What are the consequences of an OF in terms of purchase intentions?

This dissertation is divided into seven chapters. The first chapter is a brief introduction to the research. The second chapter will consider the academic research regarding the OF phenomenon and the relationship between the OF and the connected variables.

As a result, formulate the hypotheses that are related to the research problem.

Chapter 3 will introduce the methodology that will be applied in the research. Following that, Chapter 4 will analyze the data, and then the explanation of their results and further discussion will be provided in Chapter 5. Chapter 6 will summarize the conclusions of this dissertation and Chapter 7 will discuss the study's limitations and future work. The references will be attached in the last chapter of this dissertation.

## 2. LITERATURE REVIEW

### 2.1. EXAMPLES OF ONLINE FIRESTORM

On January 18, 2012, McDonald's initiated a Twitter initiative to inform its supporters about the history of the company's meals. The program, which began at midnight and utilized the hashtag #meetthefarmers, initially drew a good reaction. When the hashtag eventually shifted to #McDStories, the McDonald's communication staff saw that the situation was heading in another way. The hashtag was applied to communicate both critical and humorous tales about the corporation. McDonald's chose to return to #meetthefarmers two hours later after closely watching social media activity. But the harm had already been done and over 1000 critics had expressed their unfavourable experiences in this short space of time (Pfeffer et al., 2014).

On April 22, 2014, the New York City Police Department's official Twitter account, @NYPDNews, asked people to submit pictures of themselves with police using the hashtag #myNYPD in the description. What began as an initiative swiftly devolved into a virtual protest as hundreds of residents used the hashtag #myNYPD in order to expose incidents of violence, aggression, and racism by police. From April 22 to 24, 2014, nearly 100,000 #myNYPD tweets were tweeted. The great majority of these messages spread counter-narratives that directly questioned the intentions of the New York City Police Department. This appropriation of #myNYPD as "hijacking": a type of social action in the media that falls under the category of cultural appropriation, is referred to as "hijacking." The takeover of #myNYPD helped to spread alternative narratives about encounters between police and the public, establishing the standard for discussions on the internet and in the media (Jackson & Foucault Welles, 2015).

United Airlines got caught in a social scandal in April 2017 that cost them money and damaged their brand (Wile, 2017). It all started with a video posted on Twitter, which showed a violent argument during a flight between an Asian-American passenger and an airport security officer. People were shocked when they saw the crying passenger brutally pulled off the plane (Victor & Stevens, 2017). In

less than a day the video clip was shared over 87,000 times and watched almost 6.8 million times (Chicago Tribune, 2017). Many people made an intense effort to publish and disseminate information about the horrible event on the internet. On Twitter, people shared their rage by using hashtags that frequently included the name of the company or words connected to boycotts (for example, #BoycottUnited). The event drew worldwide notice and was a popular subject on Twitter for several days (Wile, 2017). This episode provoked outrage in China, where racist charges were incorporated in the mix, additionally, United Airlines immediately became the target of internet criticism and boycotts (Bachman & Lin, 2017). The video (with the hashtag #UnitedForcesPassengerOffPlane) was a popular subject on Weibo, one of the most-used social media in China (PRI., 2017).

## **2.2. OF MAIN CHARACTERISTICS**

Those mentioned in the previous paragraph, are three examples of how comments on social media platforms drove firms to their knees, demonstrating the strength of eWOM and consumer power integrated through Web 2.0 technologies (Pfeffer et al., 2014).

McDonald's, NYPD and United Airlines are different companies, but they have one characteristic in common, they have found themselves involved in an OF case. OF is described by (Pfeffer et al., 2014,p.118 ) as

*“the sudden discharge of large quantities of messages containing negative WOM and complaint behaviour against a person, company, or group in social media networks in these messages, intense indignation is often expressed, without pointing to an actual specific criticism.”*

Before we begin to define the features of an OF, it's crucial to understand the distinction between an OF and a rumour, since, even though OFs are a recent occurrence, their patterns resemble how rumours propagate.

Since a rumour is an expression of belief, that is spread from one individual to another, typically through WOM, without solid criteria of support being provided (Allport & Postman, 1947), OF is

theoretically like a rumour but varies in crucial aspects. The most significant distinction and the primary feature that inspired the appellation is the amount of aggressiveness involved. Although based on genuine consumer complaints in the early stages, an OF indicates a situation in which bad WOM in subsequent phases are designed to be unpleasant and mostly without substance or reasoning. Moreover, OF can originate from unconfirmed rumours or confirmed events, even though rumours are unconfirmed. Therefore, OF are largely opinions, not facts, which makes them very impactful (Pfeffer et al., 2014). The examples in the previous section have indirectly demonstrated several features of social media behaviour within the framework of OF. After making a distinction between OF and rumour, there are some characteristics regarding the phenomenon, which are taken from social media platforms' technological artefacts and dynamics comparable to real-life interpersonal communication but online (Pfeffer et al., 2014). These are the factors that drive the dynamics of OF:

- Speed and volume
- Absence of discursive interactions
- Network clusters
- Unrestrained information flow
- Lack of diversity in surrounding opinions (filter bubbles)
- Cross-media dynamics
- Network-triggered decision processes

Speed and volume are the key factors to better understanding OF. Real-time social media communications provide a constant stream of information where the next piece of knowledge replaces the previous one. Reaching a large number of people quickly is possible if the content is compelling. This might result in the temporal dominance of a specific matter, as a result of a significant amount of communication (Pfeffer et al., 2014). While a traditional newspaper's communication/reaction cycle is one day, nowadays the communication/reaction cycle from the affected institution is one hour or a few minutes via social media. Since Twitter is the "fastest" social media platform, it stands out among

the other social media networks in terms of information turnover. As a result, Twitter appears to be crucial in the spreading of internet firestorms (Pfeffer et al., 2014).

Returning to the OF characteristics, another important element is the lack of discursive interactions: most opinion-forming mechanisms on social networking sites do not include sophisticated opinions. Even if a message is written, its length is severely limited because of technical limitations (Pfeffer et al., 2014).

The restriction on Twitter is 140 words, however, posts on different social media networks are usually brief. Choosing to sign a petition against something or to share information (like retweeting) is a binary decision since people can choose to engage in the action or not and there is no middle ground. To sum up, the lack of discursive interactions is the second aspect of OF (Pfeffer et al., 2014).

The third factor is the network clusters, which refer to the creation of transitive links (Heider, 1946) and interpersonal communication networks demonstrate strongly localized grouping (Pfeffer & Carley., 2011).

Stated otherwise, there is a considerable chance that user A is connected to user C if user A is connected to user B and user B is connected to user C (Pfeffer et al., 2014).

Due to the substantial quantity of connected neighbours and local grouping, data reflects back to a user from many angles within their social network (Watts & Strogatz., 1998). This gives the illusion that everyone is talking about the same topics or adopting the same viewpoints (Sunstein, 2001).

Another aspect of the network cluster is the echo chamber effect, introduced by (Key & Cummings, 1966) the phenomenon of opinion creation among politicians, media, and the general public; in modern times, the same idea may be used to describe the impact produced by a person sharing knowledge on social media and receiving messages from their connected neighbours about the same problem (Pfeffer et al., 2014).

Unrestricted information flow is the fourth factor. According to (Granovetter, 1973), the link's strength is a mixture of time, intense sentimental feeling, closeness (mutual confiding), and mutual service.

One person might have hundreds or even thousands of friends and followers on social media. Due to the enormous number of network friends, there is a great deal of reciprocal connections and communication, which reinforce and expand knowledge and concepts. This uncontrolled information flow is seen as the fourth element of bad social media dynamics (Pfeffer et al., 2014).

The fifth element is the absence of variety, which is related to the concept called “the filter bubble” introduced by (Pariser E., 2011). There are two ways that the filter bubble acts. It is connected to the idea of homophily in certain ways (Mcpherson et al., 2001): people engage with those who share their age, gender, and socioeconomic background.; this leads to common themes, interests, and viewpoints. The perception of interpersonal homophily, the power (meaning) of the influence source, the quantity of reactions, and the influencer's proximity are all important aspects of the information that spreads and fuels online firestorms (OF). These factors intensify social pressure and lead to an enhanced sense of social proof (De Keyzer et al., 2019).

If your friends seem interested in the details or have previously expressed interest in a comparable message, a message is considered more fascinating for you (Pfeffer et al., 2014). These two concepts are related to the echo chamber effect and the filter bubble.

The notion of an echo chamber (Key & Cummings, 1966) leads to another characteristic of the online firestorm, which is cross-media dynamics. Traditional media is increasingly relying on social media for information (Diakopoulos et al., 2012). Twitter, for example, is commonly utilized by traditional media, like news organisations or television networks, as a sort of 'sensor' to detect news (typically from eyewitnesses) early on. This is what usually happens: social media users build stories. Rising online activity results in more media coverage, which creates an echo chamber between traditional and social media (Pfeffer et al., 2014).

The last concept related to OF is the network-triggered decision process, which is a mixture of previous factors. (Rogers, 1995) described the process of carrying out an idea through the concepts of knowledge, persuasion, propagation, and affirmation (Pfeffer & Carley, 2013).

The process is applied to the acceptance of viewpoints and beliefs: the echo chamber ensures effective persuasion and confirmation, while the filter bubble limits the amount of data that reaches a user, controlling the knowledge step. Social media dynamics and technological artefacts all contribute to the impression that most people already hold the same opinion. As previously noted, people's attention to a story diminishes with time due to rivalry with more, more recent stories (Falkinger, 2007). One person can diversify their network by interacting with persons who have extremely varied socio-economic traits and perspectives. The receipt of opposing viewpoints disrupts network-triggered decision-making processes. From a business standpoint, variety presents an intriguing way for community development activities. Consumers are frequently grouped into target audiences according to their attributes (interests and age), resulting in groupings of substantially similar individuals. We contend that communities with diversity are more secure in the setting of shocks caused by a company's problematic remark or action because more variety reduces the strength of multiple reasons for OF (Pfeffer et al., 2014).

### **2.3. THE MORAL INEQUITY AND ONLINE FIRESTORM PARTICIPATION**

Another contribution to the OF is the distinction between OF and moral panics and conventional brand crises. The distinction is that OF occurs in a virtual environment. Also, OF varies from moral panics and brand crises owing to the aspects of the virtual world that allow for their speedier, more straightforward, less time-consuming, and less expensive development (Delgado-Ballester et al., 2021). The moral panics and conventional brand crises also vary from other types of public online discussions (e.g., eWOM, comments made by user on online news, and customer evaluations), in that OF focuses on the perceptions of brand moral wrongdoing (Delgado-Ballester et al., 2021).

(Johnen et al., 2018) investigates how certain features of the OF (such as moral arousal and the quantity of prior participants) as well as each person's perception of social environment impact

people's propensity to engage and the substance and tone of their statements, adopting the idea of "moral panics" (Goode & Ben-Yehuda, 1994) for OF as a theoretical framework.

There are 5 key factors regarding moral panics: apprehension, animosity, inequality, agreement, and instability. These characteristics are like the process of an OF. As previously demonstrated, we may see moral concern shared by most participants in an OF. Regarding posing a genuine danger to the community, this moral concern is overblown.

Participants' disinhibition and outrage may be more intense than in traditional moral panics (Rost et al., 2016).

Compared to other kinds of public online interaction depending on popular opinion, OF is more hostile and aggressive, presents the topic in a more exaggerated way, shows less diversity in viewpoints and polarisation (for example, a larger sense of consensus), and involves rapid spikes and drops in comments from users (for example higher unpredictability) (Johnen et al., 2018).

Since OF is a unique type of moral panic, these two causes are tightly linked to the social context. A moral compass is a person's opinion about the situation at hand as well as the related user emotions. If a moral mistake compromises one's sense of morality, this is going to stimulate participation in the attack (Johnen et al., 2018).

Thus, people are more likely to join the attack in an OF if they believe there has been a moral violation and/or if the users' attack on the accused is legitimate (Johnen et al., 2018).

The absence of social rules in digital settings increases the likelihood of firestorms occurring. That is, visual and verbal clues are missing on Twitter, removing the existence of interpersonal standards. Furthermore, the primary focus of involvement, such as the brand, appears to be dehumanised. This was discovered to decrease the empathy of a consumer who is firestorming. Moreover, it frequently presents itself as an example of passionate and vulgar language (Lievonon et al., 2022).

Most firestorms reported by journalists in the popular press have focused on cases of alleged prejudice and moral violation to bring changes to society (Einwiller et al., 2017).

For example, a previous study has shown that business, politics, and media-related concerns are more typical to cause virtual controversies in democracies like the U.S. However, similar topics, except political ones, are more likely to cause online controversies in China (Kim et al., 2021).

In terms of social issues, racism-related topics sparked internet controversies more frequently in the United States than they did in China due to social crimes and corruption (Kim et al., 2021).

OF can, and often does, incorporate components of other forms of hostile online conduct, such as as flaming, which is defined as "hostile emotional expressions characterized by the use of insulting, profane, or offensive language" and hate speech, which is an offensive language that dehumanises a group or individual based on their social identity (Gruber et al., 2020).

People who take part in OF generally strive to fix society's problems, like alleged injustices, social deficiencies, and transgression. By fueling online rage, people try to impose social norms that they feel have been violated to bring about the desired societal change (Gruber et al., 2020).

Another essential type of trigger is a transgression of moral principles or ideals caused by violations that aren't associated with any characteristics at the functioning level but rather brand actions that are unethical or not socially responsible, such as perceived injustice, social inadequacies, offensive remarks, or breaching taboos in certain cultures (Delgado-Ballester et al., 2021).

An ethical controversy around the values upheld by the brand without prior specific participation in a Corporate Social Responsibility initiative, such as Nike's suspected exploitation of child labour, constitutes a values-related crisis rather than one involving the product directly (Baghi & Gabrielli, 2019).

(Johnen et al., 2018) experimented to investigate the function of several elements that encourage individuals to join OFs, and they discovered that the individuals were driven by a desire for social acceptance and a moral compass.

Communication breakdowns (for example, lack of openness, and inappropriate or insensitive messages) are also examples of social or ethical triggers (Delgado-Ballester et al., 2021).

Engaging in an OF is characterized as a problem-solving dialogue in which participants share or express information about problems through likes, shares, or comments (Gruber et al., 2020).

The Situational Theory of Problem-Solving (STOPS) claims that a person's motivation to carry out such communicative activity is determined by the identification of the issue, the limitations, and the involvement (Kim & Grunig, 2011).

Using the concept of moral panics, an individual's moral compass determines whether or not they want to join an OF (Johnen et al., 2018). A person is more likely to participate in a demonstration if they believe the issue violates their moral sense, which is defined as when they perceive a perceptual discrepancy between expected and observed states (Johnen et al., 2018).

A previous study has put attention to the role of perceived moral inequity as a moderator between civic involvement and the desire to start an OF. In this case, it was shown that the perceived moral inequity had an involvement in the start of an OF but did not affect the impact of narcissism. The research findings imply that rather than activities motivated by a desire to enhance one's self-image and seek personal recognition, behaviours that demonstrate empathy and compassion with the primary objective of benefiting others can better define the beginning of the firestorm (Delgado-Ballester et al., 2023).

The development of OF has been brought on by comments made on social media sites like Facebook. Because of other people's unpleasant experiences with the business or brand, one complaint might lead to a large number of subsequent complaints and comments, producing an OF (Hogreve et al., 2013).

Few studies were made to examine the connection between the perceived moral inequity and the OF participation, thus our proposed hypothesis is as follows.

*Hypothesis 1: Perceived moral inequity has a positive impact on online firestorm participation.*

## 2.4. THE ROLE OF EMOTIONS

Emotions are among the factors that influence consumers to select and identify with a specific good or service (Levy & Hino, 2016).

On the language level, message recipients' behavioural reactions rise as the quantity of unpleasant emotion terms in eWOM increases (Ludwig et al., 2013).

The amount of arousal may influence the contagiousness of negatively charged emotional WOM in online brand communities. When compared to low-arousal emotion words, the frequency of sentences expressing strong emotions in unfavourable eWOM messaging correlates with higher popularity in virtual brand communities (Herhausen et al., 2019).

The most often used paradigm for analysing how perceived proximity influences people's outrage evaluations of brand misbehaviour is the Construal-Level Theory (CLT). According to CLT, people can think about and evaluate actions and things that have psychological distance from a point of reference—in time (close vs. remote future), space (here vs. there social distance (within versus outside group), probability (very likely versus unlikely events), and hypotheticality (actual versus imagined) (Delgado-Ballester et al., 2021).

According to the theory above mentioned, psychologically proximate objects are conceptualised concretely, highlighting subordinate, specific, and contextualised representations; psychologically distant occurrences are mentally perceived as more abstract, superordinate, and universal (low-level construal). Different mental models of psychological distance (as opposed to intimacy) influence people's thoughts, feelings, and behaviours (Delgado-Ballester et al., 2021).

Emotional reactions come before assessments, according to the emotion appraisal theory. As a result, when consumers judge that the brand has broken their individual standards due to their perceived personal significance and serious repercussions, they experience unpleasant emotions (Delgado-Ballester et al., 2021).

The appraisal theory of emotion states that, the same event may provoke multiple discrete negative emotions at the same time because people analyse identical circumstances differently (unpleasant occurrences caused by others, unexpectedness, attention given, expected effort, and situational control) (Delgado-Ballester et al., 2021).

It's hypothesised that outrage assessments generate three distinct negative feelings (anger, hate, and sadness) because of individuals' various perceptions of the egregious brand wrongdoing. Anger may arise if people link the brand with strong attributions of control and responsibility. Sadness centres on the thought that nothing can be done to make things right since they believe the situation is irreparable, whereas hate is on the notion that people are subjected to inappropriate or unpleasant brand wrongdoing (Delgado-Ballester et al., 2021).

Understanding how negative emotions impact OF is necessary since emotions play a fundamental role in how individuals use social media and engage with others (Delgado-Ballester et al., 2021).

This intensely negative emotional connection distinguishes OF from other types of buzz, such as love storms and popular subjects, and adds to its impulsivity and popularity (Delgado-Ballester et al., 2021).

Due to the fact that emotions are highly contagious and contribute to the virality of online content, interest in emotions and their role on social media is growing. Compared to visual content or less sentimental and objective information, this receives more attention (Delgado-Ballester et al., 2021).

The article of (Delgado-Ballester et al., 2021) is founded on the Appraisal Theory of Emotions to investigate negative brand emotions such as anger, dislike, and sadness, which are typically experienced throughout brand attacks on social media. The role of sadness, anger and dislike has been investigated into the intention to initiate an OF, but more negative emotions can be considered in this issue (Romani et al., 2012). Since we are talking about emotions, positive emotions can also be explored. Consequently, the following hypothesis is stated.

*Hypothesis 2a: Negative emotions mediate the relationship between the perceived moral inequity and the OF participation.*

*Hypothesis 2b: Positive emotions don't mediate the relationship between the perceived moral inequity and the OF participation.*

## **2.5. SELF-BRAND CONNECTION**

Self-brand connection is defined by (Escalas & Bettman, 2003) as “the degree to which consumers incorporate the brand into their self-concepts” and it leads to varying degrees of consumer-brand connection intensity (Fournier, 1998).

Previous studies have shown that self-brand connection and brand loyalty are related to brand interaction (Van der Westhuizen, 2018). For this reason, we can also relate the notion of the self-brand connection and brand loyalty.

The concept of brand loyalty was introduced by (Oliver, 1999), who defined it as “a deeply held commitment to rebuy or patronise a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour.” Two characteristics are highlighted by the notion of brand loyalty: behavioural loyalty typically refers to an ongoing purchase, while attitudinal loyalty denotes a level of dispositional commitment (Chaudhuri & Holbrook, 2001).

According to the majority of researchers, loyalty cannot be limited to just one element but rather includes both attitudinal (positive sentiments towards the brand) and behavioural (recurrent buying habit) loyalty (Eelen et al., 2017).

Another way to characterise customer loyalty is as deliberate actions related to the product or service provider, like contract renewal, a shift in support, or WOM (Andreassen & Lindestad, 1998).

Loyal customers of a brand are more inclined to have wide networks of associations with it, and they are also more likely than non-loyal customers to think and feel positively about the brand (Eelen et al., 2017).

Brand loyalty is more than just buying the same product again and over again; it also refers to the consumer's strong and favourable attitude toward the product, as opposed to purchasing the same product out of habit (Kurtoğlu et al., 2022).

Trust, love, and support—examples of traits that characterise a devoted consumer-brand relationship—are frequently shown by customers who support a brand (Wilk et al., 2021).

Interestingly, brand loyalty appears to motivate customers to show their love and support for the brand by telling others about their connection to the business and by promoting the brand (Coelho et al., 2019). Assisting the brand in such a way benefits the brand since it presents the brand favourably to potential customers (Coelho et al., 2019).

According to recent studies, a self-brand link motivates brand-loyal customers to support the brand in this manner (Eelen et al., 2017).

In their important work (Dick & Basu, 1994) found that one of the main effects of customer loyalty is WOM. The notion is that WOM and brand loyalty go hand in hand.

The level of consumer satisfaction determines whether consumers have a good or unfavourable opinion of a product or brand. One element that contributes to bad WOM is the level of consumer discontent, which is inversely correlated with brand loyalty (Kurtoğlu et al., 2022).

Previous literature has shown that customers' willingness to defend a brand in times of crisis may be directly impacted by a strong brand attitude. Consumers are more inclined to stand up for a brand when it is in trouble if they have strong self-brand links and a positive attitude toward it (Cheng et al., 2012).

Prior research has demonstrated that when consumers are informed about a brand by NOWOM to which they have a strong connection, they will experience as though they are being attacked and will take action to defend their self-identities (Cheng et al., 2012).

Contrary to conventional expectations, it was observed that customers who have a strong self-brand connection are more likely to change their behaviour when they are exposed to NOWOM (Wilson et al., 2017).

Individuals with a strong self-brand connection show defensive reactions to NOWOM by criticizing the message source, engaging in counter-arguments, and essentially reinforcing their existing positive beliefs (Wilson et al., 2017).

Loyal customers may need a little more reason to engage in eWOM than they do in person. Previous research pointed to two distinct sorts of incentives that should be considered when addressing this problem. Self-presentation comes first: firms might tie their clients interaction initiatives to consumers' desire to display themselves, besides their own presentation. The second one, marketers may boost eWOM by addressing the reasons behind loyal customers' support for their brand (Eelen et al., 2017).

A previous study has shown that customers who identify with a hypocritical brand are more motivated to distance themselves from it and preserve their self-esteem. More unpleasant customer responses regarding brand attitudes, brand loyalty, and bad WOM are generated by the urge to stay away from the brand (Baghi & Antonetti, 2021). In other cases, loyal customers can harm the company and turn into its worst enemies because a key antecedent of retaliatory behaviour is perceived betrayal as vindictive complaining, NWOM, and public complaints from third parties (Grégoire & Fisher, 2008).

Thus, we can assume the following hypothesis.

*Hypothesis 3: Self-brand connection mediates the relationship between the perceived moral inequity and online firestorm participation.*

## **2.6. ONLINE FIRESTORM PARTICIPATION AND PURCHASE INTENTIONS**

Little research has been conducted to determine the consequences for brands after an OF since it has been widely considered that their negative impacts have already been established by actual evidence of the negative impacts of WOM (Delgado-Ballester et al., 2020).

However, according to (Johnen et al., 2018), OFs are very different from electronic WOM because they more closely resemble the traits of moral panic outlined by (Goode & Ben-Yehuda, 1994), including worry, conflict, disparity, and agreement.

Although the NWOM research findings may be useful, extrapolating them to the setting of OFs may be inappropriate, and fresh empirical data is needed to investigate and determine the unique impacts they have on brands. Stated differently, recognizing this user-generated content is crucial for businesses if they want to mitigate their possible negative consequences not just regarding brand awareness, but also in terms of customers' reactions to maintaining or terminating their ties with the company (Delgado-Ballester et al., 2020).

Prior studies have demonstrated that a perceived brand problem motivates consumers to take action against it. For example, perceptions of brand misbehaviour connected to the outcome or fundamental company issues (for instance, inadequate product quality, damage to the product, or malfunctioning services) might be the reason for customers to drive action (Delgado-Ballester et al., 2021).

Previous contributions have aimed that individuals' intentions to build negative connections with the focus brands did predominate regarding the activities driven in the direction of the main brands. The prevalence of the flight strategy, which incorporates brand rejection and avoidance tactics, was much lower than the indicated objectives of forming a fight strategy. This tactic is a sort of anti-brand activity that is expected to become more common, and it takes the shape of an assault via public internet complaints and angry complaining (for example, rude verbal comments) (Delgado-Ballester et al., 2020). (But this paper has the limitation that they only did a qualitative analysis, whereas they suggest doing a quantitative analysis to confirm the results obtained).

Various studies have proved that eWOM has a direct and significant impact on purchasing intention (Alrwashdeh et al., 2019) (Jalilvand & Samiei, 2012). It has been demonstrated that there is a favourable influence between eWOM and consumer purchase intentions, indicating the impact of eWOM on value co-creation and purchase intention, whereby consumer endorsements, postings, and

shares on social media enhance decision-making and intention to buy (Kunja & GVRK, 2020). (Chen et al., 2011) This article has confirmed that bad WOM is more impactful than good WOM.

Additionally, other articles suggest how consumers transmit their negative perception of the brand to other consumers.

Research has shown that consumers feel socially obligated to uphold their beliefs after publicly expressing their thoughts and ideas (Szymanski & Henard, 2001) (Carrington et al., 2015).

Essentially, customers strive for constant harmony and coherence between their words and actions (Tsai et al., 2014).

(Zheng et al., 2020) has demonstrated that purchase intentions are negatively correlated with secondary crisis communication (which is similar to the idea of WOM in consumer behaviour literature).

Moreover, one study has focused on the type of crises in terms of value-related versus performance-related crises and their impact on purchase intentions. It was proven that value-related crises had a greater impact on purchasing intention reduction than performance-related crises (Baghi & Gabrielli, 2019). It is widely recognised that eWOM is an important component of any business's marketing mix, and several studies have shown that interpersonal impacts influence brand image and customer purchase intention (Nuseir, 2019).

According to (Jalilvand & Samiei, 2012), eWOM significantly impacts brand image and indirectly leads to purchase intentions.

Besides, another research indicates that social media firestorms' short- and long-term effects on customers and companies are driven by both trigger and firestorm features (Hansen et al., 2018).

Strong social media firestorms that produce a large number of social media communications (such as tweets) are associated with negative changes in consumers' perceptions of a brand both immediately and two years later (Hansen et al., 2018). Firestorms brought on by an inferior item or service have worse repercussions than those brought on by a company's poor communication techniques.

Consumer memory is also influenced by a firestorm's duration, vividness, and whether it was brought on by a social failure (Hansen et al., 2018).

NWOM, one of the consumer complaint behaviours, has been found in marketing research to have a detrimental impact on the likelihood of purchase (Petrescu et al., 2020).

Additionally, WOM has the power to influence and mould the attitudes and behavioural intents of clients. This kind of communication has the power to affect consumer behaviour by raising awareness, shaping or validating opinions, and promoting or discouraging recurrent purchases (Curina et al., 2020). Online complaints and offline NWOM are extremely successful at influencing consumers' purchase intentions and decision-making, especially when they emphasise the negative aspects of WOM (Curina et al., 2020).

(Curina et al., 2020) has been established that while offline complaints do in the context of the service, online complaints do not result in non-repurchase intentions. Further research is needed to investigate the relationship between participation in an OF and purchase intentions so we need to refer to previous studies involving WOM and purchase intentions. Thus, the following hypothesis is stated.

*Hypothesis 4: Online firestorm participation has a negative impact on customers' purchase intentions.*

## **2.7. SOCIAL MEDIA USE**

Talking about OF, it's not possible to exclude the social media usage component. Social network sites such as Facebook provide a platform for communicating with a huge number of distant and/or unknown individuals (Johnen et al., 2018).

Consumers who want to express and spread their dissatisfaction might use social media (Lievonen et al., 2022), and this is especially true for online content communities like Twitter (Rost et al., 2016).

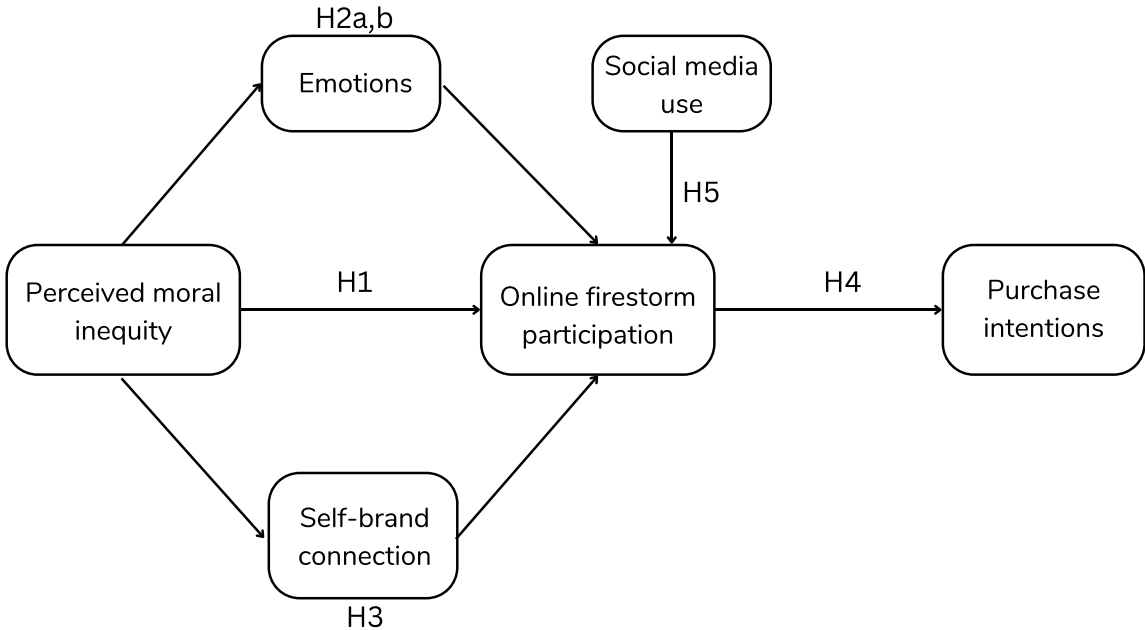
Flaming and toxic online disinhibition have been used to describe the phenomena of aggressive, offensive, and inflammatory speech on social media (Rost et al., 2016). Previous studies have introduced the term "slacktivism" (Rotman et al., 2011) stating that there are social media activities

that are low-cost and low-risk, whose goal is to raise awareness, effect change, or provide satisfaction to the person engaged in the activity. Liking, sharing material, or commenting on social media, does not need a lot of work or dedication. They discovered that in low-threshold online scenarios that allow for easy expression of opinions, such as clicking the "Like" button on Facebook, people are more inclined to speak up than in face-to-face settings (Porten-Cheé & Eilders, 2015). Those who use social media extensively may be more sensitive and vulnerable to their actions of revenge on others, as well as their emotional responses toward disliking others (Rahimah et al., 2022).

The amount consumers utilize social media for information gathering and engagement is indicated by social media use (Tajudeen et al., 2018). Thus, social media usage could facilitate participation in OF:

*Hypothesis 5: Social media usage positively relates to participating in an OF.*

The study aims to analyze how self-brand connection impacts participation in the OF and its consequences on purchase intentions. Hypotheses are presented to identify the direction of the research. They are an attempt to provide insight into the phenomena involved and contribute to the improvement of knowledge in this field. As a result, the theoretical framework of this study is depicted in **Figure 1** below, which indicates how these factors may be associated with each other.



**Figure 1 – Theoretical framework**

### 3. METHODOLOGY

The experiment was set in an online survey, using Qualtrics Online Software to gather quantitative data. 239 responses were recorded over a week and a data cleaning was performed among these responses; 10 questions were deleted because they were used as a preview to test the survey.

Out of these simple, 201 answers were deemed acceptable for the analysis.

The data was collected with a convenience sampling and the survey was set in English language.

In the introduction to the survey, it is explained that the survey aims to get insights into consumers' attitudes towards OF. The participants are informed that the survey will be anonymous, confidential, and exclusively for academic purposes; moreover, people who want to participate must agree and be above the age of 18 years old.

Six variables such as social media use, emotions, perceived moral inequity, self-brand connection, online firestorm participation, and purchase intentions were included in the theoretical framework used in this study to examine consumers' attitudes towards online firestorms. The respondent's level of agreement with each item regarding the brand misbehaviour was measured using a 1- to 5-point Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree."

The survey is composed of: one section describing what an OF is, one section presenting a fake scenario about a wrongdoing from a brand, and 12 structured questions (multiple choice and Likert scale).

This is a brief explanation of the construct and the references:

*Social media use* was used by Zhang et al. (2017) to ask the participants how frequently they use social media platforms.

*Perceived moral inequity* was used by Delgado-Ballester et al. (2023) as an independent variable to measure customers' perception of the brand's wrongdoing.

*Emotions* were used by Delgado-Ballester et al. (2021), and Romani et al. (2012) as a mediator to measure the emotional reaction evoked by the brand misconduct.

*Online firestorm participation* was used by Gruber et al. (2020) to measure an individual's willingness to participate in the OF by liking, sharing, and commenting on the content on social media.

*Self-brand connection* was used by Wilson et al. (2017) as a mediator to measure an individual's closeness to the brand.

*Purchase intentions* were used by Zheng et al. (2020) as a dependent variable related to online firestorm participation.

The questionnaire including the demographic questions can be found in **Appendix A**, and in **Appendix B** it's possible to find the table with constructs and references.

## 4. EMPIRICAL STUDY

After collecting the data, to test our model and hypothesis it was employed the Statistical Package for the Social Sciences (SPSS) software v.23 in conjunction with regression methods.

The study population (n=201) is composed of 50.7% female (n=102), 45.3% male (n=91), 2% non-binary/third gender (n=4), and 2% prefer not to say (n=4). Regarding nationality 48.3% of Italians (n=97), 40.8% of Portuguese (n=82) and 10.9% of other nationalities (n=22). The average age of the respondents is 28.52 years old, and the most representative age group is 25-29 years old with 36.3% of respondents.

Concerning education level, the majority of respondents hold a master's degree level (39.8%, n=80), followed by people having a bachelor's degree (33.8%, n=68); high school graduates make up 21.9% (n=44), while 3% (n=6) have achieved a PhD and 1.5% (n=3) people have attained level of education.

In terms of income level, the range 10.000 - 24.999€ has the highest percentage (37.8%, n=76), followed by the range 0 - 9.999€ (18.9%, n=38), while the category of 25.000 - 49.999€ and "prefer not to say" both stand at 17.4% (n=35), demonstrating nearly equal distribution.

In terms of respondents' current employment situation, the majority are in a full-time job (51.2%, n=103), followed by students (27.4%, n=55). A smaller portion is self-employment 8% (n=16) and work part-time 7.5% (n=15); additionally, some respondents are unemployed (3.5%, n=7) and a few fall into the "other" (2.5%, n=5).

A summary of the survey taker's profile can be found in **Table 1**.

Demographic question	Results	Frequency	(%)
Gender	Male	91	45.3%
	Female	102	50.7%
	Non-binary/third gender	4	2.0%
	Prefer not to say	4	2.0%
Nationality	Italy	97	48.3%
	Portugal	82	40.8%
	Other	22	10.9%
Age	18-24	51	25.4%
	25-29	73	36.3%
	30-34	49	24.4%
	35-39	19	9.4%
	40-44	6	3.0%
	45-49	2	1.0%
	50-54	1	0.5%
Education level	High school	44	21.9%
	Bachelor's degree	68	33.8%
	Master's degree	80	39.8%
	PhD	6	3.0%
	Other	3	1.5%
Income level	0 - 9.999€	38	18.9%
	10.000 - 24.999€	76	37.8%
	25.000 - 49.999€	35	17.4%
	50.000 - 74.999€	14	7.0%
	75.000 - 99.999€	3	1.5%
	Prefer not to say	35	17.4%
Current employment situation	Student	55	27.4%
	Full-time employed	103	51.2%
	Part-time employed	15	7.5%
	Self-employed	16	8.0%
	Unemployed	7	3.5%
	Other	5	2.5%

**Table 1** – Demographic analysis

To advance with the analysis, it was examined Cronbach's alpha, which should be greater than 0.70, suggesting that our study variables satisfied the reliability criteria (as shown in **Table 2**).

Examining the mean (M) and the standard deviations (SD) of the study variables as presented in **Table 2**, offers useful insights into how participants have engaged with the questionnaire's content.

Having a closer look at the data, it was needed to split the Online Firestorm Participation variable into two distinct components, resulting in the creation of the “Online firestorm Participation\_1” and “Online Firestorm Participation\_2” as indicated in **Appendix C**. Both new constructs successfully passed the reliability test.

<b>Construct</b>	<b>Item</b>	<b>Mean</b>	<b>SD</b>	<b>Loading</b>	<b>Cronbach's alpha</b>
<b>Social media use</b>	SMU1	4.13	0.986	0.909	0.820
	SMU2	4.07	0.938	0.896	
	SMU3	3.71	1.040	0.773	
<b>Perceived moral inequity</b>	PMI1	3.36	1.123	0.961	0.939
	PMI2	3.39	1.140	0.946	
	PMI3	3.50	1.265	0.929	
<b>Online firestorm participation_1</b>	OFP1	2.41	1.155	0.897	0.715
	OFP5	2.72	2.72	0.763	
	OFP6	2.90	2.90	0.731	
<b>Online firestorm participation_2</b>	OFP2	2.73	1.131	0.910	0.808
	OFP3	3.28	1.151	0.898	
	OFP4	3.24	1.119	0.739	
<b>Self-brand connection</b>	SBC1	2.48	1.049	0.957	0.940
	SBC2	2.45	1.100	0.951	
	SBC3	2.48	1.100	0.926	
<b>Negative emotions</b>	NE1	3.27	1.237	0.862	0.896
	NE2	3.67	1.158	0.857	
	NE3	3.37	1.270	0.851	
	NE4	3.06	1.306	0.810	
	NE5	3.16	1.276	0.766	
	NE6	3.39	1.224	0.731	
<b>Positive emotions</b>	PE1	1.67	0.917	0.942	0.929
	PE2	1.63	0.941	0.938	
	PE3	1.61	0.937	0.923	
	PE4	1.89	1.092	0.862	
	PE5	2.09	1.163	0.790	
<b>Purchase intentions</b>	PI1	2.76	1.124	0.965	0.954
	PI2	2.68	1.100	0.953	
	PI3	2.73	1.104	0.952	

**Table 2** – mean, standard deviation and loadings.

## 5. RESULTS AND DISCUSSION

We proceeded to test the hypothesis using analysis of variances (ANOVA), linear regressions and mediation effects, using the PROCESS SPSS macro model 4 (Hayes, 2022).

### 5.1. IMPACT OF PERCEIVED MORAL INEQUITY ON ONLINE FIRESTORM PARTICIPATION

To test our first hypothesis (**H1**) we first referred to model fitness (**Table 3**) which indicates that the model is significant for testing this hypothesis [ $F(1,199) = 52.528, p < .001$ ]. It's possible to notice that Perceived moral inequity has a positive and significant impact on Online Firestorm Participation<sub>1</sub> ( $\beta = .391, p < .001$ ; **Table 4**) which means that **H1** is supported. Based on these results we can imply that any increase in Perceived moral inequity would also increase Online firestorm participation<sub>1</sub>. The analysis shows that PM accounts for 20.9% ( $R^2 = .209$ ) variance in PM-OFP<sub>1</sub> (**Table 5**).

**Table 3** – model fitness for PM-OFP<sub>1</sub>

Model		ANOVA <sup>a</sup>				
		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.704	1	37.704	52.528	<.001 <sup>b</sup>
	Residual	142.838	199	.718		
	Total	180.542	200			

a. Dependent Variable: Mean\_OFP<sub>1</sub>

b. Predictors: (Constant), Mean\_PM

**Table 4** – regression analysis for PM-OFP<sub>1</sub>

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
B	Std. Error	Beta				
1	(Constant)	1.340	.194		6.919	<.001
	Mean_PM	.391	.054	.457	7.248	<.001

a. Dependent Variable: Mean\_OFP<sub>1</sub>

**Table 5** – effect size for PM-OFP<sub>1</sub>

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.457 <sup>a</sup>	.209	.205	.84722

a. Predictors: (Constant), Mean\_PM

To test our first hypothesis (**H1**) we first referred to model fitness (**Table 6**) which indicates that the model is significant for testing this hypothesis [ $F(1,199) = 13.891, p < .001$ ]. It's possible to notice that Perceived moral inequity has a positive and significant impact on Online firestorm Participation\_2 ( $\beta = .237, p < .001$ ; **Table 7**) which means that **H1** is supported. Based on these results we can imply that any increase in Perceived moral inequity would also increase Online firestorm participation\_2. The analysis shows that PM accounts for 7.5% ( $R^2 = .075$ ) variance in PM-OFP\_2 (**Table 8**).

**Table 6** – model fitness for PM-OFP\_2**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.891	1	13.891	16.087	<.001 <sup>b</sup>
	Residual	171.838	199	.864		
	Total	185.729	200			

a. Dependent Variable: Mean\_OFP\_2

b. Predictors: (Constant), Mean\_PM

**Table 7** – regression analysis for PM-OFP\_2**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.273	.212		10.699	<.001
	Mean_PM	.237	.059	.273	4.011	<.001

a. Dependent Variable: Mean\_OFP\_2

**Table 8** – effect size for PM-OFP\_2**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.273 <sup>a</sup>	.075	.070	.92925

- a. Predictors: (Constant), Mean\_PM

## 5.2. THE MEDIATING EFFECT OF EMOTIONS

The model 4 process macro mediation analysis was performed to assess the mediation role of negative emotions in the relationship between perceived moral inequity and online firestorm participation\_1. The model for mean\_NE was found to be significant ( $r^2 = 24.73\%$ ,  $f(1, 199) = 65.3833$ ,  $p < 0.001$ ), as shown in **Table 9**. For the dependent variable mean\_OFP1 (**see Table 9**), the constant (intercept) was 1.1817 ( $se = 0.2280$ ,  $t = 5.1827$ ,  $p < 0.001$ , 95% ci [0.7321, 1.6314]), and mean\_PM had a significant positive coefficient of 0.3503 ( $se = 0.0620$ ,  $t = 5.6485$ ,  $p < 0.001$ , 95% ci [0.2280, 0.4725]). Mean\_NE also contributed to the model with a coefficient of 0.0892 ( $se = 0.0681$ ,  $t = 1.3083$ ,  $p = 0.1923$ , 95% ci [-0.0452, 0.2235]). For the indirect effect of x on y through NE (**see Table 9**), it was found to be statistically significant ( $\beta = 0.0403$ , bootse = 0.0327, 95% ci [-0.0134, 0.1154]). So, we can conclude that hypothesis h2a is supported.

**Table 9** – Mediation analysis for Negative emotions, PM and OFP\_1

```

Model : 4
Y : MeanOFP1
X : Mean_PM
M : Mean_NE

Sample
Size: 201

*****
OUTCOME VARIABLE:
Mean_NE

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .4973    .2473    .7739    65.3833    1.0000    199.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant    1.7743    .2011    8.8234    .0000    1.3777    2.1708
Mean_PM     .4525    .0560    8.0860    .0000    .3422    .5629

*****
OUTCOME VARIABLE:
MeanOFP1

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .4643    .2156    .7152    27.2138    2.0000    198.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant    1.1817    .2280    5.1827    .0000    .7321    1.6314
Mean_PM     .3503    .0620    5.6485    .0000    .2280    .4725
Mean_NE     .0892    .0681    1.3083    .1923    -.0452    .2235

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .3503    .0620    5.6485    .0000    .2280    .4725

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
Mean_NE     .0403    .0327    -.0134    .1154

```

The model explains a significant proportion of the variance in MeanOFP2 ( $R^2 = 15.54\%$ ,  $F(2, 198) = 18.2205$ ,  $p < 0.001$ ). Additionally, the model for Mean\_NE was found to be significant ( $R^2 = 24.73\%$ ,  $F(1, 199) = 65.3833$ ,  $p < 0.001$ ), as shown in **Table 10**. For the dependent variable MeanOFP2 (see **Table 10**), the constant (intercept) was 1.7192 ( $SE = 0.2400$ ,  $t = 7.1643$ ,  $p < 0.001$ , 95% CI [1.2460, 2.1925]). Mean\_PM had a non-significant coefficient of 0.0960 ( $SE = 0.0653$ ,  $t = 1.4707$ ,  $p = 0.1430$ , 95% CI [-0.0327, 0.2247]). Mean\_NE contributed to the model with a significant coefficient of 0.3119 ( $SE = 0.0717$ ,  $t = 4.3481$ ,  $p < 0.001$ , 95% CI [0.1704, 0.4533]). The indirect effect of Mean\_PM on MeanOFP2 through the mediator Mean\_NE (see **Table 10**) was found to be statistically significant ( $\beta = 0.1411$ ,  $BootSE = 0.0496$ , 95% CI [0.0610, 0.2556]). So, we can conclude that hypothesis H2a is supported.

**Table 10 – Mediation analysis for Negative emotions, PM and OFP\_2**

```

Model : 4
Y : MeanOFP2
X : Mean_PM
M : Mean_NE

Sample
Size: 201

*****
OUTCOME VARIABLE:
Mean_NE

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .4973      .2473      .7739      65.3833      1.0000      199.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      1.7743      .2011      8.8234      .0000      1.3777      2.1708
Mean_PM      .4525      .0560      8.0860      .0000      .3422      .5629

*****
OUTCOME VARIABLE:
MeanOFP2

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .3943      .1554      .7922      18.2205      2.0000      198.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      1.7192      .2400      7.1643      .0000      1.2460      2.1925
Mean_PM      .0960      .0653      1.4707      .1430      -.0327      .2247
Mean_NE      .3119      .0717      4.3481      .0000      .1704      .4533

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .0960      .0653      1.4707      .1430      -.0327      .2247

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
Mean_NE      .1411      .0496      .0610      .2556

```

The model explains a significant proportion of the variance in MeanOFP1 ( $R^2 = 21.09\%$ ,  $F(2, 198) = 26.4634$ ,  $p < 0.001$ ). Additionally, the model for Mean\_PE (see **Table 11**) was found to be significant ( $R^2 = 5.83\%$ ,  $F(1, 199) = 12.3155$ ,  $p = 0.0006$ ).

For the dependent variable MeanOFP1 (see **Table 11**), the constant (intercept) was 1.2179 (SE = 0.2569,  $t = 4.7413$ ,  $p < 0.001$ , 95% CI [0.7113, 1.7245]). Mean\_PM had a significant coefficient of 0.4003 (SE = 0.0556,  $t = 7.1996$ ,  $p < 0.001$ , 95% CI [0.2907, 0.5100]), indicating a significant direct effect. Mean\_PE also contributed to the model with a non-significant coefficient of 0.0500 (SE = 0.0690,  $t = 0.7241$ ,  $p = 0.4699$ , 95% CI [-0.0861, 0.1860]).

The indirect effect of Mean\_PM on MeanOFP1 through the mediator Mean\_PE was not statistically significant ( $\beta = -0.0097$ , BootSE = 0.0150, 95% CI [-0.0435, 0.0171]), as shown in the **Table 11**. In this case, we can conclude that H2b is supported.

**Table 11** – Mediation analysis for positive emotions, PM and OFP\_1

```

Model : 4
Y : MeanOFP1
X : Mean_PM
M : Mean_PE

Sample
Size: 201

*****
OUTCOME VARIABLE:
Mean_PE

Model Summary
R          R-sq      MSE      F      df1      df2      p
.2414     .0583     .7595    12.3155  1.0000   199.0000  .0006

Model
      coeff      se      t      p      LLCI      ULCI
constant  2.4421    .1992   12.2591  .0000   2.0493   2.8349
Mean_PM   -.1946    .0554   -3.5093  .0006   -.3039   -.0852

*****
OUTCOME VARIABLE:
MeanOFP1

Model Summary
R          R-sq      MSE      F      df1      df2      p
.4593     .2109     .7195    26.4634  2.0000   198.0000  .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  1.2179    .2569   4.7413   .0000   .7113   1.7245
Mean_PM   .4003     .0556   7.1996   .0000   .2907   .5100
Mean_PE   .0500     .0690   .7241   .4699   -.0861  .1860

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
.4003     .0556   7.1996   .0000   .2907   .5100

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
Mean_PE  -.0097     .0150     -.0435     .0171

```

The model explains a significant proportion of the variance in MeanOFP2 ( $R^2 = 8.25\%$ ,  $F(2, 198) = 8.9027$ ,  $p < 0.001$ ). Additionally, the model for Mean\_PE was found to be significant ( $R^2 = 5.83\%$ ,  $F(1, 199) = 12.3155$ ,  $p = 0.0006$ ), as shown in the **Table 12**.

For the dependent variable MeanOFP2, the constant (intercept) was 2.0348 (SE = 0.2809,  $t = 7.2429$ ,  $p < 0.001$ , 95% CI [1.4808, 2.5888]). Mean\_PM had a significant coefficient of 0.2560 (SE = 0.0608,  $t =$

4.2102,  $p < 0.001$ , 95% CI [0.1361, 0.3760]), indicating a significant direct effect. Mean\_PE also contributed to the model with a non-significant coefficient of 0.0974 (SE = 0.0755,  $t = 1.2901$ ,  $p = 0.1985$ , 95% CI [-0.0515, 0.2462]).

The indirect effect of Mean\_PM on MeanOFP2 through the mediator Mean\_PE was not statistically significant ( $\beta = -0.0189$ , BootSE = 0.0190, 95% CI [-0.0648, 0.0115]). In this case, we can say that the hypothesis 2b is supported.

**Table 12** – Mediation analysis for Positive emotions, PM and OFP\_2

```

Model : 4
Y : MeanOFP2
X : Mean_PM
M : Mean_PE

Sample
Size: 201

*****
OUTCOME VARIABLE:
Mean_PE

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .2414   .0583   .7595   12.3155   1.0000   199.0000   .0006

Model
      coeff      se      t      p      LLCI      ULCI
constant   2.4421   .1992   12.2591   .0000   2.0493   2.8349
Mean_PM    -.1946   .0554   -3.5093   .0006   -.3039   -.0852

*****
OUTCOME VARIABLE:
MeanOFP2

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .2872   .0825   .8606   8.9027   2.0000   198.0000   .0002

Model
      coeff      se      t      p      LLCI      ULCI
constant   2.0348   .2809   7.2429   .0000   1.4808   2.5888
Mean_PM    .2560   .0608   4.2102   .0000   .1361   .3760
Mean_PE    .0974   .0755   1.2901   .1985   -.0515   .2462

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .2560      .0608   4.2102   .0000   .1361   .3760

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
Mean_PE    -.0189      .0190      -.0648      .0115

```

### 5.3. THE MEDIATING EFFECT OF SELF-BRAND CONNECTION

The model for Mean\_SBC was found to be significant ( $R^2 = 20.96\%$ ,  $F(1, 199) = 52.7628$ ,  $p = 0.0000$ ), as shown in the **Table 13**.

For the dependent variable MeanOFP1, the following direct and indirect effects of Mean\_PM were observed: the constant (intercept) was 0.3969 (SE = 0.3121, t = 1.2719, p = 0.2049, 95% CI [ -0.2185, 1.0123]).

Mean\_PM had a significant coefficient of 0.4922 (SE = 0.0587, t = 8.3856, p < 0.001, 95% CI [0.3764, 0.6079]), indicating a significant direct effect.

Mean\_SBC also contributed to the model with a significant coefficient of 0.2410 (SE = 0.0638, t = 3.7799, p = 0.0002, 95% CI [0.1153, 0.3667]).

The indirect effect of Mean\_PM on MeanOFP1 through the mediator Mean\_SBC was statistically significant ( $\beta = -0.1016$ , BootSE = 0.0352, 95% CI [-0.1745, -0.0360]). For this reason, we can conclude that hypothesis 3 is supported.

**Table 13** - Mediation effect of self-brand connection on PM and OFP\_1

```

Model : 4
Y : MeanOFP1
X : Mean_PM
M : Mean_SBC

Sample
Size: 201

*****
OUTCOME VARIABLE:
Mean_SBC

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .4578      .2096      .8319      52.7628      1.0000      199.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      3.9131      .2085      18.7696      .0000      3.5020      4.3242
Mean_PM      -.4214      .0580      -7.2638      .0000      -.5359      -.3070

*****
OUTCOME VARIABLE:
MeanOFP1

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .5119      .2621      .6729      35.1613      2.0000      198.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      .3969      .3121      1.2719      .2049      -.2185      1.0123
Mean_PM      .4922      .0587      8.3856      .0000      .3764      .6079
Mean_SBC      .2410      .0638      3.7799      .0002      .1153      .3667

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .4922      .0587      8.3856      .0000      .3764      .6079

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
Mean_SBC      -.1016      .0352      -.1745      -.0360

```

The model for Mean\_SBC was statistically significant ( $R^2 = 20.96\%$ ,  $F(1, 199) = 52.7628$ ,  $p = 0.0000$ ), as shown in the **Table 14**.

For the dependent variable MeanOFP2, the following direct and indirect effects of Mean\_PM were observed: The constant (intercept) was 1.1003 (SE = 0.3388,  $t = 3.2479$ ,  $p = 0.0014$ , 95% CI [0.4322, 1.7683]). Mean\_PM had a significant coefficient of 0.3634 (SE = 0.0637,  $t = 5.7032$ ,  $p < 0.001$ , 95% CI [0.2377, 0.4890]), indicating a significant direct effect. Mean\_SBC also contributed to the model with a significant coefficient of 0.2996 (SE = 0.0692,  $t = 4.3289$ ,  $p < 0.001$ , 95% CI [0.1631, 0.4361]). The indirect effect of Mean\_PM on MeanOFP2 through the mediator Mean\_SBC was statistically significant ( $\beta = -0.1263$ , BootSE = 0.0330, 95% CI [-0.1934, -0.0631]). Thus, we can conclude that the hypothesis 3 is supported.

**Table 14 – mediation effect of SBC on Pm and OFP\_1**

```

Model : 4
Y : MeanOFP2
X : Mean_PM
M : Mean_SBC

Sample
Size: 201

*****
OUTCOME VARIABLE:
Mean_SBC

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .4578      .2096      .8319      52.7628      1.0000      199.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      3.9131      .2085      18.7696      .0000      3.5020      4.3242
Mean_PM      -.4214      .0580      -7.2638      .0000      -.5359      -.3070

*****
OUTCOME VARIABLE:
MeanOFP2

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .3934      .1548      .7928      18.1303      2.0000      198.0000      .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      1.1003      .3388      3.2479      .0014      .4322      1.7683
Mean_PM      .3634      .0637      5.7032      .0000      .2377      .4890
Mean_SBC      .2996      .0692      4.3289      .0000      .1631      .4361

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .3634      .0637      5.7032      .0000      .2377      .4890

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
Mean_SBC      -.1263      .0330      -.1934      -.0631

```

#### 5.4. THE IMPACT OF ONLINE FIRESTORM PARTICIPATION ON PURCHASE INTENTIONS

To test the fourth hypothesis (**H4**) we first referred to model fitness (**Table 15**) which indicates that the model is not significant for testing this hypothesis [ $F(1,199) = 1.427, p > 0.05$ ]. It's possible to notice that Online Firestorm Participation\_1 has a positive but not significant impact on purchase intentions ( $\beta = .094, p < .001$ ; **Table 16**) which means that **H4** is not supported. Based on these results we can imply that there is a very weak positive relationship between Online firestorm participation\_1 and purchase intentions. It suggests that there is a very weak tendency for Purchase Intentions to increase as Online Firestorm Participation\_1 increases. The analysis shows that PI accounts for 0.7% ( $R^2 = .084$ ) variance in PI-OF1 (**Table 17**). For this reason, we can conclude that hypothesis 4 is not supported.

**Table 15 – model fitness**

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.604	1	1.604	1.427	.234 <sup>b</sup>
	Residual	223.682	199	1.124		
	Total	225.287	200			

a. Dependent Variable: Mean\_PI

b. Predictors: (Constant), MeanOFP1

**Table 16 – regression analysis**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.469	.224		11.027	<.001
	MeanOFP1	.094	.079	.084	1.195	.234

a. Dependent Variable: Mean\_PI

**Table 17 – effect size**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.084 <sup>a</sup>	.007	.002	1.06020

a. Predictors: (Constant), MeanOFP1

To test the fourth hypothesis (**H4**) we first referred to model fitness (**Table 18**) which indicates that the model is significant for testing this hypothesis [F (1,199) = 7.018,  $p < .001$ ]. It's possible to notice that Online Firestorm Participation\_2 has a positive and significant impact on Purchase intentions ( $\beta = .203$ ,  $p < .001$ ; **Table 19**). Based on these results we can see that there is a weak positive relationship between Online firestorm participation\_2 and purchase intentions. The data shows that OFP\_2 accounts for 3.4% ( $R^2 = .185$ ) variance in OFP\_2-PI (**Table 20**). For this reason, we can conclude that hypothesis 4 is not supported.

**Table 18 – model fitness**

		ANOVA <sup>a</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.675	1	7.675	7.018	.009 <sup>b</sup>
	Residual	217.612	199	1.094		
	Total	225.287	200			

a. Dependent Variable: Mean\_PI

b. Predictors: (Constant), MeanOFP2

**Table 19 – regression analysis**

		Coefficients <sup>a</sup>				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.095	.248		8.454	<.001
	MeanOFP2	.203	.077	.185	2.649	.009

a. Dependent Variable: Mean\_PI

**Table 20 – effect size**

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.185 <sup>a</sup>	.034	.029	1.04572	

a. Predictors: (Constant), MeanOFP2

## 5.5. THE IMPACT OF SOCIAL MEDIA USE ON ONLINE FIRESTORM PARTICIPATION

To test the fifth hypothesis (**H5**) we first referred to model fitness (**Table 21**) which indicates that the model is not significant for testing this hypothesis [ $F(1,199) = 1.857, p > .001$ ]. It's possible to notice that social media use doesn't have a positive and significant impact on Online Firestorm Participation\_1 ( $\beta = .108, p < .001$ ; **Table 22**) which means that H5 is not supported when social media use is related to Online Firestorm Participation\_1.

Based on these results we can see that there is a weak positive relationship between social media use and Online firestorm participation\_1. The data shows that social media use accounts for 0.9% ( $R^2 = .096$ ) variance in OFP\_1-SMU (**Table 23**).

**Table 21 – model fitness**

		ANOVA <sup>a</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.669	1	1.669	1.857	.175 <sup>b</sup>
	Residual	178.873	199	.899		
	Total	180.542	200			

a. Dependent Variable: MeanOFP1

b. Predictors: (Constant), Mean\_SMU

**Table 22 – regression analysis**

		Coefficients <sup>a</sup>				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.247	.321		6.996	<.001
	Mean_SMU	.108	.079	.096	1.363	.175

a. Dependent Variable: MeanOFP1

**Table 23 – effect size**

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.096 <sup>a</sup>	.009	.004	.94808	

a. Predictors: (Constant), Mean\_SMU

To test the fifth hypothesis (**H5**) we first referred to model fitness (**Table 24**) which indicates that the model is significant for testing this hypothesis [F (1,199) =7.743, p<.001]. It's possible to notice that social media use has a positive and significant impact on Online Firestorm Participation\_2 ( $\beta = .220$ , p<.001; **Table 25**). Even if the relationship is significant, there is a weak correlation between the two variables and the data shows that social media use accounts for 3.7% (R<sup>2</sup>=.194) variance in OFP\_2-SMU (**Table 26**). For this reason, we can say that hypothesis 5 is supported when social media use is related to Online firestorm participation\_2.

**Table 24 – model fitness**

		ANOVA <sup>a</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.956	1	6.956	7.743	.006 <sup>b</sup>
	Residual	178.773	199	.898		
	Total	185.729	200			

a. Dependent Variable: MeanOFP2

b. Predictors: (Constant), Mean\_SMU

**Table 25 – regression analysis**

		Coefficients <sup>a</sup>				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.209	.321		6.880	<.001
	Mean_SMU	.220	.079	.194	2.783	.006

a. Dependent Variable: MeanOFP2

**Table 26 – effect size**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.194 <sup>a</sup>	.037	.033	.94782

a. Predictors: (Constant), Mean\_SMU

## 6. CONCLUSIONS

This dissertation aims to have a deeper understanding of the phenomenon called OF, specifically to examine the intricate connections that exist between customers' purchase intents and their involvement in OFs, perceptions of moral injustice, emotional reactions, and self-brand attachment. After conducting numerous analyses and testing theories, several important conclusions have been made. Regarding the first hypothesis, if the perceived moral inequity has an impact on OF participation, we can conclude that it is supported. This result expands the literature concerning the moral component related to OFs (Johnen et al., 2018) and (Zheng et al., 2020). About the second hypothesis related to the emotions aspect, the following dissertation extends the knowledge regarding the negative emotions aspect, proving that negative emotions can be a mediator actor when related to perceived moral inequity and online firestorm participation. If previous work has only investigated the role of sadness, anger, and dislike as independent variables (Delgado-Ballester et al., 2021), this research investigates other emotions such as embarrassment, worry and discontent as suggested by (Romani et al., 2012). Understanding emotional dynamics in online situations is crucial, as this study emphasises. For brands hoping to handle these circumstances successfully, emotional intelligence and empathy are still critical in reacting to OFs. There are no current studies related to positive emotions, so positive emotions such as satisfaction, joy, happiness, entertainment, and interest were investigated. It was noted that positive emotions don't have a real involvement in the phenomenon. The third question is related to the role of the self-brand connection and the brand wrongdoing. Self-brand connection was found to be a significant mediator in the relationship between perceived moral injustice and participation in OFs. This implies that people who have a deep emotional bond with a company would be more inclined to join online controversies sparked by injustices they believe to be morally wrong. If there are few studies relating the self-brand connection and NEWOM (Wilson et al., 2017), (Eelen et al., 2017), there are no studies relating the relationship between self-brand connection and participation in an OF, for this reason, the results obtained are crucial. The study's conclusions

have important ramifications for brand management: building strong brand-consumer connections is essential, as demonstrated by the function that self-brand connection plays as a mediator in the relationship between perceived moral injustice and participation in OFs. Businesses may reduce the negative consequences of OFs caused by perceived moral injustice by investing in methods that build customer-brand links.

The fourth hypothesis is related to the relationship between OF participation and the impact on purchase intentions. This study demonstrated that OF participation does not have a negative impact on customers' purchase intentions and, in fact, displays a weak positive association. This suggests that engaging in online debates might not stop consumers from making purchases and customers who participate in online debates may be more likely to think about making a purchase. This result contrasts with what emerged from previous studies (Zheng et al., 2020) where purchase intentions were negatively related to secondary crisis communication. The widely accepted belief that participating in an OF negatively affects consumers' desire to make purchases is called into question by this study. These imply that taking part in OFs may not have the detrimental effects that have been thought and that it may even somewhat increase customers' intent to make purchases. The influence varies according to the particular situation and feelings experienced. While addressing OFs and crisis management tactics, brands should take this subtle view into account. The last hypothesis is related to social media use and OF participation. It supports the idea that the more people use social media, the more they will engage in NWOM. This study closes the gap between theoretical understanding and real-world applications. It provides companies with practical advice on how to handle online controversies and take advantage of brand-consumer relationships during emergency situations. It also emphasizes how important it is for academia and business to continue working together to improve crisis management techniques.

## 7. LIMITATIONS AND FUTURE WORKS

After analysing the data within this dissertation and researching the literature for relevant information, several limitations regarding this study were identified.

First, the firestorm case did not involve any known brand, preventing people from being influenced by earlier brand-related content. To guarantee that the scenario is understood and recognized by participants, future studies could concentrate on a particular brand and make use of an existing circumstance. Replicating this experiment with an existing brand can be useful for several reasons: Such studies can be made more credible, relevant, and ethical by including an existing brand, which will ultimately produce more useful and practical results.

Another limitation is the lack of any specific social network, which prevents people from having a susceptibility to using one social network over another. Because of this, the questions asked about using social media were rather broad. To get more precise results, future studies can reproduce the firestorm scenario experiment on a particular platform. Additionally, people may engage differently on various social media platforms: some social media platforms may encourage more active participation, such as commenting and sharing, while others may be more focused on passive consumption, like “liking”. Also, there are distinctive characteristics, user demographics, and communication dynamics among various social media sites. Researchers can learn more about how the platform's characteristics may affect the dynamics of an OF by doing the experiment on that specific platform.

The next limitation relates to the firestorm scenario used for this dissertation. The focus was only on a firestorm scenario resulting from miscommunication in advertising initiatives. It was not, however, examined additional situations, such as firestorms brought on by service or product failures. Therefore, it is still unclear if people would react similarly when faced with different circumstances and that’s why additional studies are necessary to provide a more thorough and useful understanding of OFs in many

contexts, which is essential for improving crisis management, communication, and brand resilience in the digital era.

The study's inclusion of only a few questions to test the hypotheses for each component is another drawback. This restriction resulted from the necessity to keep the questionnaire short to boost response rates and stop participants from dropping it too soon. To improve the quality and depth of the research findings, future research should address the constraint of a finite number of questions per construct. This will provide a more thorough comprehension of the phenomena being studied as well as more significant, all-encompassing insights.

Moreover, to make the data collection process faster for this dissertation, a quantitative analysis was adopted. To acquire a deeper knowledge of the consumer's attitude towards OF, future studies might profit from using a qualitative strategy, like holding focus groups.

The sample's largely Italian and Portuguese nationality in this study is a further constraint. By concentrating on a single nation or by reproducing the experiment in nations with different sociological kinds, such as one with a collectivistic culture and another with an individualistic culture, future studies could solve this matter. Researchers can find similarities and contrasts in how OFs affect various societies by using comparative studies.

Lastly, the memory effect of OFs and their long-lasting effects on people's perceptions have received little attention up until now. A compelling area of research would be to see whether there are differences between how people view situations in the short term and the long term.

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## Appendix A

### Online Firestorm\_2

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#### Start of Block: Default Question Block

Intro Dear Participant,

I am now doing my master's thesis as part of my studies for a master's degree in data-driven marketing with a focus on digital marketing and analytics at Nova University of Lisbon - Nova IMS.

**This study aims to get insights into consumers' attitudes towards online firestorms. Inside the survey, you will find a fake/created scenario of an advertisement, which creates an online firestorm. In this fake/created scenario, there is a group of men catcalling a woman.**

Please answer the following questions to the best of your ability and provide honest and thoughtful responses. The survey will take approximately **3 minutes**; all answers will be anonymous, confidential and used exclusively for academic purposes.

Your participation in the survey is voluntary and you can give up at any moment without penalty. Your participation in this study is highly appreciated!

For additional questions and/or doubts, please contact me via email at [m20210856@novaims.unl.pt](mailto:m20210856@novaims.unl.pt)

#### **Informed Consent Form**

I declare that I am 18 years or older and I agree to participate in this survey. I declare that I was informed that my participation in this study is voluntary, that I can leave this survey at any time without penalty, and that all data is confidential. Please select one option below.

- I agree to participate (1)
- I do not agree to participate (2)

*Skip To: End of Survey If Dear Participant, I am now doing my master's thesis as part of my studies for a master's degree i... = I do not agree to participate*

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Page Break

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Q1. Please indicate how strongly you agree or disagree with each statement.

	strongly disagree (1)	disagree (2)	Neither disagree nor agree (3)	agree (4)	Strongly agree (5)
I visit social networking sites very often (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I frequently use social networking sites (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am fond of interacting and communicating with others via social networking sites (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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**Definition of an online firestorm:**

"We define an online firestorm as the sudden discharge of large quantities of messages containing a negative word of mouth and complaint behaviour against a person, company, or group in social media networks." J. Pfeffer, T. Zorbach & K. M. Carley

**Please pay attention to the following online firestorm case (please keep in mind that this is a fake/created scenario):**

A fashion brand is launching its new clothing lines for women on its social media page. In the advertisement, a woman is walking in her new dress (part of the new collection) and a group of men catcalling her.

Q2. Please indicate how strongly you agree or disagree with each statement after seeing the social media advertisement.

	strongly disagree (1)	disagree (2)	neither agree or disagree (3)	agree (4)	strongly agree (5)
I consider this advertising campaign to be unfair (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider this advertising campaign to be unjust (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider this advertising campaign to be morally wrong (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Page Break

Q3. Which **emotions** does this situation evoke?

	1= not at all (1)	2 (2)	3 (3)	4 (4)	5= very much (5)
Sadness (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dislike (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anger (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Embarrassment (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worry (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discontent (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satisfaction (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joy (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happiness (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entertainment (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interest (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Q4. Please indicate how strongly you agree or disagree with each statement after seeing the social media advertisement.

	strongly disagree (1)	disagree (2)	neither agree or disagree (3)	agree (4)	strongly agree (5)
I feel loyal to this brand (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm committed to this brand (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm proud to be a customer of this brand (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Page Break

Q5. The advertisement you saw before caused a firestorm on the brand's social media page and customers started leaving negative comments below the advertisement. Please indicate how strongly you agree or disagree with each statement after the firestorm started.

	strongly disagree (1)	disagree (2)	neither agree or disagree (3)	agree (4)	strongly agree (5)
I would participate in conversations about this issue by leaving a negative comment upon the post. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would post my opinion on this issue by commenting upon the post. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will make sure my friends know about this issue by sharing the post. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would enjoy opportunities to educate others on this issue by sharing the post. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would put a like on one of the negative comments because I think they are appropriate. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would express my agreement by liking one of the comments. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6. Please indicate how strongly you agree or disagree with each statement regarding the brand after the online firestorm.

	Strongly disagree (1)	disagree (2)	neither disagree or agree (3)	agree (4)	Strongly agree (5)
The probability I would consider buying products from this brand within the next 6 months is high. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My willingness to buy products from this brand within the next 6 months is high. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The likelihood of my purchasing products from this brand within the next 6 months is high (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7. NATIONALITY Where are you from?

Italy (1)

Portugal (2)

Other (3) \_\_\_\_\_

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Q8. GENDER Please state your gender

Male (1)

Female (2)

Non-binary/third gender (3)

Prefer not to say (4)

Q9. AGE How old are you?

\_\_\_\_\_

Q10. EDUCATION What is your highest level of education?

High school (1)

Bachelor's degree (2)

Master's degree (3)

PhD (4)

Other (5) \_\_\_\_\_

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Q11. INCOME What is your annual range of income (approximate)?

- 0 - 9.999€ (1)
- 10.000 - 24.999€ (2)
- 25.000 - 49.999€ (3)
- 50.000 - 74.999€ (4)
- 75.000 - 99.999€ (5)
- 100.000€ and more (6)
- Prefer not to say (7)

Q12. EMPLOYMENT What is your current employment situation?

- Student (1)
- Full-time employed (2)
- Part-time employed (3)
- Self-employed (4)
- Unemployed (5)
- Other (6) \_\_\_\_\_

End of Block: Default Question Block

## Appendix B

**Table for constructs**

<b>Construct</b>	<b>Questions</b>	<b>References</b>
Social media use	<p>I visit social networking sites very often</p> <p>I frequently use social networking sites</p> <p>I am fond of interacting and communicating with others via social networking sites</p>	(Zhang et al., 2017)
Perceived moral inequity	<p>I consider this advertising campaign to be unfair.</p> <p>I consider this advertising campaign to be unjust.</p> <p>I consider this advertising campaign to be morally wrong.</p>	(Delgado-Ballester et al., 2023)
Online firestorm participation	<p>I would participate in conversations about this issue by leaving a negative comment upon the post.</p> <p>I would post my opinion on this issue by commenting upon the post.</p> <p>I will make sure my friends know about this issue by sharing the post.</p> <p>I would enjoy opportunities to educate others on this issue by sharing the post.</p> <p>I would put a like on one of the negative comments because I think they are appropriate.</p> <p>I would express my agreement by liking one of the comments.</p>	(Gruber et al., 2020)
Self-brand connection	<p>I feel loyal to the brand.</p> <p>I'm committed to this brand.</p> <p>I'm proud to be a customer of the brand</p>	(Wilson et al., 2017)
Emotions	<p>Which emotion does this situation evoke?</p> <p>Sadness</p> <p>Dislike</p> <p>Anger</p> <p>Embarrassment</p>	(Delgado-Ballester et al., 2021). (Romani et al., 2012)

	Worry Discontent Satisfaction Joy Happiness Entertainment Interest	
Purchase intentions	The probability that I would consider buying products from this firm within the next 6 months is high.  My willingness to buy products from this firm within the next 6 months is high.  The likelihood of my purchasing products from this firm within the next 6 months is high.	(Zheng et al., 2020)
<b>Demographics</b>	<b>Question</b>	<b>Answer</b>
Nationality	Where are you from?	Italy Portugal Other
Gender	Please state your gender	Female Male Non-binary/third gender Prefer not to say
Age	How old are you?	Blank space to fill
Level of education	What is your highest level of education?	High school Bachelor's degree Master's degree PhD Other
Income	What is your annual range of income (approximate)?	0 - 9.999€ 10.000 - 24.999€ 25.000 - 49.999€ 50.000 - 74.999€ 75.000 - 99.999€ 100.000€ and more Prefer not to say.

## Appendix C

### Rotated Component Matrix

	Component	
	1	2
I would enjoy opportunities to educate others on this issue by sharing the post.	.910	.079
I will make sure my friends know about this issue by sharing the post.	.882	.210
I would post my opinion on this issue by commenting upon the post.	.643	.419
I would put a like on one of the negative comments because I think they are appropriate.	.144	.883
I would express my agreement by liking one of the comments.	.105	.725
I would participate in conversations about this issue by leaving a negative comment upon the post.	.400	.680

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.<sup>a</sup>

a. Rotation converged in 3 iterations.