

# Brand crisis: what influences customers' motivation to defend a brand

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## ABSTRACT

**Purpose** - Brand crises endanger firms, and thus approaches which help firms to overcome brand crises are needed. Recently, existing literature showed that motivating customers to defend a brand during a brand crisis can be an efficient approach to deal with brand crises. However, the antecedents of customers' motivation to defend a brand and the usefulness of co-creation during a brand crisis are not well explored.

**Methodology** - The data collected by an online survey consists of 379 valid responses and was analyzed by structural equation modeling and repeated measures ANOVA, respectively.

**Results** - Brand attitude and perceived ethicality influence brand crisis evaluation positively. Brand familiarity and perceived importance impact on brand crisis evaluation negatively. We did not find enough evidence to support the effect of attitude certainty on brand crisis evaluation. Moreover, brand attitude and brand crisis evaluation affect customers' motivation to defend a brand positively. Finally, firm response has an effect on customers' motivation to defend a brand. While an appropriate firm response increases customers' motivation to defend a brand, an inappropriate response decreases the motivation.

**Value** - The study at hand contributes to the literature on long-term strategic planning. The study explores the antecedents which influence customers' motivation to defend a brand. Furthermore, this study also examines the effect of different firm responses towards customers' motivation to defend a brand during a brand crisis. This study contributes to investigating motivational factors in brand defense field and customer behaviour field. The results of this study help firms to prepare themselves before brand crises happen. Additionally, this study provides practical support that motivating customers to defend a brand is a new approach to overcome a brand crisis and co-creation during a brand crisis is useful.

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## Keywords

Brand crisis, customers' motivation to defend, firm response, value co-creation

## 1. INTRODUCTION AND RESEARCH QUESTION

A brand crisis is an event that endangers the life of a firm, i.e., it harms its stability, profitability, and legitimacy (Pace et al., 2017). Many firms have already faced a brand crisis. For example, in 2016, Samsung's device Galaxy Note 7 was reported to be bursting into flames leading to a loss of brand reputation (Stephan, 2017). Similarly, in 2010, Nestlé was accused of being unsustainable by the environmental group Greenpeace as it manufactured its Kit Kat products from the habitat of protected orangutan species in Indonesian forests (van Zyl, 2013). As a consequence, Nestlé faced a loss of brand reputation and profitability.

Nowadays, brand crises are more challenging to firms because the rise of online platforms (such as social media and e-commerce platforms) provide an easy and convenient way for people to express their negative feelings. The speed of spreading negative words and easily approaching a huge number of connectors are also increasing incredibly, which can be destructive to a brand. Establishing a positive brand image and reputation costs a lot of effort and resources. A brand crisis can ruin these efforts and will decrease short-term brand perceptions and reflect long-term negative effects in a short time. (Hansen et al., 2018).

Existing research elaborated that traditional ways of dealing with brand crises (such as pleasing the critics, stonewalling) might not be the most efficient approach, especially on online social media platforms (Pfeffer et al., 2014). However, motivating the customers to defend the brand could be a constructive tactic (Scholz & Smith, 2019). When customers are motivated and voluntarily defend a brand, co-created defense strategies between a firm and stakeholders can be more effective than the ways a firm traditionally choose to defend itself (Kristal et al., 2017).

Previous case studies have indicated that value co-creation tactics can motivate customers to defend a brand. For example, in 2012, ING-DiBa posted a commercial starring the well-known basketball player Dirk Nowitzki eating a piece of sausage in a butcher's shop. Vegans and vegetarians perceived this commercial as unethical and started to criticize ING-DiBa. While they felt heavily offended, meat-eaters did not find it offensive and defended the brand (Pfeffer et al., 2014). Another example is Protein World, whose campaign "Are You Beach Body Ready?" caused a huge social media firestorm in 2015. As a consequence, a lot of people posted negative words about how this "advertisement portrays an unrealistic body image to satisfy the male gaze, and that promotes skipping full and healthy meals in favour of consuming artificial substitutes and pills" (Scholz & Smith, 2019, p. 1113). At the beginning, Protein World was plunged in negative comments, although they tried to deny and explained its internal motivations and good intentions. Since the initial tactics were not efficient, Protein World changed them. In doing so, it reframed its critics as pathologically lazy and weak "crybabies" who make excuses, hence, the ethical antagonist, and a lot of customers jumped in and defended the brand in this phase (Scholz & Smith, 2019).

Value co-creation indicates a power shift of brand-building from a management-oriented to a collaborative process. Because co-creation stimulates customers' positive feelings towards a brand

and a transparent digital environment, which implies that stakeholders become more empowered than before (Iglesias et al., 2018; Kristal et al., 2018). Moreover, brands are regarded as a "dynamic and social processes", and "the brand value co-creation process is a continuous, social, and highly dynamic and interactive process between the firm, the brand, and all stakeholders" (Merz et al., 2009, p. 331). Brand is dynamically constructed through social interactions between brand owners and large number of stakeholders during the process of brand co-creation (Hatch & Schultz, 2010; Iglesias et al., 2013; Kristal et al., 2017).

The literature distinguishes two types of customer value co-creation behaviours: customer participation behaviour and customer citizenship behaviour (Yi & Gong, 2013). Customer participation behaviour refers to "required (in-role) behaviour necessary for successful value co-creation" and customer citizenship behaviour refers to "voluntary (extra-role) behaviour that provides extraordinary value to a firm but is not necessarily required for value co-creation" (Yi & Gong, 2013, p. 1280). Value co-creation brings benefits to firms. For instance, co-creation activities enhance customer trust and have an indirect effect on customer loyalty (Iglesias et al., 2018).

However, value co-creation with customers does not necessarily have to be successful. Non-collaborative co-creation process might contain risk for brand equity and brand meaning. They can be co-destroyed by means of "brand play" and "brand attack", which are executed either by professional artists and consumer activists (Kristal et al., 2018). A negative case example is the SPAR bag firm which hosted a bag design contest to create value with their customers. In doing so, customers submitted their bag designs and the three best designs would be manufactured by the SPAR bag firm. However, the community members were not satisfied with the outcome of the contest. As a consequence, they posted negative words to complain about the winning designs. Moreover, the customers thought the contest was unfair and they perceived it as unethical. They were not willing to defend the brand during this brand crisis (Gebauer et al., 2013).

In general, value can be created in two ways: long-run value and short-run value (Keller, 2013). In a brand crisis context, a long-run value is created by long-term strategic planning, such as understanding the antecedents which impacts on customers' motivation to defend the brand before a brand crisis actual happens. Thus, it helps firms to better prepare themselves in advance. In contrast, short-run value can be created by short-term tactics that help firms to deal with brand crises. Hence, both long-term strategic planning and short-term tactics which help the firms to overcome the brand crisis are thus urgently needed.

Existing literature mainly focuses on short-term tactics to overcome brand crises and understanding the consequences of brand crises. In doing so, it explored the effectiveness of corporate responses during a brand crisis and categorized crisis types (Dutta & Pullig, 2011), examined the crisis' effects on brand equity (Dawar & Lei, 2009; Pace et al., 2017), and compared different ways of dealing with brand crisis (Scholz & Smith, 2019; Pfeffer et al., 2014). With the widely use of social media, it is possible and more powerful to create brand value by fighting back during the brand crisis with the customers (Scholz & Smith, 2019). However, understanding the causes of the

customers' motivation to defend a brand, which helps firms to prepare themselves in long-term strategic planning, are less explored. Furthermore, the effectiveness of different firm response tactics to overcome a brand crisis lacks practical support. To the best of our knowledge, existing research lacks attention on (1) the antecedents which influence customers' motivation to engage in brand defense, and (2) evaluating the usefulness of co-creation as a way of dealing with a brand crisis. This study contributes to the literature on brand crisis with the focus on long-term strategic planning. In doing so, this research identifies five possible factors from the Search and Alignment theory and existing brand crisis literature, which affect brand crisis evaluation. Moreover, the relationship between brand crisis evaluation and motivation to defend is investigated. Finally, this study considers short-term tactics and examines whether the type of firm responses has an effect on customers' motivation to defend a brand.

From a managerial point of view, this research provides new and deeper insight to the brand managers about how to prepare themselves in long-term strategic planning before a brand crisis. For example, it helps brand managers to prepare themselves properly by focusing on the main factors that influence customers' motivation to defend. Furthermore, it helps firms to respond appropriately and deal with brand crisis in a more constructive way based on practical evidence of this study.

The purpose of the paper is to approach these points and extend the existing literature on brand crises management by one of the most dominant pillars in current brand management literature: co-creation (Veloutsou & Guzman, 2017).

Therefore, the research question is formulated as: What influences customers' motivation to defend a brand during a brand crisis?

The sub-question is formulated as: Does the type of firm response affects customers' motivation to defend?

## 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

### 2.1 Literature review

#### 2.1.1 Brand attitude

Brand attitude refers to "a relative enduring, unidimensional summary evaluation of the brand that presumably energizes behaviour" (Spears & Singh, 2004, p. 56). Brand attitude reflects the extent of customers' favourability and unfavourability of the brand (Pelsmacker et al., 2007; Zarantonello & Schmitt, 2013). Transferring the Search and Alignment theory to the brand crisis context, customers tend to evaluate negative information based on their brand attitude from memory when encountering brand crisis information (Pullig et al., 2006). Customers who hold a favourable brand attitude are more likely to believe the brand is innocent during a brand crisis and they are less likely to attribute negative cause of a brand crisis to the brand (Rea et al., 2014). Additionally, customers with high self-brand connections are more reluctant to accept negative brand crisis information as they prefer to remain favourable brand evaluations (Cheng et al., 2012). Brand attitude moderates participants' crisis communication evaluation (Jahng & Hong, 2017). Hence, the hypothesis is described as:

**H1:** Brand attitude positively affects customers' brand crisis evaluation during brand crisis.

A strong brand attitude may directly affect customers' motivation to defend a brand during brand crisis. If customers have high self-brand connections and a favourable attitude towards a brand, they are willing to defend the brand when a brand is facing a dilemma, just as defending themselves (Cheng et al., 2012). In the contrast, it is also conceivable that customers have a negative brand attitude. In this case, they are not willing to defend the brand. The hypothesis is stated as:

**H2:** Brand attitude positively affects customers' motivation to defend a brand during brand crisis.

#### 2.1.2 Brand familiarity

Brand familiarity is "the cumulative effect of knowledge of a particular brand that is acquired through consumer experiences" (Perera & Chaminda, 2013, p. 250). Another definition of brand familiarity is that the number of brand-related direct or indirect experiences that have been accrued by consumers (Park & Stoel, 2005). Brand experience is conceptualized as "subjective, internal consumer responses (sensation, feelings, and cognitions) and behavioural responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments" (Brakus et al., 2009, p. 53). It does not just occur when customers buy products, it occurs during the whole process of searching, purchasing, receiving and consuming products/services (Arnould et al., 2002). It is the customers' perception of their experience with a brand (Ding & Tseng, 2015). Brand experiences increase brand familiarity when customers encounter the advertisements of the brand, go to the brand stores, buy and use the products. (Alba & Hutchinson, 1987).

Customers that are familiar with a brand tend to spend less time on searching for extra information than those that are not familiar (Biswas, 1992; Hoch & Deighton, 1989). Transferring to a brand crisis, customers with a high brand familiarity tend to search less information than customers with low brand familiarity. It is possible that customers with high positive brand familiarity will evaluate the brand crisis positively, while customers with high negative brand familiarity will evaluate the brand crisis negatively. Customers with low brand familiarity tend to search more information before they evaluate the brand crisis. Additionally, the crisis relevance interacts with brand familiarity has an impact on brand evaluation (Dawar & Lei, 2009).

The customers' brand familiarity may influence their brand crisis evaluation because they had interacted with a brand before, and thus they have their own impression and different level of familiarity towards the brand. The hypothesis, therefore, is formulated as:

**H3:** Brand familiarity impacts customers' brand crisis evaluation during brand crisis.

#### 2.1.3 Attitude certainty

Attitude certainty "reflects a person's subjective sense of conviction in his or her attitude or the extent to which a person

believes that his or her attitude is correct” (Pullig et al., 2006, p. 530). “Consistent with research on attitude judgement and revision, the informational basis and other strength-related characteristics of a prior attitude will influence subsequent judgements and evaluations” (Anderson, 1981; Pullig et al., 2006, p. 529). According to the Search and Alignment theory, when a person encounters a piece of new information that is misaligned with prior evaluation, the first inner-reaction is to process a refutational search to find information that supports the prior evaluation (Kunda, 1990; Pham & Muthukrishnan, 2002). People tend to compare the new information to the accessible proattitudinal information. If new information aligns the prior proattitudinal information, it is “likely to generate greater elaboration regarding the challenge when all the other conditions are being equal (Fabrigar & Petty, 1999), is more diagnostic (Pham and Muthukrishnan, 2002), and receives disproportionate weight in judgement and choice (Muthukrishnan et al., 1999)” (Pullig et al., 2006, p. 530).

Under a low attitude certainty, brand crisis evaluations are more difficult to revise for negative challenging information when positioning was not matched with the challenging information than when it was matched (Pullig et al., 2006). Under a high attitude certainty, brand crisis evaluations are more difficult to revise for negative challenging information when positioning was matched with the challenging information than when it was not matched (Pullig et al., 2006). This contradicts the result of Phan and Muthukrishnan (2002). Nevertheless, attitude certainty could be a factor that impacts brand crisis evaluation and therefore the hypothesis is formulated as:

**H4:** Attitude certainty influences brand crisis evaluation.

#### *2.1.4 Perceived ethicality*

“Consumers’ aggregate perception of a subject’s (i.e. a company, brand, product, or service) ethicality” is the concept of consumer perceived ethicality (CPE) (Brunk & Blümelhuber, 2011, p. 134). Everyone has an own perception of whether a brand is performing ethically or not. Moreover, perceived ethicality does not precisely reflect an actual firm’s behaviour, it is about how the customers perceived ethicality, i.e., the ethical disposition of a brand (Brunk, 2012). Ethicality that customers perceived impacts on brand-related factors. For instance, it directly affects product brand trust, product brand effect (Singh et al., 2012) and brand identification (Fatma & Rahman, 2017). It indirectly influences brand loyalty (Fatma & Rahman, 2017; Singh et al., 2012), brand trust and affective commitment (Fatma & Rahman, 2017).

Based on the Search and Alignment theory, if customers initially perceived a brand as high ethicality, they are more likely to search supportive information in their mind and are more resistant to brand crisis information. In the contrast, if customers initially perceive low ethicality of a brand, they are more likely to evaluate brand crisis negatively. To conclude, the perceived ethicality might be a crucial factor which affects brand crisis evaluation, and therefore might impact the willingness to defend the brand indirectly. The hypothesis is formed as:

**H5:** Initially perceived brand ethicality positively impacts on brand crisis evaluation.

#### *2.1.5 Perceived importance*

Perceived importance is the customers’ perception of whether a brand crisis is important. The perceived importance of a brand crisis impacts brand evaluation, and it also affects the persuasiveness and changes the customers’ attitudes (Chiou et al., 2013; Keller & Block, 1996). Brand crisis can be categorized into performance-related brand crises and values-related brand crises. Performance-related crises usually caused by defective products and primarily reduces a brand’s perceived ability to deliver functional benefits, which largely affect confidence related to functional benefits. A values-related crisis includes ethical problems, such as social or ethical issues surrounding the values espoused by a brand which affect confidence related to symbolic benefits, instead of defective products (Dutta & Pullig, 2011). Ethical crisis strongly decreases integrity-based trust in the organization (Hegner et al., 2016). Customers prefer a specific brand over another because of benefit associations. Therefore, key benefit associations are usually perceived as an important characteristic to customers for performance-related crises. When a brand crisis is relevant to its key associations, it is considered more important to customers (Dawar & Lei, 2009). Researchers have demonstrated that customers are more likely to show negative responses to performance-related brand crises than values-related brand crises (Jun et al., 2011). A performance-related crisis requires a more in-depth response from a firm, in order to withdraw the doubts about brand’s ability to deliver functional benefits (Dutta & Pullig, 2011). In contrast, negatively perceived brand information about a brand was more likely to be more serious for values-related brand crises than performance-related brand crises (Jeon & Baeck, 2016; Skowronski & Carlston, 1987). Nevertheless, when customers perceive a brand crisis as important, it is more likely for them to evaluate a brand crisis negatively. The hypothesis is proposed as:

**H6:** Perceived importance of a brand crisis impacts on brand crisis evaluation negatively.

#### *2.1.6 Brand crisis evaluation and motivation to defend*

Brand crisis evaluation refers to how people evaluate brand crisis. Generally, if customers have a positive brand crisis evaluation and believes that this brand is innocent during a brand crisis, they are more likely to be willing to defend a brand based on the cases elaborated above. Vice versa, if customers have a negative brand crisis evaluation and thinks that this brand is performing negatively, they are less willing to defend a brand or even spread negative Word-of-Mouth. In that case, the hypothesis between this relationship is:

**H7:** Customers’ brand crisis evaluation influences customers’ motivation to defend a brand positively during brand crisis.

#### *2.1.7 Firm response*

Traditionally, firm responses can be divided into two categories: unambiguous support and unambiguous stonewalling.

Unambiguous support comprises taking the responsibility, apologies to customers and other affected constituencies, and possible remedies, such as voluntary product recall and free replacement. Unambiguous stonewalling comprises of denying strategies, i.e., no remedies and no communication to the customers at all (Dawar & Pillutla, 2000; Hearit, 1994). Besides that, firms can motivate their customers to defend the brand (Scholz & Smith, 2019).

Firm responses can be either disasters or opportunities for a brand. Brand reputation and firm credibility can be harmed by inappropriate firm responses. In contrast, brand position can be strengthened and customers' confidence in a brand can be restored by suitable firm responses (Coombs, 2007). Appropriate responses from a firm may twist brand crisis evaluations, making customers to be more willing to defend a brand, such as shown by the Protein World and ING-DiBa cases. In the contrast, if a firm chooses wrong strategies in a brand crisis, it might lead to a disaster and negatively impacts customers' motivation to defend. An inappropriate firm response does not only negatively influence brand reputation, but also affects the whole brand equity. For instance, when the Australian airline Qantas released a "luxury inflight experience" campaign on Twitter, it experienced a serious firestorm with a huge amount of negative complaints. However, the brand crisis manager did not realize the severity of this situation and chose the wrong strategy: completely ignored the problem and continued the campaign. The consequence of this brand crisis was that the widespread negative Word-of-Mouth harmed the brand reputation and "crashes it into the ground" (Beato, 2011; Pfeffer et al., 2014). Hence, the hypothesis is:

**H8:** The type of firm response affects customers' motivation to defend.

## 2.2 Theoretical framework

The conceptual model is shown in Figure 1. Inspired by previous research, the theoretical framework of the study at hand is two-fold. On the one hand, it investigates the effect of potential factors that influences brand crisis evaluation: brand attitude (Pullig et al., 2006; Rea et al., 2014), brand familiarity (Dawar & Lei, 2009), attitude certainty (Pullig et al., 2006), perceived ethicality (Scholz & Smith, 2019) and perceived importance (Chiou et al., 2013; Dawar & Lei, 2009; Dutta & Pullig, 2011; Keller & Block, 1996). Furthermore, brand crisis evaluation impacts customers' motivation to defend. Notably, a strong brand attitude may directly affect customers' motivation to defend a brand during brand crisis. (Cheng et al., 2012). On the other hand, it examines whether the type of firm response has an impact on customers' motivation to defend a brand (Pfeffer et al., 2014; Dutta & Pullig, 2011; Kristal et al., 2017).

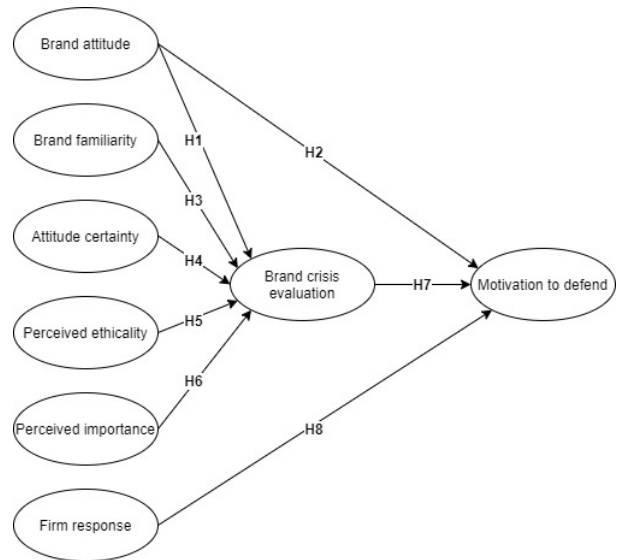


Figure 1. Theoretical framework

## 3. METHODOLOGY

### 3.1 Design

The dataset was collected by a survey and the included items were measured on a 7-point Likert scale. We decided for a survey because it has some benefits, such as fewer geographical barriers, possible to approach more respondents, time flexibility (Wright, 2005).

The brand Apple is selected as a testing brand because Apple was the world's most valuable brand in 2019 according to Forbes (Forbes, 2019). Therefore, it is expected that respondents are more familiar with the brand and have a deeper understanding of the survey questions. Furthermore, Apple encountered a scandal at the end of 2019, which we exploited in the survey.

The survey was conducted as follows: Firstly, the respondents were asked questions about Apple, to explore their brand attitude, brand familiarity, attitude certainty and perceived ethicality. Moreover, a question on the "use of public transportation" was included. This allows us to assess common method variance later in the analysis. Secondly, the respondents were exposed to a scandal related to Apple which was retrieved from The Guardian (Hern, 2019). This scandal was about Apple violating user privacy by secretly listening to people to improve Siri voice assistant accuracy. Thirdly, after the respondents read this negative news, they were asked to rate the perceived importance and overall brand crisis evaluation of this news. Finally, customers' motivation to defend the brand was measured on three different occasions: before firm response, after encountering an inappropriate firm response, and after encountering an appropriate firm response.

### 3.2 Measures

There are seven concepts measured: brand attitude, brand familiarity, attitude certainty, perceived ethicality, perceived importance, brand crisis evaluation, motivation to defend. In doing so, 7-Likert scales were applied.

The scale of brand attitude was measured based Netemeyer et al. (2004), which was suggested by Dutta & Pullig (2011); brand familiarity was measured by the scale suggested by Perera & Chaminda (2013); The used scale of attitude certainty are a

combination of the scales from Tormala & Petty (2004) and Pullig et al. (2006); the perceived ethicality was measured by items proposed by Brunk (2012); the perceived importance was measured by the scale which was applied by Benter (1991). Before measuring the motivation to defend, the respondents' evaluation of the brand crisis was recorded. Next, customers' motivation to defend the brand before firm response was measured. There were two kinds of firm responses which were provided to the respondents. The inappropriate response was inspired by the inappropriate response from the Qantas case (Pfeffer et al., 2014), i.e., the firm ignored the scandal and customers' responses and did nothing about it. The corrective action (Dutta & Pullig, 2011) and co-created defense with stakeholders (Kristal et al., 2017) were used as the appropriate response: the firm gave sufficient explanation and showed good intention, apologized for the inappropriate behavior, interacted with customers through different channels, answered customers' questions and comments about the scandal, promised to consider privacy issues more appropriately in the future and take customers' concerns more seriously. After the respondents encountered the inappropriate and appropriate firm responses, their motivation to defend the brand were measured.

Additionally, in order to assess common method variance, the question "how often do you use public transportation" is added. The used survey is shown in Appendix 1.

### 3.3 Respondents

In total, 388 respondents filled in the survey. However, eight of them did not finish completely, while one of the respondents selected the same answer for all questions. Therefore, these respondents were removed before the analysis. As a consequence, the dataset consists of 379 responses. The survey was only provided to people that are 18 years or older as they present the target group. People that are 18 years or older are expected to have brand experiences and independent subjective judgement with psychological maturity. They also have buying powers and brand-customer relationships.

Furthermore, 69.7% of the respondents are 18-25 years old, 20.8% of them are 26-35 years old, 3.4% of them are 36-45 years old, 1.8% of them are 46-55 years old, 1.6% of them are 56-65, 0.3% of them are above 65 years old, and 2.4% of them prefer not to reveal their age.

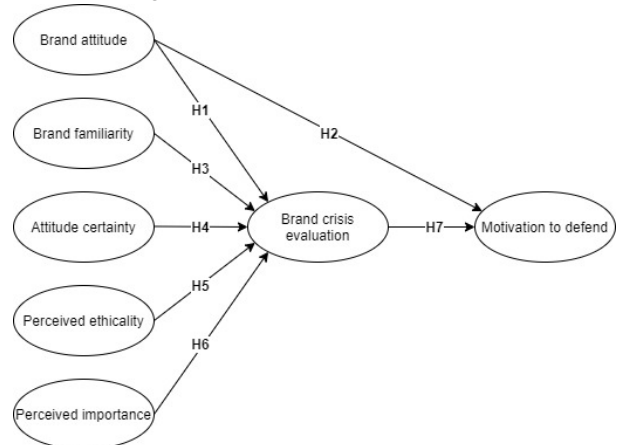
Among the 379 respondents, 32.2% are male, 64.9% are female, and 2.9% prefer not to reveal their gender.

Additionally, 15.3% of the respondents have never purchased an Apple product, 69.1% of them have purchased 1-5 Apple products, 12.9% of them have purchased 6-10 Apple products, and 2.6% of them have purchased more than 10 Apple products. The data was collected online through multiple channels, i.e., survey forums ("SurveyCircle" and "SurveySwap"), the University of Twente SONA system, social media groups, and Facebook dissertation survey exchange.

## 4. DATA ANALYSIS

The theoretical model was analyzed in two parts. Firstly, structural equation modeling (SEM) was used to examine the factors which influence the customers' motivation to defend a brand before they encounter the firm response. In doing so, Mplus was used and the maximum likelihood estimation with

robust standard errors (MLR) (Muthén & Muthén, 2017). Additionally, the Fornell-Larcker criterion, average variance extracted (AVE) and composite reliability were calculated in Microsoft Excel (Microsoft Corporation., 2018) based on the Mplus output. Furthermore, standard assessment criteria (e.g. Cronbach's alpha, the heterotrait-monotrait ratio of correlations) were calculated in R (R Core Team, 2020). The structural model is shown in Figure 2.



**Figure 2. Structural model**

Secondly, the repeated measures ANOVA was conducted to explore the effect of firm response on customers' motivation to defend. The analysis investigates the change in customers' motivation to defend a brand during a brand crisis in three occasions: before firm response, after encountering an inappropriate firm response, and after encountering an appropriate firm response. The repeated measures ANOVA was conducted in SPSS.

### 4.1 Common method variance

The problem of common method variance is widely noticed by researchers in behavioural research. The common method variance is the systematic variance which is "attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff et al., 2003, p. 879). As our data was collected by a single measurement method, it is likely that common method variance exists in our data and biases the relationships among measures.

In order to investigate the effect of common method variance, both procedural control techniques and statistical control techniques were applied (Podsakoff et al., 2003). For procedural remedies, the respondents were informed at the beginning of the survey about the anonymity, which reduces evaluation apprehension. Furthermore, the survey questions were formulated as clearly as possible to minimize the ambiguity of the questions. Additionally, the respondents were reached through different channels (Podsakoff et al., 2003). For statistical techniques, we applied both Harman's single factor test (see, e.g., Podsakoff et al., 2003) and the latent marker approach (Williams et al., 2010).

The results of Harman's single factor test show that 32.8% of the total variance was explained by a single factor, which is smaller than 50%. This indicates that the degree of common method variance is not a problem (Malhotra et al., 2017).

Moreover, we applied the latent marker approach. In doing so, we used "public transportation" as latent marker variable, which

is theoretically uncorrelated with the constructs of the theoretical framework model (Dwivedi et al., 2016; Sichtmann & Diamantopoulos, 2013; Williams et al., 2010). Following the guidelines of Williams et al. (2010), five models were specified: CFA model, Baseline model, Method-C model, Method-U model, Method-R model. The CFA model refers to a CFA including the latent marker variable, and the correlations among the substantive constructs were specified. The Baseline model is almost the same as the CFA model, but the factor loadings and error variances of the “public transportation” indicator were fixed to the values from the CFA model. The Method-C model is similar to the Baseline model, but the loadings of the substantive indicators on the latent marker variable were constrained to be equal. The Method-U model builds on the Method-C model, but the loadings of other substantive indicators on “public transportation” were not forced to be equal. The Method-R model is based on the Method-U model, but the loadings of the substantive indicators were fixed to the factor correlations that were obtained from the Baseline model. The results of the model comparisons are illustrated in Table 2.

**Table 2. Chi-square, Goodness-of-Fit, and Model Comparison Tests**

Model	$\chi^2$	df	CFI
1. CFA	95.424	52	0.977
2. Baseline	111.916	62	0.973
3. Method-C	109.237	61	0.974
4. Method-U	89.696	48	0.978
5. Method-R	86.716	84	0.999

$\Delta$ Models	$\Delta\chi^2$	$\Delta df$	$\chi^2$ Critical value, $\alpha$
1. Baseline vs. Method-C	2.631*	1	3.841
2. Method-C vs. Method-U	19.606*	13	22.362
3. Method-U vs. Method-R	0.180*	36	50.998

Note: The results are the value of robust statistics.  
\*  $p > 0.05$   
 $\alpha = 0.05$

Comparing the Baseline model and the Method-C model, the Baseline model does not fit statistically worse ( $\Delta\chi^2 = 2.631$ ,  $\Delta df = 1$ ,  $p > 0.05$ ), which indicates that there is no presence of common method variance. Comparing the Method-C model and the Method-U model, the results indicate that the Method-C model does not fit statistically worse ( $\Delta\chi^2 = 19.606$ ,  $\Delta df = 13$ ,  $p > 0.05$ ). The standardized loadings of substantive indicators on the constructs they are intended to measure are ranging from 0.672 to 0.885. The standardized loadings of the indicators on the latent marker variable are ranging from 0.027 to 0.047. All the loadings of the variables on the latent marker variable are not significant. Comparing the Method-U model and the Method-R model, the Method-R model is not statistically different from the Method-U model, which means the presence of common method variance does not distort the relationships between substantive constructs ( $\Delta\chi^2 = 0.180$ ,  $\Delta df = 36$ ,  $p > 0.05$ ). Hence, we conclude that common method variance does not bias our results and the latent marker variable was excluded in the following analysis.

## 4.2 Model assessment

The model includes 9 constructs and 14 indicators. The comparative fit index (CFI) is 0.977 which is higher than the threshold of 0.95, Tucker-Lewis index (TLI) is 0.955 is higher than 0.95, root mean square error of approximation (RMSEA) is 0.049 smaller than 0.06, standardized root mean square residual (SRMR) is 0.028 is smaller than 0.08 (Hu & Bentler, 1999). Only the Chi-square test of model fit test statistic is 89.401, degrees of freedom are 47, and the p-value is 0.0002, which indicates not entirely adequate results. However, the Chi-square test is sensitive to the sample size effect and the complexity of the

model (Bearden et al., 1982). Therefore, the overall model fit is acceptable.

The results for the standardized loadings, construct reliability, convergent validity and discriminant validity are reported in Table 3. For construct reliability, the results of Cronbach’s alpha and composite reliability (CR) are higher than the threshold of 0.7 (Henseler et al., 2016). For convergent validity, the average variance extracted (AVE) of most latent variables is higher than the threshold of 0.5, only the AVE of brand familiarity is slightly lower than 0.5 with a value of 0.479 (Henseler et al., 2016). For discriminant validity, the results pass the Fornell-Larcker criterion (Fornell & Larcker, 1981). We additionally applied the HTMT, the results reported in Appendix 2 show that all HTMT values are lower than the suggested threshold of 0.85 (Henseler et al., 2015). The table containing the descriptive statistics of the construct scores is attached in Appendix 3. It contains mean, standard deviation, skewness and kurtosis. To conclude, the overall model fit can be considered as acceptable.

**Table 3. Standardized loadings, construct reliability, convergent validity, discriminant validity**

CON STRU CTS	ITEM RELIABILITY	CONSTRUCT RELIABILITY		CONVERGENT VALIDITY			DISCRIMINANT VALIDITY								
		Std. Loadings	$\alpha$	CR	AVE	BA	BF	AC	PE	PI	BCE	MB	MI	MA	
BA	0.782*0.889	0.820	0.824	0.701	<b>0.837</b>										
BF	0.674*0.718	0.734	0.734	0.479	0.561	<b>0.692</b>									
AC	1.000	NaN	1.000	1.000	0.112	0.171	<b>1.000</b>								
PE	0.811*0.884	0.892	0.734	0.585	0.326	0.154	<b>0.857</b>								
PI	1.000	NaN	1.000	1.000	-0.013	0.068	-0.080	-0.053	<b>1.000</b>						
BCE	1.000	NaN	1.000	1.000	0.427	0.115	0.033	0.575	-0.146	<b>1.000</b>					
MB	1.000	NaN	1.000	1.000	0.541	0.171	0.058	0.533	-0.152	0.523	<b>1.000</b>				
MI	1.000	NaN	1.000	1.000	0.511	0.195	0.061	0.510	-0.157	0.412	0.617	<b>1.000</b>			
MA	1.000	NaN	1.000	1.000	0.480	0.236	0.057	0.523	-0.017	0.416	0.549	0.459	<b>1.000</b>		

## 4.3 Analysis of SEM

To assess the Hypothesis 1 to Hypothesis 7, SEM was applied. Brand attitude positively affects customers’ brand crisis evaluation during a brand crisis ( $\beta_{std} = 0.215$ ,  $p < 0.01$ ), and supports Hypothesis 1. Brand attitude also positively impacts customers’ motivation to defend a brand during a brand crisis ( $\beta_{std} = 0.383$ ,  $p < 0.01$ ), and thus supports Hypothesis 2. Brand familiarity negatively influences customers’ brand crisis evaluation during a brand crisis ( $\beta_{std} = -0.148$ ,  $p < 0.05$ ), and thus supports Hypothesis 3. The relationship between attitude certainty and brand crisis evaluation is not statistically significant ( $\beta_{std} = -0.051$ ,  $p > 0.1$ ), and thus Hypothesis 4 is not supported. Perceived ethicality impacts on customers’ brand crisis evaluation positively during a brand crisis ( $\beta_{std} = 0.498$ ,  $p < 0.01$ ), and thus supports Hypothesis 5. Perceived importance has a negative effect on brand crisis evaluation ( $\beta_{std} = -0.109$ ,  $p < 0.01$ ), and thus supports Hypothesis 6. Customers’ brand crisis evaluation has a positive relationship with customers’ motivation to defend the brand during a brand crisis ( $\beta_{std} = 0.360$ ,  $p < 0.05$ ), and Hypothesis 7 is supported. The estimated effects and their significances are shown in Table 4.

**Table 4. Results of direct effects**

Dependent variable	Independent variable	Estimate	S.E.	Est./S.E.	P-Value	R-Square	Hypothesis testing results
BCE	BA	0.215	0.079	2.723	0.006	0.375	H1: supported
	BF	-0.148	0.073	-2.029	0.042		H3: supported
	AC	-0.051	0.045	-1.128	0.259		H4: not supported
	PE	0.498	0.059	8.446	0.000		H5: supported
	PI	-0.109	0.044	-2.486	0.013		H6: supported
MB	BCE	0.360	0.055	6.575	0.000	0.394	H7: supported
	BA	0.383	0.049	7.811	0.000		H2: supported

## 4.4 Analysis of repeated measures ANOVA

To investigate whether the type of firm response has an effect on customers’ motivation to defend a brand, a repeated measures

ANOVA was conducted. In doing so, customers' motivation to defend was measured at three occasions, namely before receiving a firm response, after receiving an inappropriate firm response, and after receiving an appropriate firm response.

First of all, the assumptions of repeated measures ANOVA were assessed. Customers' motivation to defend the brand is the dependent variable. Considering the normality assumption, the data did not pass the Shapiro-Wilk test, but the Q-Q plots suggest that the data are normally distributed. The Q-Q plots are attached in Appendix 4. However, a violation of the normality assumption is not harmful if the sample size is sufficiently large (Ghasemi & Zahediasl, 2012). Having 379 observations, our sample size can be regarded as rather large. Next, Mauchly's test of sphericity is conducted to examine the null hypothesis that the variances of motivation to defend is equal for the different types of firm response. The results are attached in Appendix 5. The p-value of Mauchly's test is smaller than 0.05, which indicates violation of the assumption of sphericity. Because of the epsilon is higher than 0.75, therefore, Huynh-Feldt correction is applied to adjust the degrees of freedom of the mean square ratio and overcome the risk of a Type I error for F-statistic (Kim, 2015; Huynh & Feldt, 1976). Test of within-subjects effects  $F(1.847, 698.157) = 141.356, p < 0.05$ . The result of tests of within-subjects effects is attached in Appendix 6. Thus, there is enough evidence to reject the null hypothesis.

Secondly, the results of repeated measures ANOVA are shown in Table 5 and Figure 2.

**Table 5. Results of repeated measures ANOVA**

	Mean	Std. Deviation	N
Motivation before firm response	3.41	1.321	379
Motivation after inappropriate firm response	2.86	1.469	379
Motivation after appropriate firm response	4.08	1.583	379



**Figure 2. Means plot**

Customers' motivation after an appropriate firm response has a highest mean ( $M = 4.08$ ), while motivation after an inappropriate firm response has a lowest mean ( $M = 2.86$ ). The mean of motivation before a firm response is 3.41. Hence, there is a significant decrease in customers' motivation to defend when they encounter an inappropriate firm response, while there is a significant increase in customers' motivation to defend when they receive an appropriate firm response. To conclude, there is a significant change in customers' motivation to defend the brand during the brand crisis.

As we obtained evidence against the normality assumption, we additionally applied Friedman's test to analyze the data. Friedman's test is a nonparametric alternative for the F-test of the repeated measures ANOVA. According to Friedman's test, Chi-

square (Friedman's  $Q$ ) = 220.915,  $df = 2, p < 0.01$ , the mean rank differs from each other, which indicates that the variables do not have similar distributions. The SPSS results are attached in Appendix 7. To explore the differences among different occasions, we conducted the Wilcoxon signed ranks tests. Comparing customers' motivation before firm response (MB) and customers' motivation after encountering inappropriate firm response (MI),  $MI < MB$  for 159 times,  $MI > MB$  for 42 times,  $MI = MB$  for 178 times,  $p < 0.01$ . Comparing customers' motivation before firm response (MB) and customers' motivation after encountering an appropriate firm response (MA),  $MA < MB$  for 51 times,  $MA > MB$  for 196 times,  $MA = MB$  for 132 times,  $p < 0.01$ . Comparing customers' motivation after encountering an appropriate firm response (MA) and customers' motivation after encountering inappropriate firm response (MI),  $MA < MI$  for 13 times,  $MA > MI$  for 204 times,  $MA = MI$  for 162 times,  $p < 0.01$ . Because of there are three comparisons, so Bonferroni correction is applied to adjust for the multiple comparisons problem:  $0.05/3 = 0.017$  (Dunn, 1959). Based on the Wilcoxon signed ranks tests, there are statistical differences among MB, MI and MA ( $p < 0.017$ ). Therefore, Hypothesis 8 is supported.

## 5. RESULTS

### 5.1 Theoretical contribution

This study investigates the factors which influence customers' motivation to defend a brand during a brand crisis, as well as examines effect of firm responses on customer's motivation to defend. Based on our study, brand attitude and perceived ethicality impact customers' brand crisis evaluation positively. Moreover, brand familiarity and perceived importance influence customers' brand crisis evaluation negatively. There is not enough evidence to conclude that attitude certainty impacts customers' brand crisis evaluation. Furthermore, customers' brand crisis evaluation and brand attitude affect customers' motivation to defend a brand positively. Notably, perceived ethicality of a brand has the highest positive relationship with customers' brand crisis evaluation. Besides customers' brand crisis evaluation, brand attitude largely affects customers' motivation to defend a brand as well.

Moreover, the type of firm response impacts on customers' motivation to defend a brand: customers' motivation to defend a brand decreases when encountering an inappropriate firm response. In contrast, their motivation to defend increases when an appropriate firm response is encountered.

Furthermore, this study contributes to investigating motivational factors in brand defense field and customer behaviour field, and therefore fills in this research gap.

Additionally, existing literature suggests that co-creation defense is an effective firm response tactic, but there is no empirical evidence to support it. This study provides practical evidence that motivating customers to defend a brand during a brand crisis is feasible and co-creation defense during a brand crisis is useful.

The results support the studies from Kristal et al. (2017) and Scholz and Smith (2019).

## 5.2 Practical contribution

In long-term strategic planning perspective, this study helps firms to understand the antecedents that impact on customers' motivation to defend a brand, which helps firms to prepare themselves beforehand. For instance, our study shows that perceived ethicality influences customers' brand crisis evaluation to a large extent. Therefore, firms can improve customers' perceived ethicality towards a brand, such as being sustainable, using recycled materials, supporting charities. When customers perceived higher ethicality from a brand, they are more motivated to participate in co-creation defense process.

In short-term tactics perspective, an appropriate firm response towards a brand crisis is crucial. Firm responses affect customers' motivation to defend a brand directly. Motivating customers to defend a brand can be a new approach to overcome a brand crisis. Our study provides practical supports to the co-creation defense approach for brand managers to overcome a brand crisis.

## 5.3 Limitation and future research

In our study, we only investigated the effect of high and low brand familiarity on brand crisis evaluation. We did not take the effect of positive and negative brand familiarity into consideration. The same for attitude certainty. Therefore, results might be different if categorize the constructs into typologies. We suggest developing typologies for each construct to obtain a deeper insight of each effect in future research.

The appropriate firm response is a combination of co-defense and corrective action. Therefore, the effectiveness of co-defense solely is uncertain.

The scandal we used in our survey is a piece of value-related negative information, which included ethical or social issues. Hence, future studies can examine a piece of performance-related negative information to see the generalization of this results. Additionally, we applied Apple as a testing brand, we advise future research to replicate this study to explore the generalization of the results.

The application of single-item indicators in our research is controversial. Petrescu (2013) demonstrated advantages of using single-item indicators in research, such as useful for concrete constructs, shorter survey and higher response rate. Although single-item indicators can be applied when construct is simple (Poon et al., 2002), Petrescu (2013) also illustrated disadvantages of using single-item indicators in research from existing literature, such as problems with measurement error and low reliability.

Furthermore, we took advantage of social media groups to reach more respondents. These respondents include friends and family members, which has a potential causing snowball sampling bias.

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Constructs	Indicators
Brand attitude (Netemeyer et al., 2004)	Apple consistently performs better than all other brands in its product class, Apple is very different from other brands in its product class, I am willing to pay a higher price for Apple than for other brands in its product class.
Brand familiarity (Perera & Chaminda, 2013)	I can recognize the brand Apple, I am aware of Apple when I go shopping, I have brand knowledge about Apple, I am satisfied with Apple products, I want to buy Apple products, I can recall the brand Apple in my mind.
Attitude certainty (Tormala & Petty, 2004; Pullig et al., 2006)	How certain are you of your attitude toward the brand? How easily will you change your attitude toward Apple?
Perceived ethicality (Brunk, 2012)	The brand respects moral norms, the brand adheres to the law, the brand is a socially responsible brand, the brand avoids damaging behaviour at all cost, the brand is a good brand, the brand will make a decision only after careful consideration of potential positive, or negative consequences for all those involved.
Perceived importance (Benter, 1991)	How important do you perceive this scandal?
Brand crisis evaluation	How do you evaluate this scandal?
Firm response (Pfeffer et al., 2014; Dutta & Pullig, 2011; Kristal et al., 2017)	Inappropriate firm response: Ignore the scandal and customers' responses, do nothing about it. Appropriate firm response: corrective action, reduction-of-offensiveness, co-created defend.
Motivation to defend	I am motivated to defend the brand during a brand crisis.

## Appendix 2. HTMT

CONSTRUCTS	BA	BF	AC	PE	PI	BCE	MB
BA	1.000	0.000	0.000	0.000	0.000	0.000	0.000
BF	0.562	1.000	0.000	0.000	0.000	0.000	0.000
AC	0.109	0.166	1.000	0.000	0.000	0.000	0.000
PE	0.558	0.319	0.149	1.000	0.000	0.000	0.000
PI	0.016	0.069	0.080	0.057	1.000	0.000	0.000
BCE	0.412	0.117	0.033	0.580	0.146	1.000	0.000
MB	0.551	0.168	0.058	0.530	0.152	0.523	1.000

## Appendix 3. Descriptive statistics

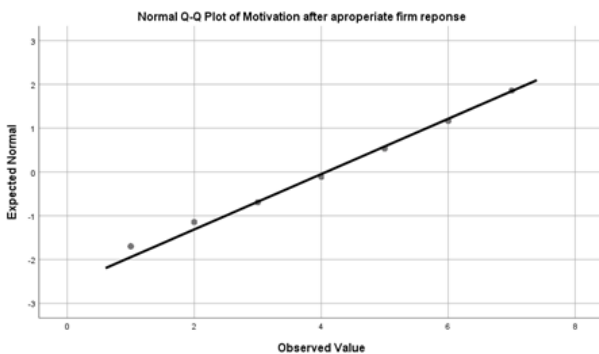
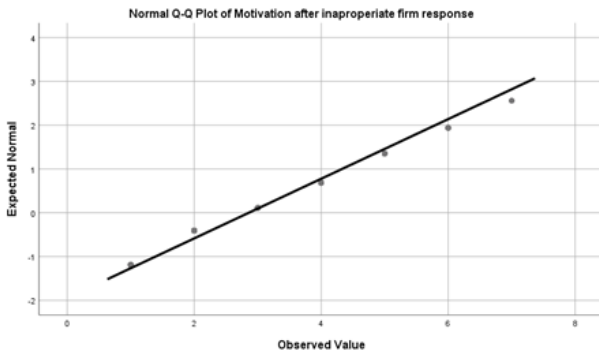
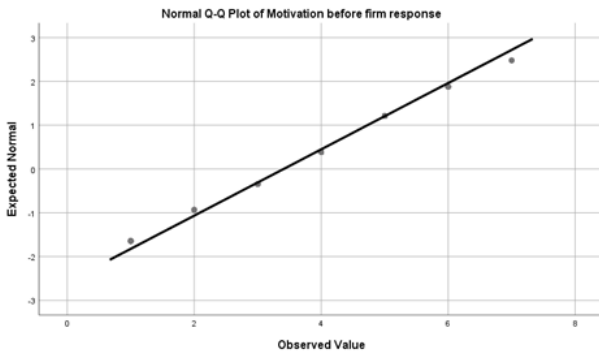
## 7. APPENDICES

### Appendix 1. Survey questions

### Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
BA1	379	4.52	1.776	-.494	.125	-.670	.250
BA3	379	4.14	2.008	-.313	.125	-1.205	.250
BF2	379	5.83	1.488	-1.512	.125	2.043	.250
BF3	379	5.36	1.524	-.757	.125	-.093	.250
BF6	379	6.30	1.161	-2.314	.125	6.349	.250
AC2	379	5.03	1.410	-.574	.125	.008	.250
PE1	379	3.95	1.459	-.148	.125	-.233	.250
PE2	379	3.93	1.454	-.109	.125	-.175	.250
PE3	379	3.96	1.474	-.041	.125	-.277	.250
PI1	379	4.84	1.478	-.596	.125	.056	.250
E1	379	3.46	1.155	.064	.125	.412	.250
MB1	379	3.41	1.321	-.037	.125	-.285	.250
MI1	379	2.86	1.469	.384	.125	-.655	.250
MA1	379	4.08	1.583	-.223	.125	-.479	.250
Valid N (listwise)	379						

### Appendix 4. Q-Q plots



### Appendix 5. Mauchly's Tests of Sphericity

#### Mauchly's Test of Sphericity<sup>a</sup>

Measure: MEASURE\_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon <sup>b</sup>		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Occurrences	.912	34.682	2	.000	.919	.923	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: Occasions

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

### Appendix 6. Tests of Within-Subjects Effects

#### Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>a</sup>
	Greenhouse-Geisser	282.519	1.838	153.675	141.356	.000	.272	259.873	1.000
	Huynh-Feldt	282.519	1.847	152.963	141.356	.000	.272	261.082	1.000
	Lower-bound	282.519	1.000	282.519	141.356	.000	.272	141.356	1.000
Error(Occasions)	Sphericity Assumed	755.481	756	.999					
	Greenhouse-Geisser	755.481	694.923	1.087					
	Huynh-Feldt	755.481	698.157	1.082					
	Lower-bound	755.481	378.000	1.999					

a. Computed using alpha = .05

### Appendix 7. Friedman's test

#### Ranks

##### Mean Rank

MB1	1.96
MI1	1.59
MA1	2.44

#### Test Statistics<sup>a</sup>

N	379
Chi-Square	220.915
df	2
Asymp. Sig.	.000

a. Friedman Test