

**Scratching for a cause and a better  
tomorrow- Cause Related Marketing  
scratch-off tickets**

**Master thesis communication science  
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## Keywords

Cause Related Marketing  
Scratch-off tickets  
Lottery products  
Corporate Social Responsibility  
Biodegradable materials  
Purchase intention

## Abstract

Corporate Social Responsibility (CSR) and Cause Related Marketing (CRM) have grown in popularity. In previous years, many studies have focused on the effects of CRM mostly in utilitarian products, however there is limited research regarding hedonic products and gambling products. Based on previous research regarding CRM and design appeals used in CRM this thesis explored the topic of gambling products using an experiment with scratch-off tickets designs that focus on charitable giving or prize, are made of biodegradable materials or not and have an extra hedonic design or a stripped version. The experiment was conducted with 8 dummy scratch-off ticket and a questionnaire to measure consumer response. The predictions were that the focus on charitable giving, biodegradable and hedonic design will positively affect attitude and purchase intention. The results confirm some of the predictions with a significant relationship between hedonic design and willingness to buy for both current consumers and non-scratch-off ticket consumers along with a significant relationship between focus on charity and willingness to buy for non-scratch-off ticket consumers. Attitude was positively influenced by the focus on charitable giving, hedonic design and biodegradable materials. Implications for marketing and design of products are discussed.

## Foreword

While writing this thesis, I got assistance from many different sources. First, I would like to thank the Nederlandse Loterij (The Dutch Lottery) for their contribution by providing scratch-off ticket designs and the incentive used to thank participants. I am also grateful to the Nederlandse Loterij for their interest in biodegradable and CRM products, to possibly add to their line-up. I also want to show my gratitude towards my thesis supervisors at the University of Twente, Dr. J.J. van Hoof and Dr. T.J.L. van Rompay, their advice and guidance was greatly appreciated. Lastly, I want to thank my friends that helped conduct the experiment, S. de Volder, B. Rooijackers and M. Creemers.

## 1. Introduction

The concept of Corporate Social Responsibility (CSR) has grown in popularity over the years among corporations and academics (Nelling & Webb, 2009; Zemach-Rugar et al., 2016). The main cause for this popularity is that consumers are becoming more conscious regarding purchasing decisions and appreciate companies that display responsible behaviour (He & Lai, 2014). Evidence of this can be seen in the philanthropic spending of Fortune 500 companies, exceeding 15 billion dollars annually (Smith, 2014).

### 1.1 Area of research

Philanthropy is characterized as companies freely choosing to donate money or other assets to benefit communal purposes (Gautier & Pache, 2015) benefiting others (Lee et al., 2009; Amos et al., 2015). In corporate philanthropy, Cause Related Marketing (CRM) is known as a marketing strategy that for each product sold a small amount of the profit is donated to charities (Gautier & Pache, 2015). Baron et al. (2000, pp. 148) defined CRM as: “A strategy that is designed to promote the achievement of marketing objectives via company support of social causes”. In most cases this means that commercial companies partner with charity organizations using their name and logo for selling purposes, which results in a donation from the company (Kota et al., 2014). Great examples of this are fashion company H&M, which runs a foundation to provide accessible education to underprivileged children (Rädda Barnen, 2016) and Pampers teaming up with UNICEF to reduce infant mortality by providing tetanus vaccine to baby’s in third world countries (Pampers, 2016). One of the reasons companies engaging in these philanthropic activities is that it eventually leads to increased brand value (Strahilevitz, 2003). CRM strategies are successful because they create the sense of contribution for consumers when purchasing CRM products. Therefore, the influence of CRM becomes powerful as it gives consumers the opportunity to justify purchase and guilt related to excessive consumption (Eikenberry, 2013).

## 1.2 Relevant previous research

Previous studies regarding CRM has categorized two product types: hedonic/ luxury and utilitarian (Strahilevitz & Myers, 1998; Subrahmanyam, 2004; Chang, 2008). Many studies have therefore also noted that the psychological processes involved are different when consumers evaluate these two different categories (Ahtola 1985; Babin, et al. 1994; Dhar & Wertenbroch, 2000; Okada 2005; Ryn et al. 2006). Hedonic/ luxury products are purchased to satisfy the consumers desire for sensory pleasure and the evaluation process has the tendency to be affect-driven. Whereas with utilitarian products the purchase is one to satisfy practical, and or functional needs. The motivation for the purchase is goal-oriented utilisation. Purchase decisions for utilitarian products are made from a sense of necessity (Ahtola, 1985; Babin et al. 1994; Dhar & Wertenbroch, 2000; Okada 2005; Ryn et al. 2006).

Many researchers have found that when pleasure is experienced it can significantly increase the likelihood of participating in charitable behaviour (Isen & Levin, 1972; Isen et al. 1978; Cunningham, 1979) or guilt (Baumann et al. 1981; Ghingold 1981). On grounds of that making an arbitrary purchase is often a contradictive goal, the research of Strahilevitz and Myers (1998) advocate that incentives of the philanthropic sort are more powerful with hedonic/ luxury products or those perceived to be hedonic/ luxury compared to utilitarian products. Strahilevitz and Myers (1998) continue to state that this falls into the concept of affect-based complementary as the emotions caused by hedonic products appear to work well together with the emotions affiliated with a charitable donation, giving a consumer an accelerated positive experience.

## 1.3 Research problem and relevance

There has been a lot of research done regarding CRM in utilitarian products though very little regarding hedonic products and not regarding gambling products such as scratch-off tickets. This thesis will focus on the effect of CRM in scratch-off tickets produced by the Dutch Lottery. As this thesis will focus on the Dutch lottery, is it of the essential to understand the current state of their CRM communication and causes. The collective Dutch lottery contains 7 game providers combined which contribute to 18 different causes collectively (De Nederlandse Loterij, 2018). Though they do not communicate their support of causes on their products, only on the website.

One of the indirect competitors is the National Postal Code Lottery (De Nationale postcode loterij), this competition is indirect as the game is influenced by living location; postal code and participation for the National Postal Code Lottery. The Dutch Lottery games are influenced simply by participation only. Even so the National Postal Code Lottery does have a larger spectrum of causes they contribute to which are 103 currently (De nationale postcode loterij, 2018).

The focus of the causes for the National Postal Code Lottery and the Dutch Lottery have some similarities, focusing on nature and well-being is one. Though the National Postal Code Lottery has a larger international scoop compared to the Dutch Lottery which focusses mainly on the Netherlands. The Dutch Lottery has more focus on wellbeing regarding disease and health, whereas National Postal Code Lottery is focused on human rights along with third world disease and starvation.

## 1.4 Objective of the thesis

This thesis will further explore the effects of CRM regarding scratch-off tickets through manipulations supported by theory. A scratch-off ticket will be manipulated in several ways, using a 2x2x2 design. Each combination will be produced and tested for willingness to purchase and attitude towards the Dutch Lottery in an experiment, additional demographic information will also be gathered to support the information. The goal of this thesis is to create a guideline to communicate CRM efforts along with making the scratch-off ticket products from the Dutch Lottery more appealing for the ecological conscious consumer.

The central research question for this thesis is:

“To what extend does scratch-off ticket design affect willingness to buy?”

## 2. Influencing purchase intention through product design

### 2.1 Purchase intention

Willingness to buy or purchase intention is oftentimes defined as the likeliness of a consumer to purchase a product or service (Dodd & Supa, 2011; Sam & Tahir, 2009). For this thesis this definition is used to define purchase intention and willingness to buy. Purchase intention is identified as a behavioural predictor that the consumer is willing to purchase the product (Monroe & Krishnan, 1985) and recognized as an important indicator for the actual purchasing decision. Which is most important for a profitable business.

In line with the topic studied in this thesis, the concept of Corporate Social Responsibility (CSR) has grown in popularity over the years among corporations and academics (Nelling & Webb, 2009; Zemach-Rugar et al., 2016). The main cause for this popularity is that consumers are becoming more conscious regarding purchasing decisions and appreciate companies that set forth responsible behaviour (He & Lai, 2014).

### 2.2 Attitude

The reason behind companies engaging in philanthropic activities is that it eventually leads to increased brand value (Strahilevitz, 2003). The effectiveness of CRM products can be seen in the consumer attitudes towards the company and therefore their intention to purchase the product (e.g. Hajjat, 2003; Lafferty & Goldsmith, 2005; Landreth-Grau & Folse, 2007; Chang, 2008). An example of this is that when a company or group honours the social norm of contributing to the wellbeing of all, through CRM products or general charitable giving (Krebs, 1970). Numerous researchers have studied the effect of CRM on consumer attitude towards the sponsoring brand or firm. Smith and Alcorn (1991), found that 56% of consumers find it is important to contribute to a charitable cause, and 46% of interviewees consider switching brands to support a charitable case. Ross et al. (1992) found a positive connection between CRM and consumers attitude towards the sponsoring company. Webb and Mohr (1998) confirmed a general positive correlation between CRM and consumer attitude. When conducting interviews among 15 respondents it was found respondents were positive yet critical though the donation caused them to be positive (Webb & Mohr, 1998)

### 2.3 Hedonic design

Hedonic or luxury products can be categorized as purchased to satisfy a sensory pleasure and the evaluation of this process tends to be based on affect. However, Utilitarian products are purchased to satisfy practical necessities (Dhar & Wertenbroch, 2000). Even so a hedonic/luxury product does not have to appear so to be it. For example, a sports car when bought with all the bells and whistles can appear very hedonic/luxurious. Though when the same sports car is bought with the standard features it just blends in, yet still being a hedonic/luxury product.

For scratch-off tickets it is the promise of luxury and wealth that they represent made visual by a hedonic look along with simply by definition being a hedonic/ luxury product. 92.6% of consumers say the visual dimension is the #1 factor influencing purchase decision. consumers make a subconscious judgment about a product within 90 seconds of initial viewing. Up to 90% of that assessment is based on colour alone (La Fleur, 2018). La Fleur (2018) also found in his interviews with lottery companies that the bright colours, logos and fonts are designed to be visually appealing to attract consumers, the “pick up” appeal is an essential element in the game. Therefore, the following hypotheses will be tested:

H1a: *The hedonic designed scratch-off tickets will positively affect the willingness to buy compared to the non-hedonic design.*

H1b: *The hedonic designed scratch-off tickets will positively affect the attitude towards the Dutch lottery compared to the non- hedonic design.*

## 2.4 Focus on Charity

Traditionally the product is the focus point of the advertisements or packaging for CRM, due to the product partner financing the advertisement (Kelly, 1991; Sciulli & Bebko, 2006). However, some research has found that advertisement or product packaging where the supported cause or representation of the cause has intriguing effects on perceptions and reactions of consumers (Lafferty & Edmondson, 2009; Kim et al. 1998). Lafferty and Edmondson (2009) used a student sample to collect data in their surrounding using 2 different advertisements one focused on the product the other on the charity. After showing the advertisement attitude was measured based on post attitude, attitude and willingness to buy were positively influenced by the advertisement focused on the cause. This type of advertisement has been found to be enhancing for company image as CRM products in general are perceived to be altruistic and philanthropic (Adkins 1999).

Strahilevitz and Myers (1998) advocate that incentives of the philanthropic category are more powerful with luxury products or those perceived to be luxurious compared to utilitarian products. Strahilevitz and Myers (1998) continue to state that the emotions caused by luxury products appear to work well together with the emotions affiliated with a charitable donation, giving a consumer an accelerated positive experience.

To create attraction for the CRM products emotional appeals are commonly used as persuasive communication (Dickinson & Holmes, 2008). Among these appeals, guilt appeals are identified by multiple researchers as a popular mostly in social marketing (e.g. Alden & Crowley, 1995; Bennett 1998; Lindsey, 2005; Basil et al. 2006, 2008; Hibbert et al. 2007; Becheur et al. 2008; Turner et al. 2009). This advertisement or packaging type insinuates the unconscious feeling of guilt and in turn making consumers think about the cause benefiting of their purchase decision (Chang, 2011). To measure the reduction of guilt Chang (2011) conducted a study involving undergraduate students in Taiwan each participant was presented a CRM ad with a different product type, price and focus. The hedonic product was a DVD player. During the study participants were asked to indicate their feeling of guilt and self-indulgence on a 7-point scale and found that the donation connected to the hedonic/ luxury product reduced guilt. Though this guilt is will not be studied for this thesis, it is an important element in the hedonic/ luxury product purchasing process.

How effective the focus on the supported cause are in CRM advertisements or product packaging can depend on the value of the luxury product (Chang, 2011). Therefore, the following hypothesis will be tested:

H2a: *The scratch-off tickets focused on the charitable giving will positively affect willingness in contrast to the scratch-off tickets focused on the winnings.*

H2b: *The scratch-off tickets focused on the charitable giving will positively affect the attitude towards the Dutch Lottery in contrast to the scratch-off tickets focused on the winnings.*

## 2.5 Biodegradable scratch-off tickets

CRM is more than just supporting a cause; it is being good for the surrounding of the company. If the products are unnecessarily harmful to the environment, this does not stroke with the intent of CSR. Research done by Survey Monkey (2015) among 1091 Americans showed that 5% of the respondents were willing to purchase a hybrid/electrical car as their next vehicle. One third of the Survey Monkey (2015) respondents were willing to pay more for an environmentally friendly product and some of the largest trends they saw were renewable energy and recycling. Therefore, the idea of a completely biodegradable scratch-off ticket would fit into this trend.

Silverschotz et al. (1993) invented a material to create scratch-off tickets that are free of metal, making the ticket recyclable. Lo (2012) analyses the opportunities for eco-friendly ink, in this analysis he mentions that the uses of mercury and metals in current ink are what is so harmful to the environment. A new option should be bio-degradable, recyclable and sustainable use of raw resources (Lo, 2012). He continues to mention that bio-degradable ink cuts costs and even allows the recycling process of paper to be simplified. Assuming tickets are often not disposed of correctly and contain main toxins that are harmful to the environment it would be good to create bio- degradable tickets. That is why the following hypotheses will be tested:

H3a: *The bio-degradable scratch-off tickets will positively affect willingness to buy compared to the non-biodegradable scratch-off tickets.*

H3b: *The bio-degradable scratch-off tickets will positively affect the attitude towards the Dutch lottery compared to non-biodegradable scratch-off tickets.*

## 2.6 Attracting a new consumer group

The gained popularity for CRM and CSR among consumers stated in previous paragraphs creates opportunity to gain new consumers. Those that would not buy scratch-off tickets now, might due to embodiment of their moral

beliefs. This could mean they are mostly attracted to the design appeals, though they still buy the whole product. For example, imagine a consumer that does not buy scratch-off tickets due to feeling it is a waste of money. If the focus of the ticket becomes the contribution to charity done by purchasing the ticket. This consumer could be persuaded due to wanting to support charity. Embodiment of popular opinions of society can cause willingness to buy among current non-purchasing consumers as stated in the Theory of planned behaviour element social norm (Ajzen, 1991). To test whether the embodiment of CRM and CSR influences non-scratch-off ticket purchasing consumer hypotheses H2a and H3a will be tested on the non-purchasing respondents compared to the total group of respondents.

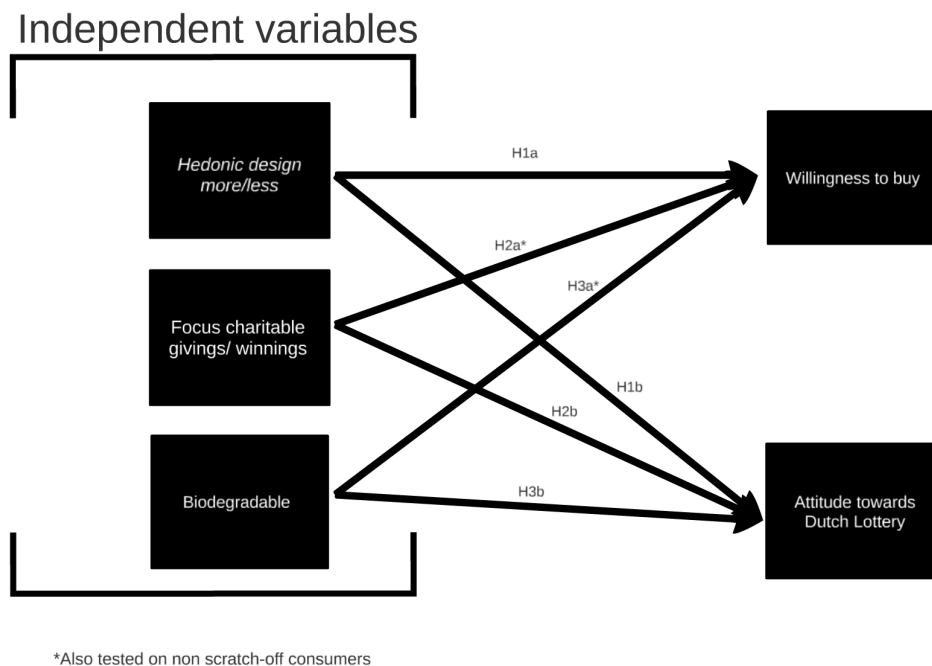


figure 1. Research model

### 3. Methodology

#### 3.1 Design

The research conducted for this thesis was quantitative using a 2x2x2 experimental design. The independent variables were appearance (hedonic vs. not hedonic), charity (focus on charitable giving vs. focus on prize) and material (biodegradable vs. not biodegradable). The dependent variables were willingness to buy and attitude. Control variables were current purchasing behavior, a manipulation check and demographic information. This experiment was a between-groups design by use of a randomizer to evenly distribute each condition.

#### 3.2 Pre-test

Before conducting the actual research a pre-test was performed, using snowball sampling. The sample of the pre-test contained 13 respondents for the pre-test between the ages of 20 and 80. The pre-test results resulted in adding non-conformed gender the form of x to the survey, the option to skip items regarding purchase behavior if one does not buy scratch-off tickets and adding more room for open response item.



### 3.3 Participants

The respondents were randomly selected in the Eindhoven a large city in the south of the Netherlands. Participation was advertised with a banner and incentivized with a free scratch-off ticket. The research sample contained 200 respondents of which 197 were completed and analyzed, the 3 incomplete surveys are due to lose of internet connection or accidentally refreshing the page. The analyzed sample consists of 103 women and 94 men of which the majority is between the ages of 18 and 35  $n = 131$ . Most of the respondents have a trade school or bachelor education  $n = 113$ . Regarding current purchasing behavior almost 50% of the respondents do not buy scratch-off tickets  $n = 95$ , tables with demographic information can be found in Appendix 10.1 on page 21.

### 3.4 Materials

To motivate participate a banner was set up stating: participated in the experiment and get a free scratch-off ticket. The stimuli used for the experiment was a dummy scratch-off ticket, 8 different designs were made to measure all the different combinations. The dummy was based on the original “Zilver” scratch-off ticket. Appearance was amplified with diamonds in a hedonic design and dampened by stripping the design of the silver background ascetics and graphic shine in a non-hedonic design. Charity was represented by it either it being the focus or a small message under the prize. Material was represented by a green label and paper type that had an organic feel being biodegradable or glossy paper being not biodegradable. The designs below can be found in full size in Appendix 10.2 on page 23.

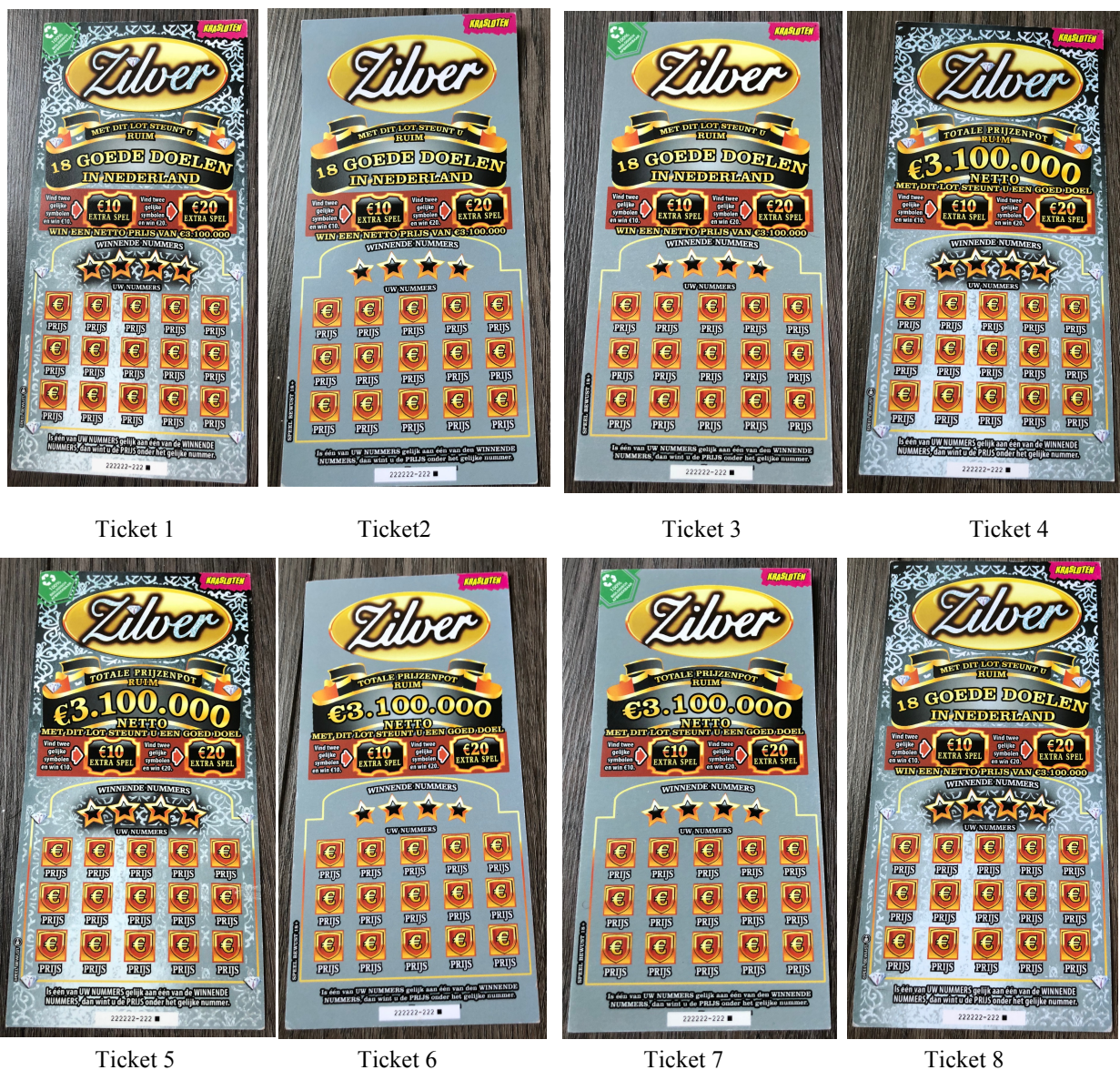


Figure 2. Dummy scratch-off tickets used for experiment

The online survey contained 13 items with a built-in randomizer so each scratch-off ticket would be judged the same amount of times. The items measuring overall impression and attitude towards the Dutch Lottery was based on the study done by Goldsmith (2003). The item measuring willingness to buy was based on a scale used by Burton et al. (1999) and an open question, willingness to buy was measured in three dimensions, based on the random selected dummy scratch-off ticket, choice between the 8 dummies and the difference between the total group and respondents that currently do not purchase scratch-off tickets. Current purchase behavior was measured in a item based on a scale used by Dahl et al. (2001). The examples were selected based on their proven success to measure the defined items.

A Cronbach's Alpha was used to check reliability for the 5-point scale items the values for item 4 (Cronbach's alpha=.84 making it a good regarding correlation. Item 5 (Cronbach's alpha=.81) is also good regarding correlation, however item 6 (Cronbach's alpha=.90) has excellent reliability regarding correlation. Lastly item 7 which measured the manipulation check was low in correlation, though if this had been high it would have meant the manipulation check was unsuccessful.

*Table 1 Cronbach's Alpha for 5-point scale items*

<i>Item</i>	<i>Measuring</i>	<i>Cronbach's alpha</i>
1,2,3	Current purchasing behavior	-
4	Attitude towards the sample	.84
5	Attitude towards the Dutch Lottery	.81
6	Willingness to buy random sample	.90
7	Manipulation check	-.15
8,9	Willingness to buy a chosen sample	-
10,11,12,13	Demographic information	-

#### Example questions

The following questions are about the scratch-off ticket you received at the beginning of this survey.

Q4. The following statements are about your attitude regarding the scratch-off ticket. Use the scale going from completely disagree to completely agree (5-point scale)

- I am very positive about this scratch-off ticket
- This scratch-off ticket makes me curious
- I find this scratch-off ticket attractive

Q5. The following statements are about your attitude regarding the Dutch Lottery. Use the scale going from completely disagree to completely agree (5-point scale)

- I think the Dutch Lottery is good
- I think the Dutch Lottery is a sympathetic company
- Because of this scratch-off ticket I think the Dutch Lottery is good
- Because of this scratch-off ticket I think the Dutch Lottery is a sympathetic company

Q6. The following statements are about your attitude regarding purchasing this scratch-off ticket. Use the scale going from completely disagree to completely agree (5-point scale)

- Because of the information on this scratch-off ticket I would sooner consider buying this scratch-off ticket
- Because of the information on this scratch-off ticket I am considering buying it.
- There is a big change I would buy this scratch-off ticket based on the information that is on it.

Q7. The following statements are about your attitude regarding appearance of the scratch-off ticket. Use the scale going from completely disagree to completely agree (5-point scale)

- This scratch-off ticket has a cheap appearance
- This scratch-off ticket has a luxurious appearance
- The focus of this scratch-off ticket is the prize
- The focus of this scratch-off ticket is my contribution to 10 charities by purchasing it
- This scratch-off ticket is good for the environment
- This scratch-off ticket is bad for the environment

The surveys were completed on Ipad along the printed dummies. As an incentive Flappen krassen scratch-off tickets worth 2 euros were provided after completion of the survey. The full survey can be found in Appendix 10.3 page 25.



### 3.5 Procedure

4 experiment kits were made containing 8 dummy each numbered, an iPad and the incentive scratch-off tickets. The research was conducted by 4 examiners each explaining that this experiment was being conducted for thesis research and if needed asking for ID as scratch-off tickets are only for consumers over 18. After this the scratch-off ticket selected by the randomizer was given to the respondent along with the iPad, respondents that were incompetent to use the iPad were read the questions, this occurred 15 times. Respondents were asked to judge the random selected scratch-off ticket based on the attitude they had regarding the scratch-off ticket, the company behind the scratch-off ticket, the design, the willingness to buy the scratch-off ticket and the manipulation check. Lastly some demographic questions were asked.

### 3.6 Manipulation check

To determine whether respondents perceived the design appeals that had been added to the design a five-point Likert scale item was added to the questionnaire containing six statements. The design appeals were each tested with two statements each contradiction the other. For example, the scratch-off ticket has a luxurious appearance or the scratch-off ticket has a cheap appearance. Statement 5 was negatively formulated, however was still found significant therefore recoding was unnecessary.

An independent-sample t-test was conducted to compare not hedonic and hedonic scratch-off tickets. There was a significant difference between not hedonic ( $M= 2.72$ ,  $SD= 1.038$ ) and hedonic ( $M= 3.86$ ,  $SD= .895$ ) conditions;  $t(195) = 3.115$ ,  $p = .002$ . These results suggest that clearly respondents perceived whether the scratch-off ticket was designed hedonic or not.

Next, an independent-sample t-test was conducted to compare focus on prize and focus on charity scratch-off tickets. There was a significant difference between focus prize ( $M= 3.88$ ,  $SD= 1.100$ ) and focus charity ( $M= 3.49$ ,  $SD= .508$ ) conditions;  $t(195) = 12.130$ ,  $p = .000$ . These results suggest that respondents clearly perceived whether the scratch-off ticket was focused on the prize or charity.

Lastly, an independent-sample t-test was conducted to compare not biodegradable and biodegradable scratch-off tickets. There was a significant difference in the scores for not biodegradable ( $M= 3.61$ ,  $SD= 0.831$ ) and biodegradable ( $M= 3.27$ ,  $SD= 1.365$ ) conditions;  $t(195) = -8.046$ ,  $p = .000$ . These results suggest that respondents clearly perceived whether the scratch-off ticket was biodegradable or not.

All together it can therefore be concluded that all manipulations were successful.

Table 2  
Summary of test of manipulations

Manipulation test	N	M	F	SD	Sig.
Not hedonic	102	2.72	10.123	1.038	.002*
Hedonic	95	3.86	15.477	.895	.000**
Focus prize	100	3.88	1.556	1.100	.000**
Focus charity	97	3.49	.508	.153	.000**
Not bio	99	3.61	7.015	.831	.000**
Bio	98	3.27	1.365	1.071	.000**

t-test

N= 197

\*  $P < .01$ .

\*\*  $P < .001$ .

### 3.7 Randomizer check

To determine that each sample had a comparable respondent group a Chi-Square test was conducted comparing the respondent groups on demographic information and current purchasing behaviour frequencies. No significant interactions were found between gender, age, education level or current purchasing behaviour between the different sample groups. Therefore, it can be concluded all 8 of the dummy tickets had a comparable sample of respondent.

Table 3

Summary of Randomizer check

Pearson Chi-Square	Value	df	Asymptotic Significance (2-sided)
Gender	8.159 <sup>a</sup>	7	.319
Age	63.109 <sup>a</sup>	70	.707
Education level	57.485 <sup>a</sup>	56	.420
Current purchase behaviour	24.339 <sup>a</sup>	28	.664

## 4. Results

In this experiment the independent variable willingness to buy was measured in three dimensions; pre-selected sample, chosen sample and the difference between the total group and non-scratch-off ticket purchasing respondents. This was done using two items, one measured the willingness to buy regarding the randomly selected dummy scratch-off ticket at the beginning of the survey and the other the chosen dummy scratch-off ticket when the respondent got to choose from the 8. Both item have been analyzed for results.

### 4.1 Purchase intention regarding pre-selected dummy scratch-off tickets

A two-way analysis of variance was conducted on the influence of appearance (hedonic vs. not hedonic), charity (focus on prize vs. focus on charitable giving) and materials (biodegradable vs. not biodegradable) as independent variables on the willingness to buy as a dependent variable. Rejecting H1a, H2a and H3a, all effects were statistically insignificant at the .05 significance level. The main effect of the hedonic design appeal yielded a  $F$  ratio of  $F(1, 18) = 1.46, p > .05$ . Next, the main effect of the focus on charity design appeal yielded a  $F$  of  $(1, 18) = 0.26, p > .05$ . Lastly the main effect of the biodegradable design appeal yielded an  $F$  of  $(1, 18) = 0.05, p > .05$ . All interaction effects also yielded a  $p > .05$ . Therefore, it can be concluded that when there is no choice or material to compare too none of the independent variables or their interactions with each other effect willingness to buy. The test can be found in Appendix 10.4 on page 27.

### 4.2 Purchase intention regarding chosen dummy scratch-off ticket

However, when choice is taken in account the results differ. A non-parametric binominal test was conducted to measure willingness to buy when respondents had a choice between the 8 different dummy scratch-off ticket designs.

Table 4

Summary of binominal tests purchase intention

Design appeal & purchase intention	N	Observed Prop.	Sig.
Not hedonic	46	.23	.000*
Hedonic	151	.77	
Focus prize	116	.59	.015
Focus charity	81	.41	
Not bio	58	.29	.000*
Bio	139	.71	

Test Prop = .50

\*  $P < .01$

#### 4.2.1 Hedonic design

Confirming H1a, the main effect of scratch-off ticket design on willingness to buy was significant. Not hedonic  $n = 46$ , observed prop. = .23. Hedonic  $n = 151$ , observed prop. = .77,  $p = .000$ . Showing participant preferred the hedonic design with diamonds and silver ascetics in the background over the less hedonic design with a plain background and flat graphics.

#### 4.2.2 Charity

Rejecting H2a, the main effect of the focus on charity was found insignificant; focus prize  $n = 116$ , observed prop. = .59. Focus charity;  $n = 81$ , observed prop. = .41,  $p = .015$ . Concluding that participants prefer the focus on the prize rather than the focus on charitable giving.

#### 4.2.3 Charity among non-purchasing respondents

Confirming H2a\*, the main effects of charity on non-purchasing respondent; for focus on prize;  $n = 45$ , observed prop. = .47,  $p = .68$ . Focus on charity;  $n = 50$ , observed prop. = .53,  $p = .68$ . When comparing the total group of respondents to the respondents that never purchase scratch-off tickets  $p1 < p2$ . The  $z$  value was computed from raw data resulting in  $z = 1.931$  and  $\alpha = 0.0268$ . Concluding that the non-scratch-off ticket purchasing respondent did prefer the focus on charity over the focus on the prize compared to the total group of respondents.

Table 5

Summary of binominal test charity tickets for non-purchasing respondents

		Z-value			
Tickets focused on charity		N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Charity	charity	50	.53	.50	.682 1.931
	prize	45	.47		
	Total	95	1.00		

#### 4.2.4 Biodegradable

Confirming H3a, the main effect of the biodegradable design was found significant; not biodegradable  $n = 58$ , observed prop. = .29. Biodegradable  $n = 139$ , observed prop. = .71,  $p = .000$ . Therefore, it can be stated that the respondents preferred the product associated with organic materials, rather than glossy materials.

#### 4.2.5 Biodegradable among non-purchasing respondents

Rejecting H3a\*, the main effects of material was found insignificant. for not biodegradable;  $n = 25$ , observed prop. = .26  $p = .000$ . Compared to the total group of respondents with non-scratch-off ticket purchasing respondent it was insignificant with a  $z = 0.518$  computed from raw data. Therefore, it can be stated that the group of non-scratch-off ticket purchasing respondents are not more willing to buy the biodegradable scratch-off tickets compared to the total group of respondents.

Table 6

Summary of binominal test biodegradable tickets for non-purchasing respondents

		Z-value			
Tickets with biodegradable material		N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Bio		70	.74	.50	.000 .518
Not Bio		25	.26		
Total		95	1.00		

#### 4.2.6 Attitude towards the Dutch Lottery

A two-way analysis of variance was conducted using materials (biodegradable vs. not biodegradable), appearance (hedonic vs. not hedonic) and charity (focus on the prize vs. focus on charitable giving) as independent variables to measure the dependent variable attitude. All effects were statistically insignificant at the .05 significance level, except the interaction of all 3 positive design appeals. The main effect of the 3-way interaction yielded an  $F$  of  $(1, 18) = 6.71, p > .05$ . Concluding that there is a significant relationship between the 3 positive design appeals and the attitude of these respondents.

The scratch-off ticket that had a hedonic design, a focus on charity and is biodegradable is dummy scratch-off ticket 1. A single sample  $t$ -test was conducted to determine if the significant relationship between the 3 positive design appeals in scratch-off ticket 1 was positive or negative. Confirming H1b, H2b and H3b as a combination, The output of the respondent of scratch-off ticket 1 for item 5 ( $M = 3.23, SD = .75$ ),  $t(22) = 21.061, p = .000$ . The mean is higher on the upper interval  $M = 3.55$ . To conclude that the hedonic appearance paired with biodegradable materials and focus on charity have a positive effect on attitude towards the Dutch Lottery.

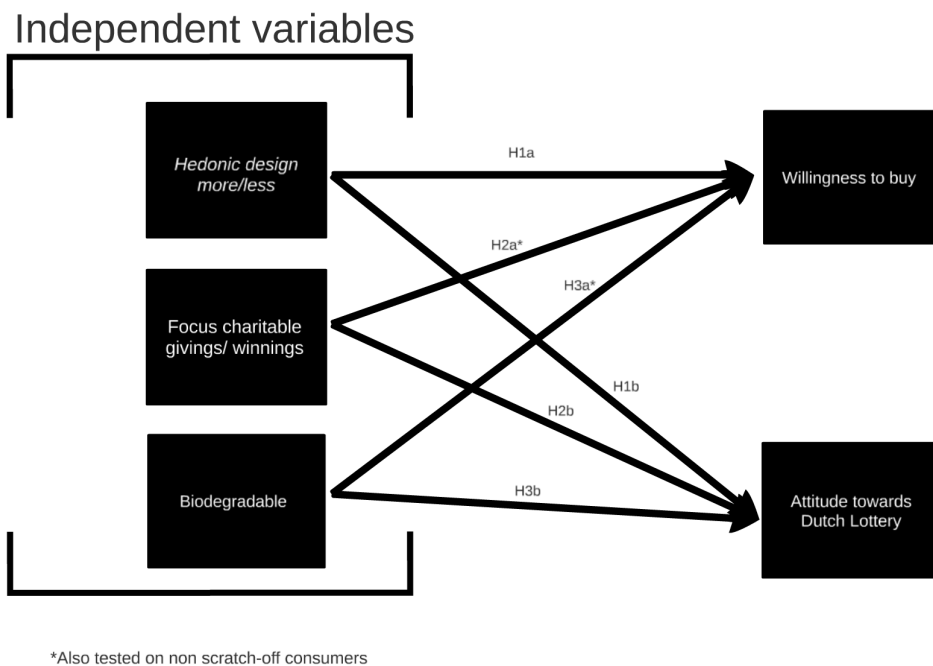


Figure 3. Research model

Hypothesis	Status
H1a: <i>The hedonic designed scratch-off tickets will positively affect the willingness to buy compared to the not hedonic design.</i>	<i>Accepted</i>
H1b: <i>The hedonic designed scratch-off tickets will positively affect the attitude towards the Dutch lottery compared to the non- hedonic design.</i>	<i>Accepted in combination with H2b and H3b</i>
H2a: <i>The scratch-off tickets focused on the charitable giving will positively affect willingness in contrast to the scratch-off tickets focused on the winnings.</i>	<i>Rejected</i>
H2a*: <i>The scratch-off tickets focused on the charitable giving will positively affect willingness in contrast to the scratch-off tickets focused on the winnings.</i>	<i>Accepted</i>
H2b: <i>The scratch-off tickets focused on the charitable giving will positively affect the attitude towards the Dutch Lottery in contrast to the scratch-off tickets focused on the winnings.</i>	<i>Accepted in combination with H1b and H3b</i>
H3a: <i>The bio-degradable scratch-off tickets will positively affect willingness to buy compared to the non-biodegradable scratch-off tickets.</i>	<i>Accepted</i>
H3a*: <i>The bio-degradable scratch-off tickets will positively affect willingness to buy compared to the non-biodegradable scratch-off tickets.</i>	<i>Rejected</i>
H3b: <i>The bio-degradable scratch-off tickets will positively affect the attitude towards the Dutch lottery compared to non-biodegradable scratch-off tickets.</i>	<i>Accepted in combination with H1b and H2b</i>

Figure 4. Hypotheses overview

## Discussion

This thesis examines the effects of design appeals on willingness to buy and attitude regarding scratch-off tickets. Hedonic vs. not hedonic, focus on charitable giving vs. focus on winnings and biodegradable vs. non-biodegradable were used as manipulations on the scratch-off tickets based on past academic research, current trends and interest of the Dutch Lottery. The 6 hypotheses tested for this thesis will be discussed in this chapter. First, hypothesis H1a: The hedonic designed scratch-off tickets will positively affect the willingness to buy compared to the not-hedonic design was accepted. The findings of other studies and professional interviews support this, like those done by La Fleur. 92.6% of consumers say the visual dimension is the #1 factor influencing purchase decision. consumers make a subconscious judgment about a product within 90 seconds of initial viewing. Up to 90% of that assessment is based on colour alone (La Fleur, 2018). Though respondents did mention the hedonic design reminded them of the holidays as the experiment was conducted in the last weeks of December.

Secondly, the hypothesis H2a: The scratch-off tickets focused on the charitable giving will positively affect willingness in contrast to the scratch-off tickets focused on the winnings was rejected for the total sample or respondents. This is in contradiction to the previous studies that found that advertisement or product packaging where the supported cause or representation of the cause has intriguing effects on perception and reactions of consumers (Lafferty & Edmondson, 2009; Kim et al. 1998). Compared to the study done by Chang (2011) the results were also contradicting, however Chang (2011) used multiple variables to influence the advertisements used in her experiment, such as price. Along with that the hedonic product used in the study conducted by Chang (2011) was a DVD player, which is not comparable to a scratch-off ticket in price or uses. Therefore, this could explain the difference in results.

However, the results for hypothesis H2a\* which was only measured on the non-scratch-off ticket purchasing respondents. In this respondent sample the hypothesis was accepted. The non-scratch-off ticket purchasing consumers were willing to buy the scratch-off tickets focused on charitable giving. It could be assumed this made the product more attractive to them, or perhaps inhabited their social norm.

Third, the hypothesis H3a: The bio-degradable scratch-off tickets will positively affect willingness to buy compared to the non-biodegradable scratch-off tickets was accepted. Compared to other studies done the

total respondent group for this experiment was similar. The results done by Survey Monkey (2015) among 1091 Americans showing that 5% of the respondents were willing to purchase a hybrid/electrical car as their next vehicle. One third of the Survey Monkey (2015) respondents were willing to pay more for an environmentally friendly product and some of the largest trends they saw were renewable energy and recycling. Therefore, the idea of a completely biodegradable scratch-off ticket would fit into this trend.

Though, H3a\* which was the same as H3a only measured on the non-scratch-off ticket purchasing respondent was rejected. While it was significant on its own, compared to the total group it was academically insignificant. Even so, the overall effect of the biodegradable design is positive.

Lastly, the hypotheses H2b: The scratch-off tickets focused on the charitable giving will positively affect the attitude towards the Dutch Lottery in contrast to the scratch-off tickets focused on the winnings, H1b: The hedonic designed scratch-off tickets will positively affect the attitude towards the Dutch lottery compared to the non-hedonic design and H3b: The bio-degradable scratch-off tickets will positively affect the attitude towards the Dutch lottery compared to non-biodegradable scratch-off tickets were accepted. Though only on the condition they are combined. Though this is not directly studied in previous research such as conducted by Smith and Alcorn (1991), whom found that 56% of consumers find it is important to contribute to a charitable cause, and 46% of interviewees consider switching brands to support a charitable case and Ross et al. (1992) found a positive connection between CRM and consumers attitude towards the sponsoring company. This result does make sense, as all the design appeals combined make the product look altruistic.

## 6. Limitations

While conducting the experiment, several limitations came up. First, a few respondents did not know the Dutch Lottery brand, this could have influenced their perception of the brand either way. Also, respondents proudly reported their participation in the “Staatsloterij” another product the Dutch Lottery offers, though were reluctant to openly talk about their purchase behavior of scratch-off tickets, possibly connected to shame.

Next, the results for the items measuring willingness to buy differed in result. The first item measuring willingness to buy based on the randomly selected dummy scratch-off ticket showed on significant result with the design appeals, however when the respondents were given a choice between the 8-different dummy scratch-off tickets there was an obvious preference for biodegradable and hedonic design in the total respondent group. This could be due to the lack of comparing materials available when judging the preselected same or just the expectation to live up to standard of society. As most of the respondents chose scratch-off tickets that were biodegradable. As previous research, has shown consumers do value responsible products and goodwill when choosing products, this could create peer pressure.

Lastly, the respondent sample mostly contained 18-25 year olds with higher education, this can be seen as a limitation in the data or insight in the future consuming generation. Per the research done by Nielsen (2015) millennials and generation Z are the generation to value sustainability and corporate responsibility, making this data insightful for the future.

## 7. Future research

Besides the general attitude towards the company, other attitude related elements could be tested such as initial purchasing guilt and peer pressure. These elements could add to the academic understanding of the purchasing process and decision making.

As for researching CRM, related products in the hedonic context it can be advised to research the effects for more predictable items such as designer clothing or beauty products. As these products, do not have the ethical factors scratch-off tickets do such as responsible gaming. I do believe that biodegradability is a form of CRM, as it is responsible and preventative. Biodegradability is grown in popularity in the food and beverage market and even branching out to clothing, cleaning products and beauty products. The next generation of consumers, millennials and generation Z find sustainability and corporate responsibility very important Nielsen (2015). Researching ways to apply these concepts through marketing and communication will influence the purchasing behavior of these generations for years to come.

## 8. Conclusion & practical implications

The uses of charity and biodegradable materials in the design of scratch-off tickets can be advised based on this experiment, though with set goals in mind such as reaching a new consumer group or improving attitude towards the brand. Biodegradability is favorable among all studied respondent samples, though focus on charity is favorable for current non-scratch-off ticket consumers. Therefore, it depends on the goals in mind when marketing such a product. Both options are advised separately as they will add to the current product options. Future market studies must be done among a larger sample to determine if it the uses of biodegradable or focus on charitable giving should be applied on entirely new products or redesigns of existing products. A infographic was created to for a quick summary and to inform the respondents in Dutch it can ben found in appendix 10.5 on page 28.

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## 10. Appendix

### 10.1. Demographic information

		Age category per condition								
Count		Random_Ticket								
		Ticket1	Ticket2	Ticket3	Ticket4	Ticket5	Ticket6	Ticket7	Ticket8	Total
Age	18-25	10	9	7	9	5	7	9	5	61
	26-30	6	6	4	5	5	6	6	7	45
	31-35	3	5	3	5	2	2	4	1	25
	36-40	0	0	3	1	1	3	0	1	9
	41-45	1	1	2	1	2	1	1	2	11
	46-50	1	3	1	2	3	2	1	3	16
	51-55	2	0	1	2	2	0	1	1	9
	56-60	1	0	0	0	2	2	0	0	5
	61-65	0	0	1	0	0	0	3	0	4
	66-70	0	0	1	0	0	1	0	1	3
	70+	0	1	3	1	1	2	0	1	9
Total		24	25	26	26	23	26	25	22	197

		Gender per condition								
Count		Random_Ticket								
		Ticket1	Ticket2	Ticket3	Ticket4	Ticket5	Ticket6	Ticket7	Ticket8	Total
Gender	Male	12	18	13	12	14	10	11	13	103
	Female	12	7	13	14	9	16	14	9	94
Total		24	25	26	26	23	26	25	22	197

Highest completed education per condition  
Count

		Random_Ticket								Total
		Ticket1	Ticket2	Ticket3	Ticket4	Ticket5	Ticket6	Ticket7	Ticket8	
Highest completed education	Elementary education	0	0	1	0	0	1	2	0	4
	Vmbo (LTS/Mavo)	1	2	3	3	1	1	4	1	16
	Havo	4	0	3	2	2	2	2	1	16
	Vwo	1	0	0	2	0	0	0	0	3
	Mbo (MTS)	5	7	7	8	7	5	4	11	54
	Hbo (HTS)	10	10	9	8	9	14	11	8	79
	Universitaire bachelor	1	1	2	2	3	2	0	0	11
	Universitaire master	2	5	1	1	1	0	2	1	13
	PhD	0	0	0	0	0	1	0	0	1
	Total	24	25	26	26	23	26	25	22	197

## 10.2 Ticket designs



Ticket 1



Ticket 2



Ticket 3



Ticket 4





Ticket 5



Ticket 6



Ticket 7



Ticket 8

## 10.3 Survey

### Randomizer

#### Introduction

For my master thesis research, I am researching the opportunities to change the design of scratch-off tickets for the Dutch Lottery. Your opinion is very important to draw the right conclusions. The survey contains 13 questions and is of course anonymous. Answering the questions should take about 10 minutes. Thank you for your participation.

Q1. How often do you buy scratch-off tickets?

- Almost daily
- Several times a week
- Almost weekly
- Several times a month
- About monthly
- Several times a year
- 1 times in the past year
- Never

Q2. When was the last time you bought one of multiple scratch-off tickets?

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

Q3. Did you buy the December calendar scratch-off ticket?

- Yes
- No

The following questions are about the scratch-off ticket you received at the beginning of this survey.

Q4. The following statements are about your attitude regarding the scratch-off ticket. Use the scale going from completely disagree to completely agree (5-point scale)

- I am very positive about this scratch-off ticket
- This scratch-off ticket makes me curious
- I find this scratch-off ticket attractive

Q5. The following statements are about your attitude regarding the Dutch Lottery. Use the scale going from completely disagree to completely agree (5-point scale)

- I think the Dutch Lottery is good
- I think the Dutch Lottery is a sympathetic company
- Because of this scratch-off ticket I think the Dutch Lottery is good
- Because of this scratch-off ticket I think the Dutch Lottery is a sympathetic company

Q6. The following statements are about your attitude regarding purchasing this scratch-off ticket. Use the scale going from completely disagree to completely agree (5-point scale)

- Because of the information on this scratch-off ticket I would sooner consider buying this scratch-off ticket
- Because of the information on this scratch-off ticket I am considering buying it.
- There is a big change I would buy this scratch-off ticket based on the information that is on it.

Q7. The following statements are about your attitude regarding appearance of the scratch-off ticket. Use the scale going from completely disagree to completely agree (5-point scale)

- This scratch-off ticket has a cheap appearance
- This scratch-off ticket has a luxurious appearance
- The focus of this scratch-off ticket is the prize
- The focus of this scratch-off ticket is my contribution to 10 charities by purchasing it
- This scratch-off ticket is good for the environment
- This scratch-off ticket is bad for the environment

Q8. Go to the researcher for the last question about the scratch-off ticket. Which one of these scratch-off tickets would you buy? Ask the researcher for the number of the chosen scratch-off ticket.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

Q9. Why would you buy this scratch-off ticket?

.....

These last few questions are about yourself to get a good view of the demographic information of the respondents

Q10. Gender

- Male
- Female
- X

Q11. Age group

- 18-25
- 26-30
- 31-35
- 36-40
- 41-45
- 46-50
- 51-55
- 56-60
- 61-65
- 66-70
- 70+

Q12. Highest completed education

- Elementary school
- Vmbo (LTS/Mavo)
- Havo
- Vwo
- Mbo (MTS)
- Hbo (HTS)
- University bachelor
- University master
- PhD

Q13. If you are curious about the results of this research, please fill in your email address to receive the results.

.....



## 10.4 Two-way analysis of variance item 6

### Tests of Between-Subjects Effects

Dependent Variable: purchase intention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.343 <sup>a</sup>	7	.478	.519	.820
Intercept	1887.691	1	1887.691	2050.893	.000
Hedonic_tickets	1.352	1	1.352	1.469	.227
Focuscharity_tickets	.024	1	.024	.026	.872
Bio_tickets	.054	1	.054	.059	.809
Hedonic_tickets * Focuscharity_tickets	.003	1	.003	.004	.951
Hedonic_tickets * Bio_tickets	.002	1	.002	.002	.960
Focuscharity_tickets * Bio_tickets	1.852	1	1.852	2.012	.158
Hedonic_tickets * Focuscharity_tickets * Bio_tickets	.007	1	.007	.008	.931
Error	173.960	189	.920		
Total	2072.333	197			
Corrected Total	177.303	196			

a. R Squared = .019 (Adjusted R Squared = -.017)

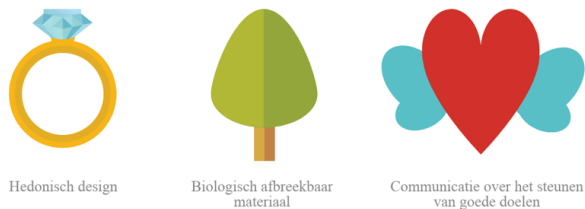
## 10.5 Infographic

### Onderzoeks-samenvatting & praktische toepassingen

#### Het onderzoek



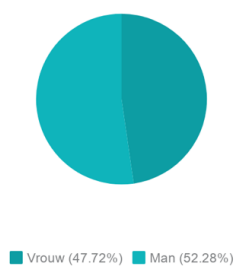
#### De invloed van.....



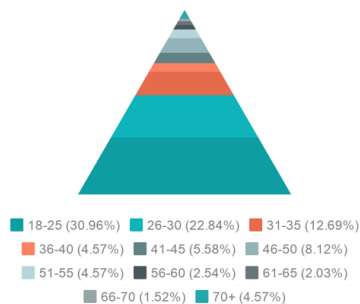
#### op houding en koopintentie

#### Demographische informatie

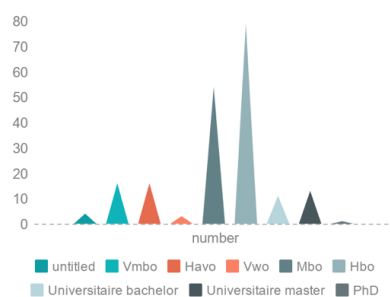
##### Gender



##### Leeftijds categorieën



##### Hoogst afgeronde opleiding



##### Huidig koopgedrag



## Houding & koopintentie

- Er is positief gereageerd op hedonisch design en biologische afbreekbaar materiaal in de totale respondenten groep.
- De meerderheid van de totale respondenten zijn bereid het product te kopen gebaseerd op het hedonisch design en biologische afbreekbaar materiaal.
- De focus op het steunen van goede doelen door aanschaf was geen reden voor aanschaf voor de totale respondenten groep, maar wel voor respondenten die nu geen krasloten kopen.
- Hedonisch design, focus op het steunen van goede doelen en het biologische afbreekbaar materiaal heeft een positief effect op houding.

### Practische implicaties



Het volledig onderzoek kan gevonden worden in de scriptie of opgevraagd worden via de communication studies afdeling van de universiteit twente