# The effect of reputation on consumers' willingness to purchase from beer companies.

E. H. Jens
479573

Supervisor
F. Capozza

Date: 27 – 02 – 2023

# Contents

# 1 Abstract

As consumers more frequently trend to environmentally friendly products, companies report their corporate social responsibility (CSR) goals publicly to ensure consumers and stakeholders of their intention to improve their ecological impact. However, the targets companies set are not always achieved and when failure to succeed with CSR goals is reported in news outlets, consumers respond negatively. To investigate the effect positive or negative reputations concerning beer breweries' corporate social responsibility commitments on consumers' willingness to purchase, a survey was held among the Dutch population over a month. The results indicate that while a positive reputation does not significantly influence consumers' willingness to purchase, a negative reputation strongly diminishes consumers' opinion of breweries and their willingness to purchase. Multivariate regressions indicate that while some opinion-based factors, like level of trust in a company, do significantly affect consumers' purchase intentions, not all opinion-based factors are created equally, and some do not influence consumers as much.

# 2 Objective and main question

## 2.1 Introduction

Consumers are increasingly invested in the environmental impacts of their purchases (Luo & Bhattacharya, 2006). Companies can respond to this increased interest by communicating their intentions to improve their ecological impact. This improvement is a part of CSR (Wan-Jan, 2006). Increasingly more research into the effect of CSR communication on consumers' willingness to purchase (WTP) is being done, however this research has not expanded into much the beer brewery sector. While research into ecological craft beers has been done, the main beer market remains pilsener beer by big corporations such as Heineken. Some research in bigger corporations has been done, but only with regards to stakeholders' results and relations (Griffin & Weber, 2006). This research will focus on consumer's opinion and WTP regarding companies' CSR statements and the reputation they receive when news outlets review whether brewery companies achieved their publicly stated CSR goals.

Many breweries have made their CSR goals public in recent years. Either through social media websites such as LinkedIn or through self reported environmental, social, and governance (ESG) reports. While consumers are able to view these sources themselves, ESG reports are mostly aimed at stakeholders and LinkedIn as a social media platform is used more often by highly educated persons (Greenwood et al., 2016).

CSR has been defined as the assessment of a firm's social responsibilities, their identification with social issues, and response to aid in solving these issues (Carroll, 1979). With this definition Carroll describes the actions a company makes outside of their strictly economic goals. CSR statements have become gradually more available over the last decade and are likely to become even more prevalent (Kudlac et al., 2018). As the rate at which companies make these statements increases, it is important to review the effect of these statements on company results.

Within the brewery sector, different topics can be analyzed to review the effectiveness of CSR messaging. Companies have made statements about reducing $CO^2$ output, reducing glass waste by increasing recycling, reducing alcohol abuse by promoting alcohol free alternatives, and reducing water wastage, among other options. This research will investigate the impact of news articles reflecting on a company's CSR statements concerning reducing water wastage as the main form of CSR commitment. This decision was made because consumers are likely to be more aware of the other ways in which brewery companies are actively changing their strategies and may therefore have been opinionated on those topics before. Commercials promoting non-alcoholic products reach consumers on a daily basis and throughout all industries reduction in $CO^2$ has been increasingly necessary. To investigate the effect of successfully reaching CSR commitments, this research focusses on water waste reduction, because consumers are likely less aware that companies are dealing with this problem as there is less public CSR communication on this topic. By focusing on a different strategy than consumers know, previous knowledge on the topic is less likely to influence consumers' opinions. By analyzing perceptions of CSR statements and news reports regarding the success of these statements, the following research question will be answered:

*What is the effect of a company's reputation concerning CSR statements about reducing water wastage on consumers' willingness to purchase in the beer brewery sector?*

As previously stated, current literary research focusses mostly on stakeholders' participation and reaction to CSR strategies. However very little is known about consumers' reaction to CSR strategy in the brewery sector. This research strives to fill this gap in academic research.

Companies may also learn from this research as the reaction of consumers on their CSR commitments is relevant to their sales output. When a good reputation benefits companies strongly, it may be relevant to state their successes more publicly to consumers as they achieve their goals. When failing to achieve their goals is punished more severely, firms may need to alter their publicly claimed goals so as to be more certain to achieve them. However, many companies have already made claims about their reduction in water wastage for the foreseeable future (Carlsberg Group, 2022; Inbev, 2022; Heineken N.V., 2021), thus when the time comes to conclude whether they succeeded or not, knowing that failure is punished severely, may be an incentive to strive even harder to achieve the goals that they have already committed to.

# 3 Theoretical Background

## 3.1 Water wastage in the brewery industry.

The beer brewing industry is one of the biggest subcategories of food and drinks production globally, with 1.34 billion hl. of beer being produced annually and average yearly consumption for the population above 15 at 9.6 L/capita (Olajire, 2020). One of the main environmental influences the brewing industry struggles with is water wastage. As for every liter of beer produced, breweries waste on average between 1.3 and 4.2 liters (Kawa & Łuczyk, 2015; Wen et al., 2010). Water wastage is troubling as climate change and pollution have led to droughts and water shortages in various places around the globe (Du Plessis, 2019). Previous literature has offered solutions to help halter this water crisis, such as increasing the cost of fresh water to reduce corporate use (Barbier, 2022). By reducing corporate use of fresh water, more would be left over for individuals. The four biggest producers of pilseners wasted over 1600 million hl of water in 2022, indicating that it is imperative water wastage is reduced in this sector (table 1).

Table 1: *Water wastage in the beer brewery sector.*

|  | (1) Liters of beer sold | (2) Water used per liter of beer | (3) Water Wasted per liter of beer | (4) Liters of Water wasted |
|---|---|---|---|---|
| **Heineken N.V.** | 231.2 | 2.9 | 1.9 | 439.28 |
| **Carlsberg Group** | 140 | 2.7 | 1.7 | 238 |
| **Grolsch** | 2.4 | 3.81 | 2.81 | 6.744 |
| **AB Inbev** | 582 | 2.66 | 1.66 | 966.12 |

Notes: Sourced from each producer's 2022 ESG reports. (1) value indicated by $10^6$ hl. (2) value indicated as hl/hl. (3) value indicated as hl/hl. (4) value indicated by $10^6$ hl.

3.2 Corporate social responsibility messaging in the brewery industry.

Multiple companies in the sector are in the process of reducing the amount of water wasted and have made public statements about their intent to do so (Carlsberg Group, 2022; Heineken N.V., 2021; Inbev, 2022; Molson Coors, 2022). This intent is exemplary of CSR strategy for the sector, as reducing wastewater is outside of the economic scope of these companies. While using less water could reduce costs in the long run, the development of processes to do so is expensive (Brown & Peterson, 2011). This indicates that the CSR statements of these firms are part of a broader CSR strategy.

Other forms of CSR messaging in the brewery sector are the promotion of non-alcoholic beers, limiting $CO^2$ emissions, reducing packaging, and prolonging the life cycle of glass bottles (Kawa & Łuczyk, 2015). While non-alcoholic pilseners are often promoted by producers in conventional marketing, their efforts to reduce their environmental impact are mostly marketed through websites such as LinkedIn, where the function of such messages are mostly for corporate reasons instead of reaching the average consumer (LinkedIn, 2023). Another means through which companies spread their CSR messaging is their yearly ESG report, that the average consumer will also not read. Because of this, it is still unclear if environmental CSR marketing is an effective way to influence consumer behavior in this sector (Lee et al., 2020; Yoon & Lam, 2013).

Whether CSR marketing is effective will however depend on the type of messaging and how well suited it is for the consumers of a brand (Andreu et al., 2015). Companies have three options on where they intend to fit their CSR messaging most neatly, to costumers, to other companies or to their stakeholders (Schmeltz, 2017). This research will investigate the effect of consumer targeted CSR messaging and the reputation of (not) achieving stated targets brings.

## 3.3 The effect of CSR communication on consumer perception.

Stanaland et al. (2011) found that consumers' perception of a firm's CSR messaging relied heavily on the firm's financial performance and commitment to their ethical statements, without regard for the industry the firm operates in. They also found that trustworthy CSR strategies are strongly positively correlated to consumer loyalty within a causal relationship. Additionally, consumer perception is heavily influenced by third parties reporting intra-industry rankings of social and environmental responsibility (Porter & Kramer, 2006). Porter and Kramer also found that as more companies publish their CSR reports and strategies publicly, these third-party rankings increase in frequency, with the unfortunate effect that the factors weighed in these rankings can be of low importance or accuracy. Consumers are nonetheless influenced by these rankings, causing CSR messaging to be essential in gaining brand equity.

Torelli et al. (2012) found that more brands are increasing their CSR marketing and that the type reputation luxury brands hold relates to the type of CSR messaging that is effective. The reputation a firm holds can be used in their business strategy. By matching their reputation and messaging, firms can gain consumer's trust (Homburg et al., 2013). While the major breweries have sent out ESG reports in the last years, most have not put forward a true CSR marketing campaign through consumer-focused media as of yet.

However, while communication is important to gaining brand equity, an excessive amount of CSR marketing might be detrimental as consumers are led to boredom and possibly fearfulness of greenwashing (Muniz et al., 2019). Greenwashing is the process where companies claim to be more committed to environmental causes than they are in actuality (de Freitas Netto et al., 2020).

It should be noted that the threat of greenwashing among consumers may be overstated, as Alabo and Anyasor (2020) found that Nigerian breweries have a strong relation between their green marketing and actual levels of sustainability.

To investigate the relation between companies' reputations and consumers' WTP, four opinion-based variables are chosen: trustworthiness of the company, consumers' trust in companies' intentions, consumers' admiration for companies' stated intentions, and consumers' belief of companies' commitment to their stated ecological goals. The trustworthiness of a company has been seen to heavily rely on consumers' access to information regarding previous goals (Bögel, 2019). Brazilian consumers were found to strongly react to CSR statements and intent declarations, including an increased WTP and willingness to pay premium prices (Carvalho et al., 2010). This indicates that belief in stated intentions is correlated to WTP and a company's reputation. Consumer loyalty has a positive relation with environmental CSR commitments and the admiration gained from fulfilling these commitments has been positively correlated to WTP. (Ho, 2017). Lastly, consumers' belief in a company's commitment to their ecological goals relies heavily on whether the company has had successes in achieving previous goals (Liczmańska-Kopcewicz et al., 2019). These four opinion-based variables have previously been found to influence WTP, so to investigate how a company's reputation affects these variables the following hypotheses will be tested:

H1a: *Having a positive reputation positively affects consumers' opinion of the trustworthiness of a company; a negative reputation will have an adverse effect.*

H1b: *Having a positive reputation positively affects consumers' opinion on the believability of a company's stated intentions; a negative reputation has an adverse effect.*

H1c: *Having a positive reputation positively affects consumers' admiration for a company's stated intentions; a negative reputation has an adverse effect.*

H1d: *Having a positive reputation positively affects consumers' belief in a company's stated ecological goals; a negative reputation has an adverse effect.*

Hereafter, the trustworthiness of a company, consumers' trust in their intentions, consumers' admiration for their intentions, and consumers' belief in their commitment to their ecological goals will collectively be referred to as the "opinion-based variables".

## 3.4 The effect of consumer perception on willingness to purchase.

Consumers' perception of a brand has been known to positively affect their WTP (Nelson, 1970). However, if consumers have to exercise more effort to choose a "greener" product, they are less likely to choose this option as opposed to other alternatives (Ramayah et al., 2010). This indicates that while consumers can be influenced to choose ecologically better options through positive brand perceptions, their choice is more strongly related to the ease with which they purchase goods. As long as companies make sure their greener products are as easily obtained as their alternatives, green initiatives can positively affect WTP. This research focusses on the brewery sector's water wastage, which encompasses companies' entire production line. As reducing water wastage is a green initiative that influences all products, there can be no differentiation between different

products. However, through green initiatives companies can gain a competitive advantage against their competitors as long as long-term commitments are upheld (Papadas et al., 2019).

Increasing awareness of sustainable products is seen to improve consumers' WTP in the wine industry (Schäufele & Hamm, 2017). This relation between WTP and consumer awareness in another alcohol-based industry shows possible growth for the beer industry as well. These findings are in line with findings by Galati et al. (2019), who found that consumers are willing to pay premium prices for sustainably produced wines. Millennials were found to be most susceptible to sustainable CSR marketed wines. Younger consumers have been known to have a higher WTP for greener products (Smith & Brower, 2012). Based on these findings, this research will test the following hypothesis:

H2a: *A positive reputation positively affects consumers' willingness to purchase from a beer brewery; a negative reputation will have an adverse effect.*

However as stated before, consumers' willingness to purchase is positively influenced by the previously mentioned opinion-based variables. Therefore, the following hypothesis will be tested for each of these variables:

H2b$_{1-4}$: *The effect of a positive reputation is enhanced by opinion-based variables; the adverse effect of a negative reputation is similarly enhanced by opinion-based variables.*

Finally, to control for overfitting, instead of increasing the effect of the reputation of a company, an analysis will be made controlling for the opinion-based variables, considering a positive interaction between the reputation and these variables is hypothesized, but not yet proven:

H3: *A positive reputation increases consumers' willingness to purchase, even when controlling for opinion-based variables; a negative reputation will decrease consumers' willingness to purchase even more than the effect of the opinion-based variables.*

# 4 Methodology

## 4.1 Experimental design

The research question and all sub hypotheses were tested by using an online survey. In this survey participants were presented with a fictitious brewery's commitment to reducing their water wastage, named Triomphe. After collecting some general information including age range, gender identification, drinking habits and environmental concerns, a corporate LinkedIn message by Triomphe was shown. This message was designed to heavily emphasize Triomphe's CSR commitments to reduce water wastage.

Afterwards, participants read one of three fake news articles manipulating the reputation of the brewery, either in a positive, negative, or neutral light. This reputation manipulation was randomized equally among participants and kept track of by the survey hosting website Qualtrics. Next the participants were asked whether their opinion on Triomphe and willingness to purchase a six pack of Triomphe's beer had changed after reading the news article.

Finally, participants were asked if they would pay more than the average market price for a six pack of Triomphe. The average market price was not mentioned so as not to anchor participants to a suggested price. Within the survey, Triomphe was also not compared to existing brands. The lack of comparison was chosen because drinkers of beer are expected to have preferences in taste for existing brands. This existing preference in taste could have altered the results, because if the existing brand was a preferred brand for specific participants, they would have been more likely to choose the existing brand. On the contrary, if the existing brand was disliked by participants, they were increasingly likely to choose Triomphe, of which they had no flavor related opinion yet.

I chose a six pack of beers because it is a moderate amount of alcohol to purchase, which is not too big of an investment yet expensive enough where people would be willing to pay more to ensure quality. The quality this survey specified was environmental sustainability. Lastly, participants were asked to state their opinion on the trustfulness of Triomphe, along with opinions on the admirability of Triomphe's intentions and view on Triomphe's ecological footprint on a five-point Likert scale. These were asked in a randomized order to prevent anchoring bias.

Participants were recruited from several Dutch universities, university colleges, social media, and survey distribution website SurveySwap. The different versions of the survey were distributed randomly among participants, creating three different subgroups, those who received a news article with positive, negative, or neutral information about Triomphe. The survey was conducted mainly among eighteen- to thirty-year-olds, as millennials have been shown to be more environmentally aware than older generations (Johnson & Schwadel, 2019).

4.2 Procedure

As participants joined the survey, they were assured that their answers were anonymous. This eliminates the risk that responses were filled in a socially desirable way. To complete the survey, all questions must be filled in. After the first general questions and being introduced to Triomphe through a LinkedIn article, the participants were randomly assigned to one of three subgroups. Either they would receive positive news (POS), negative news (NEG), or neutral news (contained within constant terms).

The participants selected to be in the POS group read an article praising Triomphe for their success in reducing their water usage and a hopeful message of improving this reduction even further. The neutral news group were asked to read a message giving general information about Triomphe, such as where the name originated. This article was written with the expressed intention of not guiding the reader to a specific opinion. Lastly, the NEG group received an article that was very negative about Triomphe's work so far. This included references to failed earlier targets and questionable future goals. This negative article was designed to make participants doubt Triomphe to some extent. The news articles and the LinkedIn article are all included in appendix 8.1 and 8.2.

After reading one of the articles, all subgroups answered the same questions for the remainder of the survey. Firstly, participants were asked if the news article changed their opinion on Triomphe. After that they were asked to rate their willingness to purchase a six pack from Triomphe on a five-point Likert scale, ranging from strongly disagree to strongly agree. Thirdly, participants were asked whether they would pay more for a six pack from Triomphe than the average price of a six pack. Lastly, they were asked to rate their agreeance with four statements on another five-point Likert scale to indicate how much they trusted Triomphe, agreed with their intentions, found their intentions admirable, and thought Triomphe was concerned with their ecological footprint.

## 4.2 Descriptive sample

The survey was distributed from January 18th, 2023, until February 6th, 2023. Participants were recruited through social media, including Facebook, Instagram, LinkedIn, and WhatsApp. Additionally, participants were recruited through SurveySwap, a survey distribution website that helps researchers that need more respondents for their papers. The G*Power calculation was used to compute the optimal sample size. Using a difference between two means and two tails, the effect size was set at 0.45, which is slightly below medium. This led to an optimized sample group of 158 participants.

In total, the survey was started by 188 individual participants. 156 participants finished the survey. None of the finished observations have been excluded, as the survey did not allow individuals to return to previous pages of the survey. Because of this, all finished surveys that have been finished from start to finish, did so without changing the survey flow. Each of the three subgroups of the survey have been filled out 52 times in total, as all three survey flows were equally distributed by Qualtrics. This sample size of 156 participants is very close to the calculated optimal G*Power sample size.

Participants' ages averaged 28 years old, including the oldest participant aged 74 and the youngest participants were allowed to participate was 18 (*M=28.2, SD=9.74*).

Secondly, the gender distribution was 54 percent male (n=102) and 44 percent female (n=83). 2 percent of participants identified as either non-binary or reluctant to share their gender-identification (n=4).

Thirdly, participants were asked how often they consumed alcohol on a Likert-scale ranging from 1 to 6 (never, once a month, once a week, two or three times per week, four to six times per week, or daily). On average participants ranked themselves at 3.712 (*SD=1.275*), which means between once a week and two or three times a week. Lastly participants were asked to rank how much they consider the environmental impact of their purchases on a 5 point Likert-scale (*M=2.442, SD=0.874*).

Collectively, these descriptive statistics will be used to control for errors in the randomization of the survey and will be referred to as "the standard control variables".

# 5 Analysis

## 5.1 Dependent variables

In the survey, multiple questions were intended to ascertain the effect of different messages on the participants. The dependent variables include WTP, change of opinion on Triomphe, willingness to pay more than average market price, level of trust in Triomphe, opinion and admirableness of Triomphe's intentions, and opinion on Triomphe's ecological footprint.

WTP was measured by a five-point Likert scale indicating the participants WTP from Triomphe. This measure can have an integer value ranging from one to five. The average WTP was 2.865 (*SD = 1.017).*

Change of opinion on Triomphe and willingness to pay a higher price were measured with simple yes – no questions after reading the randomized news article. As such these are binary variables. The mean for change of opinion was 0.462 (*SD = 0.500)* and the mean of willingness to pay a higher price was 0.308 (*SD = 0.463).*

All other dependent variables were measured with a five-point Likert scale. These variables all held integers ranging from 1 to 5. Level of trust held an average of 3.147 (*SD = 0.856).* Opinion of intentions held an average of 3.564 (*SD= 0.972*). The level of admiration of the intentions averaged 3.788 (*SD = 0.944*) and opinion on Triomphe's ecological footprint held an average of 3.718 (*SD = 0.976*).

## 5.2 Independent variables

This survey only held one non-control independent variable, which was what version of the news article participants were asked to read. This variable is a dummy variable that held a value of 0 for participants that received the neutral news article, 1 if participants received the positive news article and 2 if participants received the negative news article.

## 5.3 Statistical analysis

### 5.3.1. Randomization

The distribution of the survey has been randomized by the software used by Qualtrics. In order to check whether the three subgroups were similar enough to compare, both F tests and Chi Squared tests were performed on the survey flow and the control variables. The results of these tests have been included in appendix 8.3. Both the F tests and the Chi Squared tests showed no significance at any level below ten percent, indicating that there is no correlation between the survey flow participants were presented with and their responses to the control questions. This indicates that the randomization was successful.

## 5.3.2. Choice of model

The first set of hypotheses will be tested through simple OLS regressions with independent variables for the control variables consisting of age, gender, alcohol usage and environmental awareness as well as the treatment variable of receiving a manipulated positive, negative, or neutral reputation.

1a: Trustworthy = $Reputation_i$ + Control Variables + $\varepsilon$

1b: Intentions = $Reputation_i$ + Control Variables + $\varepsilon$

1c: Admirable = $Reputation_i$ + Control Variables + $\varepsilon$

1d: Ecological = $Reputation_i$ + Control Variables + $\varepsilon$


The second set of hypotheses inspects the relation between WTP and the opinion-based variables, trustworthiness, agreement with intentions, admirations for intentions, believe in ecological commitment. This relation is also calculated as an OSL regression, resulting in the following calculation:

2a: Willingness to Purchase = $Reputation_i$ + Control Variables + $\varepsilon$

$2b_1$:Willingness to Purchase =

$Reputation_i$ + Trustworthy + $Reputation_i$ * Trustworthy + Control Variables + $\varepsilon$

$2b_2$: Willingness to Purchase = $Reputation_i$ + Intentions +

$Reputation_i$ * Intentions + Control Variables + $\varepsilon$

$2b_3$: Willingness to Purchase = $Reputation_i$ + Admirable +

$Reputation_i$ * Admirable + Control Variables + $\varepsilon$

$2b_4$: Willingness to Purchase = $Reputation_i$ + Ecological +

$Reputation_i$ * Ecological + Control Variables + $\varepsilon$

Finally, regardless of the results of the 2b hypotheses, the relation between reputation and WTP will be analyzed while controlling for the opinion-based variables, as well as the standard control variables:

3: Willingness to Purchase =

$Reputation_i + Trustworthy + Intentions + Admirable + Ecological + Control Variables + \varepsilon$

### 5.3.3. Hypothesis testing

Table 2: *Output of OLS regression of treatment on opinionated observed variables.*

| VARIABLES | (1) Trustworthiness | (2) Intentions | (3) Admirableness of intentions | (4) Belief in Ecological impact |
|---|---|---|---|---|
| Treatment | | | | |
| POS | 0.011 | 0.173 | 0.018 | 0.225 |
| | (*0.153*) | (*0.187*) | (*0.174*) | (*0.166*) |
| NEG | -0.522 *** | -0.386 ** | -0.436 ** | -0.446 ** |
| | (*0.177*) | (*0.189*) | (*0.177*) | (*0.188*) |
| Age | -0.027 | -0.110 * | -0.160 *** | -0.173 *** |
| | (*0.048*) | (*0.060*) | (*0.055*) | (*0.055*) |
| Gender | 0.081 | 0.080 | 0.087 | 0.016 |
| | (*0.114*) | (*0.151*) | (*0.137*) | (*0.120*) |
| Alcohol | -0.058 | 0.009 | -0.015 | -0.042 |
| consumption | (*0.051*) | (*0.102*) | (*0.066*) | (*0.062*) |
| Environmental | -0.055 | 0.103 | 0.158 * | 0.152 |
| Awareness | (*0.088*) | (*0.102*) | (*0.087*) | (*0.103*) |
| Constant | 3.214 *** | 3.590 *** | 3.789 *** | 3.716 *** |
| | (*0.326*) | (*0.341*) | (*0.353*) | (*0.383*) |
| Observations | 156 | 156 | 156 | 156 |
| R – Squared | 0.1038 | 0.0818 | 0.1121 | 0.1466 |

*Notes: Standard errors within parentheses. *** p<0.01, ** p<0.05, * p<0.10. POS = sample of participants who received positive CSR reporting. NEG = sample of participants who received negative CSR reporting. Participants who received neutral reporting are included as the baseline and thus included in the constant.*

In Table 2, the relation between the treatment and the opinionated variables can be seen. It is of note that the participants who received negative reporting expressed significantly less trust in Triomphe in all four variables. On the contrary, the positive coefficients are not significant. This indicates that negative reporting is much more harmful to a company's reputation than positive reporting is helpful. Most of the control variables had no significance on the opiniated variables, reaffirming that the randomization was successful.

Table 3: *Output of OLS regression of CSR reputation on willingness to purchase.*

| VARIABLES | Willingness to purchase | |
|---|---|---|
| Treatment | | |
| POS | -0.115 | -0.122 |
| | (*0.184*) | (*0.185*) |
| NEG | -0.865 *** | -0.902 *** |
| | (*0.183*) | (*0.189*) |
| Age | | 0.000 |
| | | (*0.060*) |
| Gender | | -0.060 |
| | | (*0.144*) |
| Alcohol consumption | | -0.034 |
| | | (*0.064*) |
| Environmental | | 0.158 * |
| awareness | | (*0.091*) |
| Constant term | 3.192 *** | 2.796 *** |
| | (*0.126*) | (*0.338*) |
| Observations | 156 | 156 |
| R-Squared | 0.1434 | 0.1622 |

*Notes: Standard errors within parentheses. *** p<0.01, ** p<0.05, * p<0.10. POS = sample of participants who received positive CSR reporting. NEG = sample of participants who received negative CSR reporting. Participants who received neutral reporting are included as the baseline and thus included in the constant.*

The regression for the treatment on participants willingness to purchase from Triomphe in table 3 shows a strong significant negative correlation between participants receiving the negative news article. This strong relation holds when introducing the control variables for age, gender, alcohol consumption, and self reported environmental awareness. The correlation between the negative news article and decreased WTP may be a result of respondents doubting Triomphe and thus being unwilling to support them. On the other hand, those who received the negative news article may have been less likely to be willing to purchase from Triomphe before taking the survey. This selection bias is unlikely due to the successful randomization as mentioned before. A strong negative selection bias among the participants who received the negative news article, contrary to the participants who received a neutral or positive article seems highly unlikely, as the version participants received was randomly decided by the survey distributor Qualtrics.

Those who received a positive news article were insignificantly more or less likely to be willing to purchase than those who received a neutral news article. This can either indicate that respondents were unlikely to be affected by positive reporting about Triomphe, or the positive article was unsuccessful at convincing respondents that Triomphe was indeed a company to be admired.

Table 4: *Output of OLS regression of CSR reputation on willingness to purchase, moderated by opinion-based variables.*

| Variables | Willingness to purchase | | | |
|---|---|---|---|---|
| | (1) Trustworthy | (2) Intentions | (3) Admirableness of intentions | (4) Believe in Ecological impact |
| Treatment | | | | |
| POS | 1.21 | 0.833 | -0.080 | -0.723 |
| | (*0.778*) | (*0.881*) | (*0.768*) | (*0.825*) |
| NEG | -0.930 | -0.909 | -1.344 * | -1.354 * |
| | (*0.574*) | (*0.686*) | (*0.726*) | (*0.759*) |
| Opinion variable | 0.393 *** | 0.388 *** | 0.182 | 0.213 |
| | (*0.138*) | (*0.147*) | (*0.153*) | (*0.157*) |
| Interaction term POS * Opinion variable | -0.398 * | -0.271 | -0.013 | 0.139 |
| | (*0.229*) | (*0.224*) | (*0.195*) | (*0.207*) |
| Interaction term NEG * Opinion variable | 0.081 | 0.047 | 0.148 | 0.162 |
| | (*0.195*) | (*0.189*) | (*0.190*) | (*0.202*) |
| Age | 0.001 | 0.038 | 0.040 | 0.052 |
| | (*0.055*) | (*0.057*) | (*0.060*) | (*0.058*) |
| Gender | -0.081 | -0.059 | -0.076 | -0.054 |
| | (*0.147*) | (*0.136*) | (*0.136*) | (*0.137*) |
| Alcohol | -0.017 | -0.052 | -0.036 | -0.016 |
| | (*0.059*) | (*0.059*) | (*0.062*) | (*0.062*) |
| Environmental Awareness | 0.199 ** | 0.127 | 0.118 | 0.120 |
| | (*0.078*) | (*0.080*) | (*0.090*) | (*0.078*) |
| Constant term | 1.480 *** | 1.357 ** | 2.089 *** | 1.994 *** |
| | (*0.502*) | (*0.621*) | (*0.612*) | (*0.717*) |
| Observations | 156 | 156 | 156 | 156 |
| R – Squared | 0.2599 | 0.2652 | 0.2079 | 0.2458 |

*Notes: Standard errors within parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.10. POS = sample of participants who received positive CSR reporting. NEG = sample of participants who received negative CSR reporting. Participants who received neutral reporting are included as the baseline and thus included in the constant.*

The introduction of opinion-based variables to the regression in table 4 heavily affects the effect of the treatment on participants' willingness to purchase from Triomphe. As only one of the interaction terms is slightly significant at a 10 percent level, it is concluded that while there may be a relation between the treatment and the opinion-based variables, these opinion-based variables do not moderate or increase the effect of the treatment on WTP. Because only the level of trust

and level of trust in Triomphe's intentions were highly significant, they will be separately analyzed as control variables in table 5. The significance of any of the treatment variables has disappeared almost entirely within these regressions, which is assumed to be due to overfitting, as suspected might be the case earlier.

In addition to the simple with-and-without regression of table 3, the opinionated variables were also added as control variables to table 5 due to the results of table 4. Column 1 of table 5 includes trust in Triomphe and belief in their intentions as control variables as these were the only opinionated variables in table 4 to have significant effects. When included in the regression on WTP, they are also significant, at a slightly lower significance. When all opinionated variables are included this significance falls off. This may be due to overfitting, which also reduces the level of trust in the third column as including even more variables once a regression is overfitted is counter intuitive.

In each of the regressions of table 5 there is a strong significant effect of the negative treatment on WTP and no significant effect of the positive treatment. This restates the results seen in the simple with-and-without regression of table 3.

Table 5: *Output of OLS regression of CSR reputation on willingness to purchase, controlled by opinion-based variables.*

| Variables | Willingness to purchase | | |
|---|---|---|---|
| | (1) | (2) | (3) |
| Treatment | | | |
| POS | -0.159 | -0.169 | -0.175 |
| | (*0.178*) | (*0.178*) | (*0.183*) |
| NEG | -0.677 *** | -0.653 *** | -0.677 *** |
| | (*0.173*) | (*0.173*) | (*0.177*) |
| Trustworthiness | 0.198 * | 0.165 | 0.179 * |
| | (*0.105*) | (*0.104*) | (*0.102*) |
| Intentions | 0.234 ** | 0.142 | 0.139 |
| | (*0.095*) | (*0.120*) | (*0.124*) |
| Admirableness of intentions | | 0.059 | 0.058 |
| | | (*0.080*) | (*0.082*) |
| Believe in Ecological Impact | | 0.121 | 0.117 |
| | | (*0.091*) | (*0.093*) |
| Age | | | 0.049 |
| | | | (*0.058*) |
| Gender | | | -0.093 |
| | | | (*0.059*) |
| Alcohol consumption | | | -0.019 |
| | | | (*0.059*) |
| Environmental awareness | | | 0.127 * |
| | | | (*0.075*) |
| Constant term | 1.687 *** | 1.445 *** | 1.067 ** |
| | (*0.339*) | (*0.345*) | (*0.443*) |
| Observations | 156 | 156 | 156 |
| R-squared | 0.2524 | 0.2630 | 0.2791 |

*Notes: (1) Multivariate regression of the treatment on willingness to purchase, including trustworthiness and belief in intentions as control variables. (2) Multivariate regression of the treatment on willingness to purchase, including all opinionated variables as control variables. (3) Multivariate regression of the treatment on willingness to purchase including all opinionated variables and the standard control variables. Standard errors within parentheses. *** p<0.01, ** p<0.05, * p<0.10. POS = sample of participants who received positive CSR reporting. NEG = sample of participants who received negative CSR reporting. Participants who received neutral reporting are included as the baseline and thus included in the constant.*

# 6 Conclusions

To answer the main research question, the hypotheses will be discussed first. The first set of hypotheses sets a precedent for all results, as there is only a significant effect on a company's reputation if that reputation is negative. A negative reputation lowers consumers' trust in a company, their intentions, and belief in the company's ecological goals. Positive reputations do not affect consumers' beliefs as much, as no significant effect of the positive treatment was found. Secondly, the simple effect of the treatment on consumers' WTP was researched. Again, only the negative treatment held a significant effect.

To check the effect of the opinionated variables on WTP, a regression with the treatment and all opinionated variables was done, including the interaction term between the treatment and the isolated opinionated variables. Only two of the opinionated variables, trustworthiness and belief in intentions, held a significant effect. However, the interaction terms were not significant and thus dropped in further analyses. Table 5 reviewed the effect of the treatment on WTP with differing control variables. In column 1 the most significant regression was achieved at a ten percent significant level for all variables, using only trust in Triomphe and their intentions. This shows that a consumer's admiration for a company's stated intentions and consumer's belief in a company's stated ecological goals are less relevant in guiding consumer's WTP.

Finally, the direct effect of a company's reputation on WTP was analyzed by using the opinionated variables and descriptive variables as control variables. The results restate the negative effect of a bad reputation on consumer's WTP.

In conclusion, the effect of a company's reputation concerning CSR statements on consumers' willingness to purchase in the beer sector is strongly negative when a company has a bad reputation. If a brewery company has a very good reputation this does not affect consumers'

WTP significantly. These results imply that breweries need to be careful of overstating their CSR goals to the public. For when consumers receive news that they have reached their goals, this will not result in a large increase in sales. However, when companies fail to reach the goals they set out for themselves, consumers will punish this by not purchasing from them when this is reported.

These implications should however not necessarily discourage companies to publicly state their CSR goals, as lack of communication on the topic has been seen to reduce consumers' trust even when private CSR goals have been reached (Li et al., 2019). Therefore, this research advises companies, with focus on the beer brewery sector, to clearly and publicly state their CSR goals, but set those goals within reach. As for when companies are overambitious with their goals, they might be punished when news organizations publicly state their failure to achieve them.

Because of the clear lower impact of positive reputations, this research advises future investigations on the topic to focus more on the negative reputation companies might receive due to failing their CSR goals. By focusing on both positive and negative reputations, this research was unable to dive deeper into the reasoning as to why negative reputations harm a company so much more.

It is important for news organizations to keep vigilantly researching companies' achievements. When a company makes great CSR claims, this may be a publicity stunt and this research proves that when those actions are made clear to the public, companies that overstated their CSR goals are punished in their sales. This effect can steer companies to either lower their goals or invest enough to achieve them. The latter of these options is clearly preferred and because many companies have already made claims about their future goals, they can be held accountable for these promises.

This research was partially limited by the narrow sample size. While the suggested sample size of G*Power was nearly achieved, most participants of the survey fall into a narrow population, being early adults, mostly students, of Dutch nationality. It would be ideal for future research to investigate the effect of a company's reputation among different nationalities and possibly compare cultural differences of consumer bases. A larger sample size would also possibly increase the number of subgroups that can reasonably be made, offering different forms of the CSR statements by a company, or focusing on different CSR goals than reducing water wastage.

# 7 Bibliography

AB Inbev (2022). *2021 Environmental, Social and Governance Report*. Retrieved from
https://www.ab-inbev.com/assets/pdfs/ABINBEV_ESG%202021_Final.pdf. 21 – 30.

Alabo, R. L., & Anyasor, M. O. (2020). Green Marketing and Sustainability of Breweries in
Nigeria. Rachael Lolo Alabo and Okwuchukwu Marcus Anyasor (2020). Green Marketing
and Sustainability of Breweries in Nigeria. *European Journal of Business and Innovation
Research*, *8*(8), 19-48.

Andreu, L., Casado-Díaz Ana B, & Mattila, A. S. (2015). Effects of message appeal and service
type in csr communication strategies. *Journal of Business Research, 68*(7), 1488–1488.

Barbier, E. B. (2022). The economics of managing water crises. *Philosophical Transactions of the
Royal Society A, 380*(2238).

Becker-Olsen, K. L., Cudmore, B. A., & Hill, R. P. (2006). The impact of perceived corporate
social responsibility on consumer behavior. *Journal of business research, 59*(1), 46-53.

Bögel, P. M. (2019). Company reputation and its influence on consumer trust in response to
ongoing CSR communication. *Journal of Marketing Communications*, *25*(2), 115-136.

Brown, J. R., & Petersen, B. C. (2011). Cash holdings and R&D smoothing. *Journal of Corporate
Finance, 17*(3), 694-709.

Carlsberg Group (2022). *Environmental, Social and Governance Report*. Retrieved from
https://www.carlsberggroup.com/media/48860/carlsberg-group-esg-report-2021.pdf. 10 –
27.

Carvalho, S. W., Sen, S., de Oliveira Mota, M., & de Lima, R. C. (2010). Consumer reactions to
CSR: A Brazilian perspective. *Journal of Business Ethics*, *91*, 291-310.

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy
of management review, 4*(4), 497-505.

de Freitas Netto, S. V., Sobral, M. F. F., Ribeiro, A. R. B., & Soares, G. R. D. L. (2020). Concepts
and forms of greenwashing: A systematic review. *Environmental Sciences Europe, 32*(1),
1-12.

Du Plessis, A. (2019). Current and future water scarcity and stress. *Water as an Inescapable Risk,
1*, 13-25.

Galati, A., Schifani, G., Crescimanno, M., & Migliore, G. (2019). "Natural wine" consumers and interest in label information: An analysis of willingness to pay in a new Italian wine market segment. *Journal of Cleaner Production, 227*, 405-413.

Greenwood, S., Perrin, A., & Duggan, M. (2016). Social media update 2016. *Pew Research Center, 11*(2), 1-18.

Griffin, J. J., & Weber, J. (2006). Industry social analysis: examining the beer industry. *Business & Society, 45*(4), 413-440.

Heineken N.V. (2022). *Annual Report 2021*. Retrieved from https://www.theheinekencompany.com/sites/theheinekencompany/files/Downloads/PDF/AR-2021/heineken-nv-annual-report-2021-25-02-2022.pdf. 132 – 138.

Ho, C. W. (2017). Does practicing CSR makes consumers like your shop more? Consumer-retailer love mediates CSR and behavioral intentions. *International journal of environmental research and public health*, *14*(12), 1558.

Homburg, C., Stierl, M., & Bornemann, T. (2013). Corporate social responsibility in business-to-business markets: How organizational customers account for supplier corporate social responsibility engagement. *Journal of Marketing, 77*(6), 54-72.

Johnson, E. W., & Schwadel, P. (2019). It is not a cohort thing: interrogating the relationship between age, cohort, and support for the environment. *Environment and Behavior, 51*(7), 879-901.

Jones, E. (2018). Brewing green: Sustainability in the craft beer movement. *Craft Beverages and Tourism, Volume 2: Environmental, Societal, and Marketing Implications*, 9-26.

Kawa, A., & Łuczyk, I. (2015). CSR in supply chains of brewing industry. *Technology Management for Sustainable Production and Logistics, 1,* 97-118.

Kudłak, R., Szőcs, I., Krumay, B., & Martinuzzi, A. (2018). The future of CSR-Selected findings from a Europe-wide Delphi study. *Journal of Cleaner Production, 183*, 282-291.

Lee, N. M., Callison, C., & Seltzer, T. (2020). Sustainable beer: testing the effects of water conservation messages and brewery type on consumer perceptions. *Journal of Food Products Marketing, 26*(9), 619-638.

Li, J., Zhang, F., & Sun, S. (2019). Building consumer-oriented CSR differentiation strategy. *Sustainability, 11*(3), 664.

Liczmańska-Kopcewicz, K., Mizera, K., & Pypłacz, P. (2019). Corporate social responsibility and

sustainable development for creating value for FMCG sector enterprises. *Sustainability*, *11*(20), 5808.

LinkedIn (2023). *The HEINEKEN Company, De Koninklijke Grolsch, The Budweiser Brewing Company APAC.* Retrieved from https://www.linkedin.com/company/heineken/?originalSubdomain=nl, https://www.linkedin.com/company/koninklijke-grolsch/posts/?feedView=all, https://www.linkedin.com/company/budweiser-brewing-company-apac/posts/?feedView=all. Visited on 15 January 2023.

Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction, and market value*. Journal of marketing, 70*(4), 1-18.

Molson Coors Beverage CO (2022). *Environmental, Social, and Governance (ESG) Report 2022.* Retrieved from https://www.molsoncoors.com/sites/molsonco/files/Molson_Coors_ESG_AW6_V7_0.pdf

Muniz, F., Guzmán, F., Paswan, A. K., & Crawford, H. J. (2019). The immediate effect of corporate social responsibility on consumer-based brand equity. *Journal of Product & Brand Management. 28*(7), 864 – 879.

Nelson, P. (1970). Information and consumer behavior. *Journal of political economy, 78*(2), 311-329.

Olajire, A. A. (2020). The brewing industry and environmental challenges. *Journal of cleaner production, 256*,

Papadas, K. K., Avlonitis, G. J., Carrigan, M., & Piha, L. (2019). The interplay of strategic and internal green marketing orientation on competitive advantage. *Journal of Business Research, 104*, 632-643.

Porter, M. E., & Kramer, M. R. (2006). The link between competitive advantage and corporate social responsibility. *Harvard business review, 84*(12), 78-92.

Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, conservation and recycling, 54*(12), 1419-1427.

Schäufele, I., & Hamm, U. (2017). Consumers' perceptions, preferences and willingness-to-pay for wine with sustainability characteristics: A review. *Journal of Cleaner production, 147*, 379-394.

Schmeltz, L. (2017). Getting CSR communication fit: A study of strategically fitting cause, consumers and company in corporate CSR communication. *Public Relations Inquiry*, *6*(1), 47-72.

Smith, K. T., & Brower, T. R. (2012). Longitudinal study of green marketing strategies that influence Millennials. *Journal of Strategic Marketing, 20*(6), 535-551.

Stanaland, A. J., Lwin, M. O., & Murphy, P. E. (2011). Consumer perceptions of the antecedents and consequences of corporate social responsibility. *Journal of business ethics, 102*(1), 47-55.

Torelli, C. J., Monga, A. B., & Kaikati, A. M. (2012). Doing poorly by doing good: corporate social responsibility and brand concepts. *Journal of Consumer Research, 38*(5), 948–963.

Yoon, S., & Lam, T. H. (2013). The illusion of righteousness: corporate social responsibility practices of the alcohol industry. *BMC public health, 13*(1), 1-11.

Wan-Jan, W. S. (2006). Defining corporate social responsibility. *Journal of Public Affairs: An International Journal, 6*(3-4), 176-184.

Wen, Q., Wu, Y., Zhao, L. X., Sun, Q., & Kong, F. Y. (2010). Electricity generation and brewery wastewater treatment from sequential anode-cathode microbial fuel cell. *Journal of Zhejiang University SCIENCE B, 11*(2), 87-93.

# 8 Appendix

## 8.1 Survey news articles

### 8.1.1. Positive news article



## LOOK AT THIS BRAND
## TRIOMPHE

**T**riomphe is a brewery focused on pilseners. They have been in the market for about 5 years and produce pilseners with less water wastage than any of their competitors

As they only sell their standard pilsener for now, their spokesperson has said: "By focusing ourselves on a single product, we can guarantee our unique flavor while optimizing our processes for a better environment."

They have located themselves solely in areas where water scarcity is a non-issue, so as to not compete with local communities.

Triomphe has announced that they will further improve their relationship with water in the coming years, in order to achieve zero percent water wastage by 2025. Reports show that they are well on their way!

VOLUME II

BEER MAGAZINE | 13

*Image A1: News article with positive messaging*

## 8.1.2. Negative news article



### LOOK AT THIS BRAND
# TRIOMPHE

**T**riomphe is a brewery focused on pilseners. They have been in the market for about 5 years and produce pilseners with less water wastage. They only sell their standard pilsener for now.

Their spokesperson has said: "By focusing ourselves on a single product, we can guarantee our unique flavor while optimizing our processes for a better environment." For flavor reasons, they have situated their breweries in Africa. Having made claims to reduce their water wastage even further, details remain vague.

While their water usage is relatively low by industry standards, they have failed to reach their previous claimed goals of using less than 2 liters of water per liter of beer produced. No proof has been given as to how Triomphe will reach this goal in the future.

*Image A2: News article with negative messaging*

### 8.1.3. Neutral news article



## LOOK AT THIS BRAND
# TRIOMPHE

**T**riomphe is a brewery focused on pilseners. They have been in the market for about 5 years and only produce pilsener beer. They only sell their standard pilsener for now.

Their spokesperson has said: "By focusing ourselves on a single product, we can guarantee our unique flavor while optimizing our processes better. Here we will focus on environment, a sophisticated taste and reducing water consumption."

The name Triomphe is meant to inspire their consumers about all the triumph and victory in life.
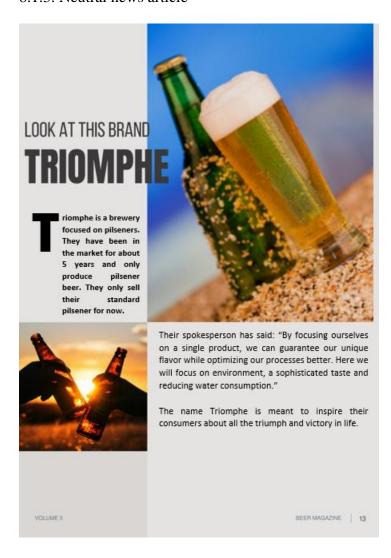
VOLUME II

BEER MAGAZINE | 13

*Image A3: News article without opinionating messaging*

## 8.2 Corporate social responsibility message



*Image A4: Corporate message with extended information*

## 8.3 Randomization tests

| | Positive treatment | | Negative treatment | |
|---|---|---|---|---|
| | F test | Chi Squared test | F test | Chi Squared test |
| **Age** | 0.459 | 0.512 | 0.720 | 0.371 |
| **Gender** | 0.555 | 0.537 | 0.420 | 0.501 |
| **Alcohol usage** | 0.084 | 0.283 | 0.674 | 0.887 |
| **Environmental awareness** | 0.692 | 0.893 | 0.225 | 0.250 |

*Notes: F test and Chi Squared test p-values for the standard control variables divided by the positive and negative treatment groups, compared to the neutral control group.*