sozialökologisch produziert

What drives the price in upcycling?

Consumers' Willingness to Pay for Ucycled Products

Final Group Report

h1253113, h0953220, h0851751 & h1353509

11.02.2014

Word count: 4.770

European Union
European Regional Development Fund

creating the future
Programm zur grenzüberschreitenden Kooperation ÖSTERREICH - UNGARN 2007-2013
AUSZTRIA - MAGYARORSZÁG Határon Átnyúló Együttműködési Program 2007-2013

Table of contents

List of figures

List of tables

1. Introduction

Today, recycling is an important topic for most people and it has been incorporated in their everyday lives. Recycling can be divided into two parts, downcycling and upcycling. Downcycling involves recycling products and creating ones of a lower quality. On the other hand, upcycling generates the opportunity to create better quality products from "common" recycled goods (Recycle for Change, 2013). Since the term upcycling was first used in the mid 90's and described more in 2002 by William McDonough and Michael Braungart (Wang, 2011), it has experienced a significant growth, especially in some countries such as the USA (Upcycle magazine, 2009). However, in Europe, upcycling seems to be somehow an unknown term. This could be caused by the awareness about these products, the price which is demanded for these goods, the peoples' perceptions about such products, or combination of all. In the research question, the concentration was on the price aspect and the underlying products' attributes that might influence consumers' willingness to pay for upcycled products.

Based on that, the research question "What drives the price in upycling" is the one to be answered in this report.

2. Problem Definition and Respective Approach

This section of the report will provide the background to the problem and highlight the quantitative research that was conducted as well as the factors that were considered.

The research was conducted as a factorial experiment. It concentrated on the influence of 3 different product labels (design, sustainable and socially manufactured) on the willingness to pay, the perceived originality and the perceived uniqueness of 2 different products. These products were a bottle wardrobe and a bag made of seatbelts (see Appendix A). The products represent two different product categories, in order to obtain unbiased results. More than one product was used in order to make sure that the results were transferable over a range of similar products.

In order to test the influence of labels on the willingness to pay a 2*2*2 design was applied. This means that the products were either labeled as design/non-design, as sustainable/non-sustainable or as socially manufactured/not socially manufactured.

By taking all possible combinations of the 6 labeling options plus a control condition 8 different conditions in total were obtained. This research design allowed drawing conclusions in which labeling drives the willingness to pay, while concentrating on the direction and interaction of these influences. In other words, interaction effects between the labels can be found. The attention was also given to the effects of awareness and attitudes of the participants towards upcycling to see the relationships between each group and each combination for both of these products.

3. Research Design

The research design required a minimum sample size of 240 respondents. However, the total obtained sample size reached 307 participants. Under the confidence level of 95%, this number of respondents represents the population of over 1500 which for our study is a sufficient representative sample (Barlett, 2001). Therefore, an online study (see Appendix B for the entire questionnaire) was conducted. The study was set up on Unipark, an established online survey platform.

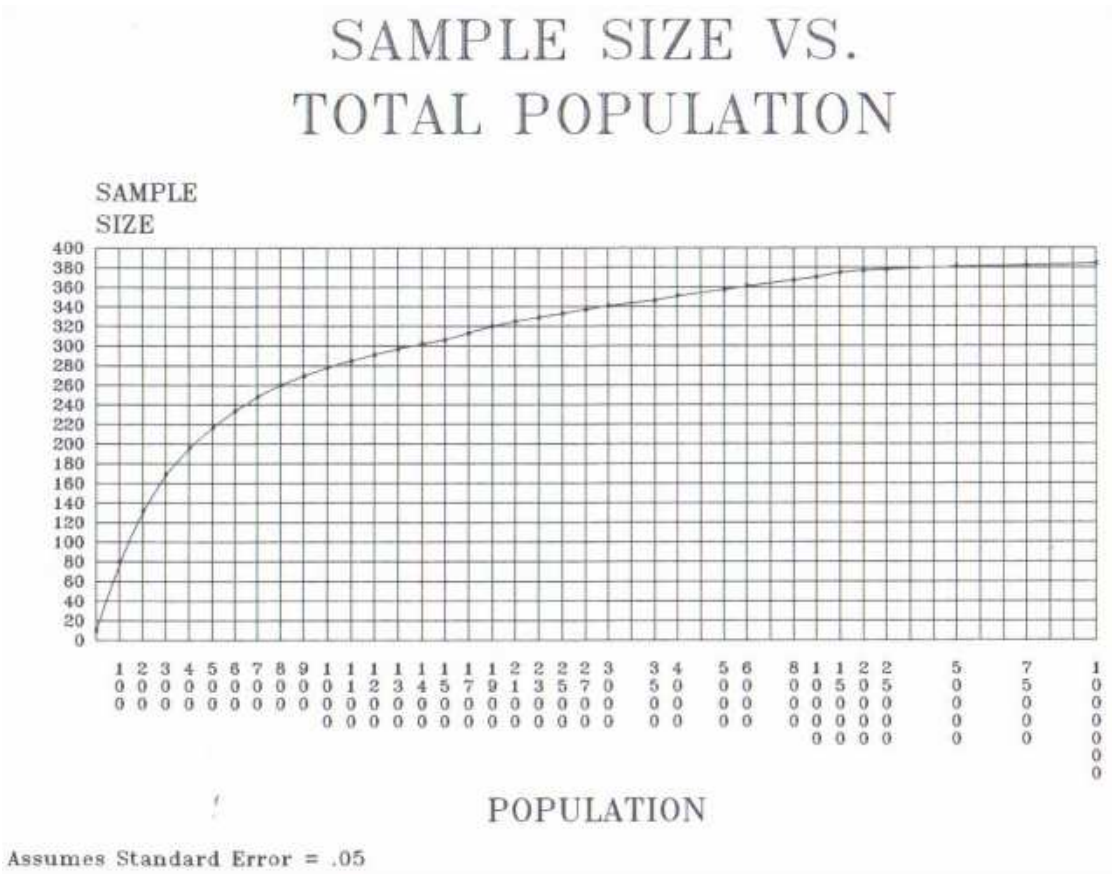


Figure 1 - Sample size/population distribution with confidence level 95% (Krejcie, 1970)

3.1. Questionnaire structure

The first part of the survey was focused on the level of respondent's awareness and attitudes towards the concept upcycling. The question about upcycling awareness was positioned at the very beginning of the survey to avoid biases and learning effects throughout the course of the survey. After giving all respondents a short definition of the term upcycling, a question about people's attitudes towards upcycling was given.

The next set of questions represented the core part of the questionnaire. This part included questions about the willingness to pay, perceived originality, perceived uniqueness, ownership perception, intended use and intended purchase with regard to the two products. Costumers frequently associate originality with terms like visionary, different and innovative. Especially for upcycled products these descriptions could also be used (Koslow, Sasser and Riordan, 2003). People who show a high need for uniqueness are willing to pay more for customized or at least self-designed products (Schreier and Franke, 2008). Ownership perception has a high influence on consumers' behavior and motivation, also when the person in possession is not the legal owner. These feelings of ownership are emphasized by many researchers and are gaining more importance in marketing related discussions (Van Dyne and Pierce, 2004). It can be of a particular interest for shop owners that merely touching the product could increase the perceived ownership (Peck and Shu, 2009). Last but not least, consumers mostly seek uniqueness (Bearden, Netemeyer and Haws, 2011). Considering upcycling this fact might be also borne in mind by marketers.

The same questions were given to every respondent for both products. The only difference was in the condition (labels). The eight different conditions were distributed to the respondents randomly and also the product order was randomized.

The remaining questions concerned personality questions and standard demographics like age, gender, residence, occupation and income.

3.2. Question design

Regarding the question design the questionnaire consists mainly of closed questions. The scaling techniques used were either Likert scale, where respondents had to tick a box from 1 (…strongly disagree) to 5 (…strongly agree), or polar questions (Yes/No).

Open-ended questions were used in the willingness to pay part, for example "Which amount are you willing to pay for the product?" and for the two definitions, "What do you think "Upcycling" means?" and "Which "upcycled" product(s) have you already bought?".

3.3. Sample description

Over the period of one week, from 15th January 2014 until 24th January 2014, primary data was collected, mostly via Facebook and E-mail. The link to the survey was distributed to friends with the request to forward it to families, non-student friends and colleagues. This approach was chosen due to the fact that the sample should include mainly non-students. The sample consisted of 307 respondents, 63.19% of which were female and 36.81% male. The age structure of the sample can be seen below.

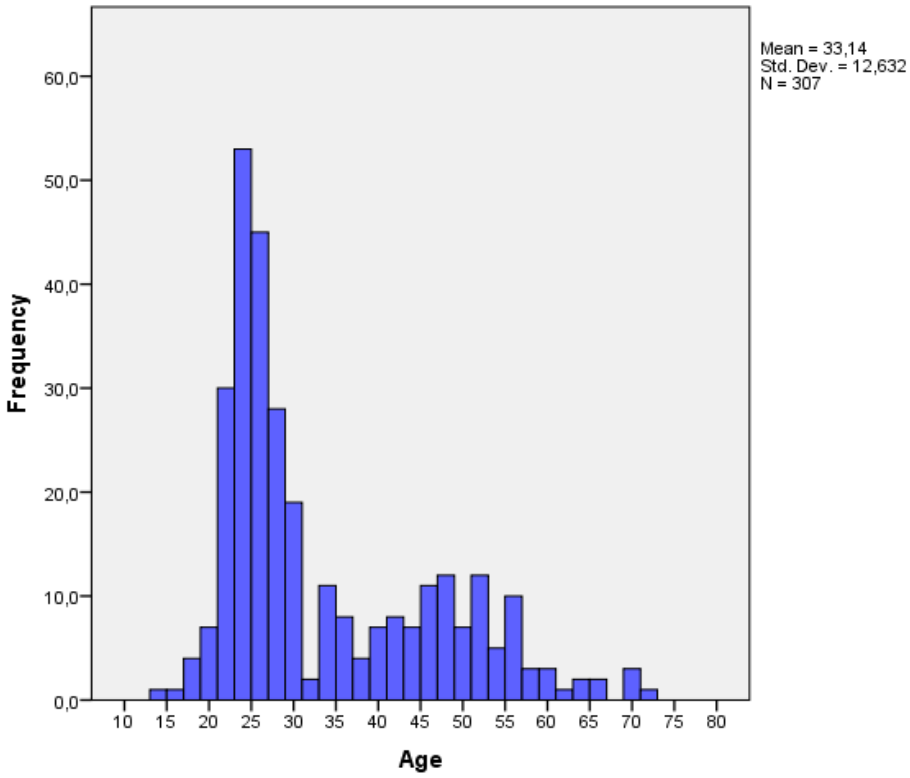


Figure 2 - Age frequencies

31.27% of the respondents were younger than 25 years old, the youngest respondent being 14 years old. The highest number of respondents were 25 years old, namely almost 9.4% of the whole sample. 29.97% were between 25 and 30 years old and 38.76% were older than 30 years. The oldest respondent was 72 years old.

The residence of the sample was not distributed equally between the nine Austrian regions. The majority, namely 56.68% was from Vienna and 20.52% were from Lower Austria. Another substantial number of respondents were from Carinthia with 10.1%. The rest was distributed between the other six regions and "Outside Austria".

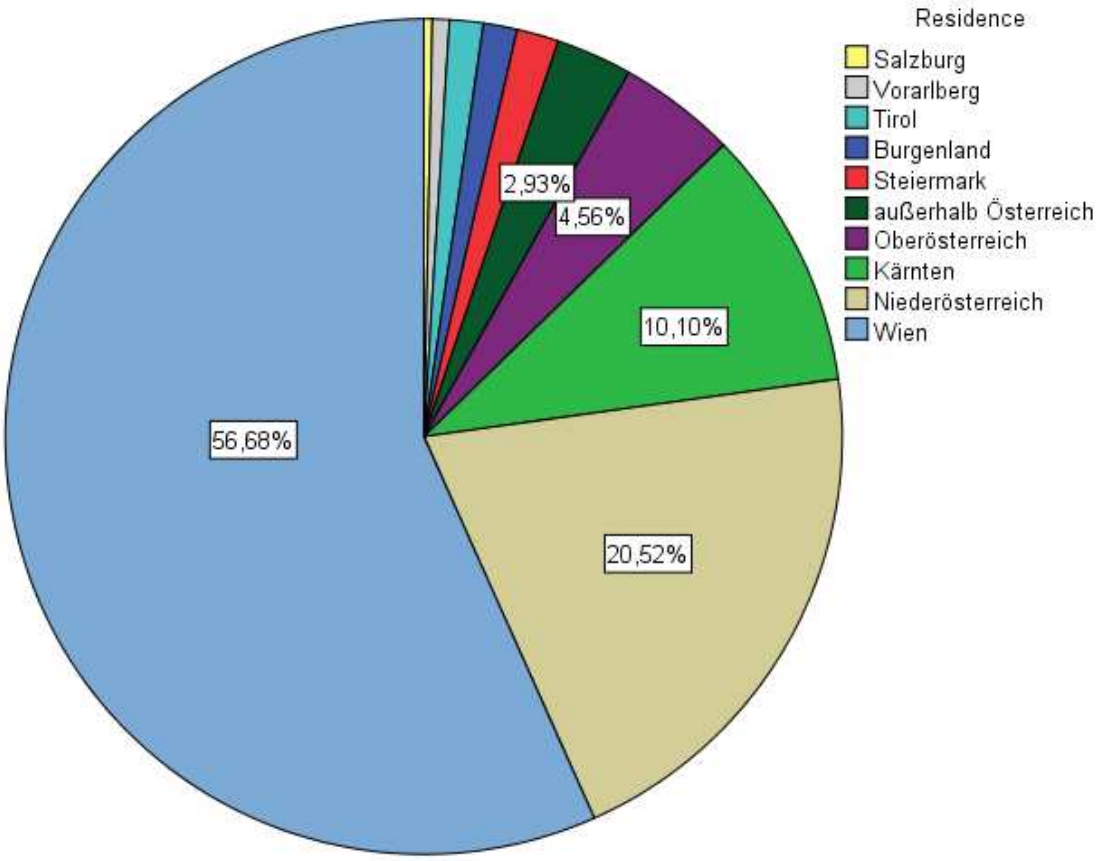


Figure 3 – Residence frequencies

In terms of occupation the sample included 55.37% employees and 23.78% university students which already accounted for more than three quarters of the sample. The rest of the sample was represented by the high school students, co-workers, public servants, self-employed, housewife/men, pensioners and others. A detailed chart can be found on the following page.

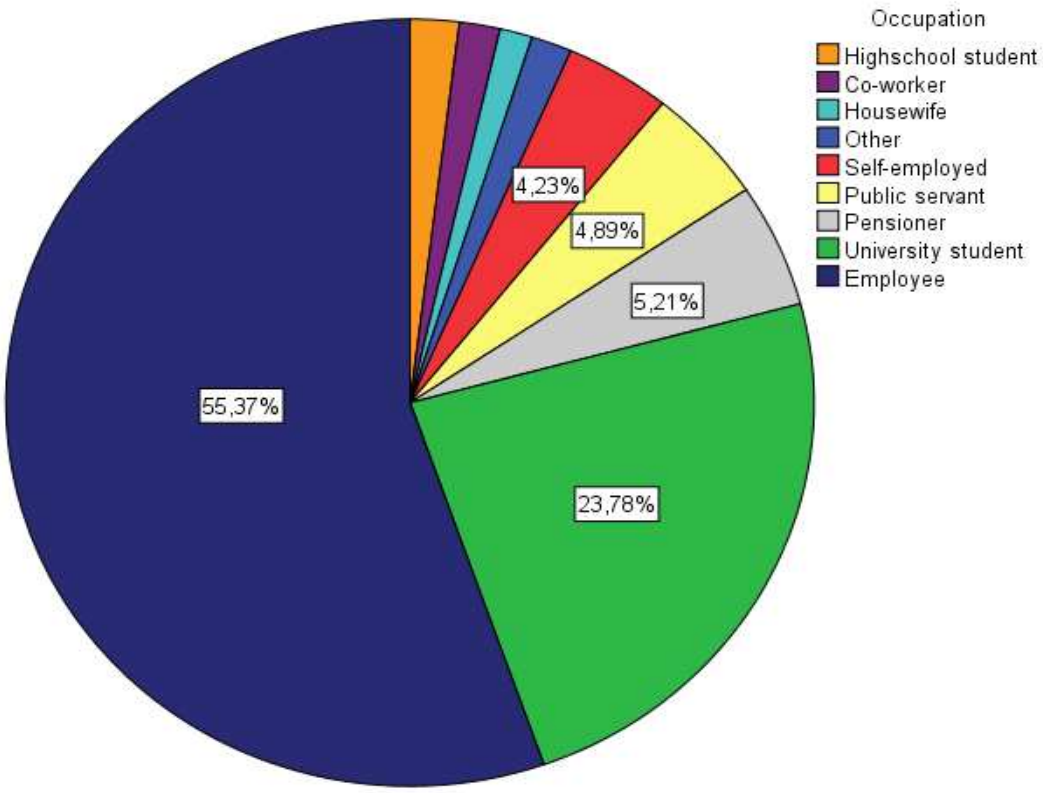


Figure 4 - Occupation frequencies

The income was below €1,000 for 31.6% of the respondents, representing the most common income class. Almost 26% of the sample earned €1.001- 2.000 or €2.001- €3.000 and 9.1% earned €3.001- €4.000, while only 6.5% had an income of more than €4.000. The trend was that the higher the income, the fewer of respondents.

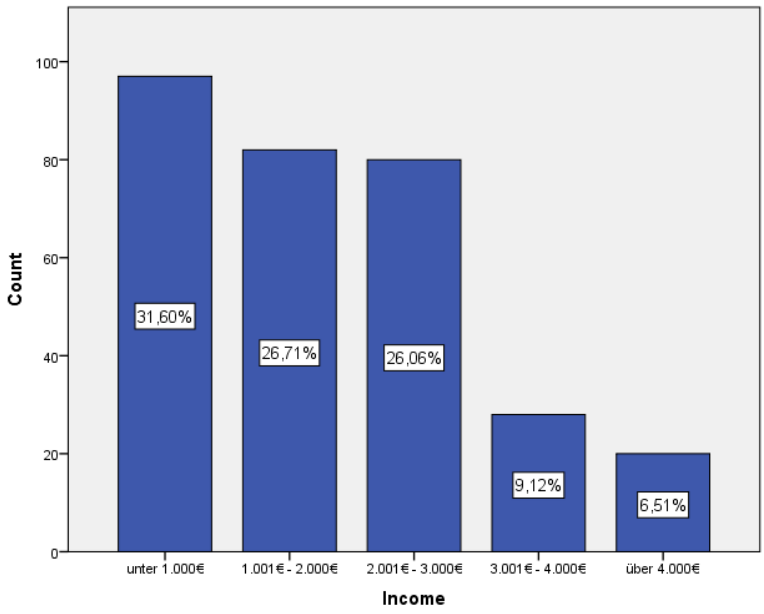


Figure 5 - Income distribution

4. Data Analysis

The statistical analysis of the data was conducted exclusively with SPSS. Even though, it was possible to transfer the data directly from Unipark to SPSS, additional structuring and adjusting of the data was necessary prior to using it for analytical purposes. Some of this restructuring required more detailed explanation, in order to properly understand how the results of this study were derived, which is provided in the following section.

Combining them to form one single variable was amongst others necessary for the dependent variables "originality" and "uniqueness", as each of them was measured by three questions resulting in three variables. Before doing so, it was necessary to test whether the three originality questions and the three uniqueness questions were consistent within themselves, because only then it would be eligible to merge them into one originality and one uniqueness variable which would then facilitate further analyses. In order to test this, reliability analyses were conducted with the respective Cronbach Alphas being higher then 0.650, meaning that merging them by taking their combined mean was allowed (Malhotra, 2010).

In addition to this, thoughts of combining the data also came up with regards to the six personality variables. However, doing so would not have been meaningful as the six variables measured to a great extent somewhat different attributes.

Another major restructuring of the data was necessary with regards to the eight manipulation conditions (design; sustainable; social; design/sustainable; design/social; sustainable/social; design/sustainable/social; control group) and thus the eight variables per product (bottle wardrobe and seatbelt bag), as they needed to be re-coded in a way that made the testing of a 2x2x2 between subject design (design vs. non-design; sustainable vs. non-sustainable; social vs. non-social) possible. This was achieved by creating three dummy variables for the three main attributes "design", "sustainable" and "social". Thus for the design dummy variable each of the eight conditions which involved the attribute "design" were coded with a "1" and each non-design condition was coded with a "0". Based on that, it was then possible to conduct MANOVAs (or Multivariate Analysis) with willingness to pay for both products as dependent variables and the three dummy variables as independent variables. Also the interaction effects between the three dummy variables were tested, to identify whether an influence was evident. Afterwards three-way ANOVAs (i.e. Univariate Analyses) were conducted for each product's

willingness to pay, to check whether there was a change in the significance value. A similar approach was applied for Originality and Uniqueness as dependent variables.

Besides testing the respondent's willingness to pay, perceived originality and perceived uniqueness of the product against the different manipulation conditions, the aim of the study was to go further and check whether the respondent's personal attributes such as their demographics or attitudes had an influence on willingness to pay. To derive meaningful results for that purpose three-way ANOVA was applied, with (1) willingness to pay as dependent variable and (2) the dummy variables (design, sustainable, social) and (3) demographics, e.g. age or gender, as independent variables. In order to strengthen the findings it was furthermore important to find out whether the respondents' personality, e.g. their affinity to designer products, alters the actually investigated relationship and thus acts as a covariate. For this purpose ANCOVA was conducted. All the statistical analyses were performed under a significance level of 0.05.

5. Results

The following part deals with the results of the survey. Details are presented in tables and graphs, whereas the main findings are discussed in the text. The results are structured in the same way as the questionnaire was, in order to take the reader step by step through the same process as the respondents and make him/her fully understand the way this questionnaire was structured.

5.1. Awareness of Upcycling

In the graph below it can be clearly seen that more than half of the respondents (61.2%) did not know what upcycling was when asked "Do you know what upcycling means?". 25.4% claimed to know what it was and 13.4% said that they have heard of it, but do not exactly know what it was.

	Frequency	**Percent %**
Yes	78	25,4
Yes, but don't know exactly what it is	41	13,4
No	188	61,2
Total	307	100,0

Table 1 - Awareness of Upcycling

- **Influence of Awareness on the Willingness to Pay**

In order to test the influence of the awareness of upcycling on the willingness to pay a One-way ANOVA was conducted. In the case of the bag the awareness of upcycling had a significant effect on the willingness to pay (p=0.001). The bottle wardrobe did not show any significant results (p=0.099).

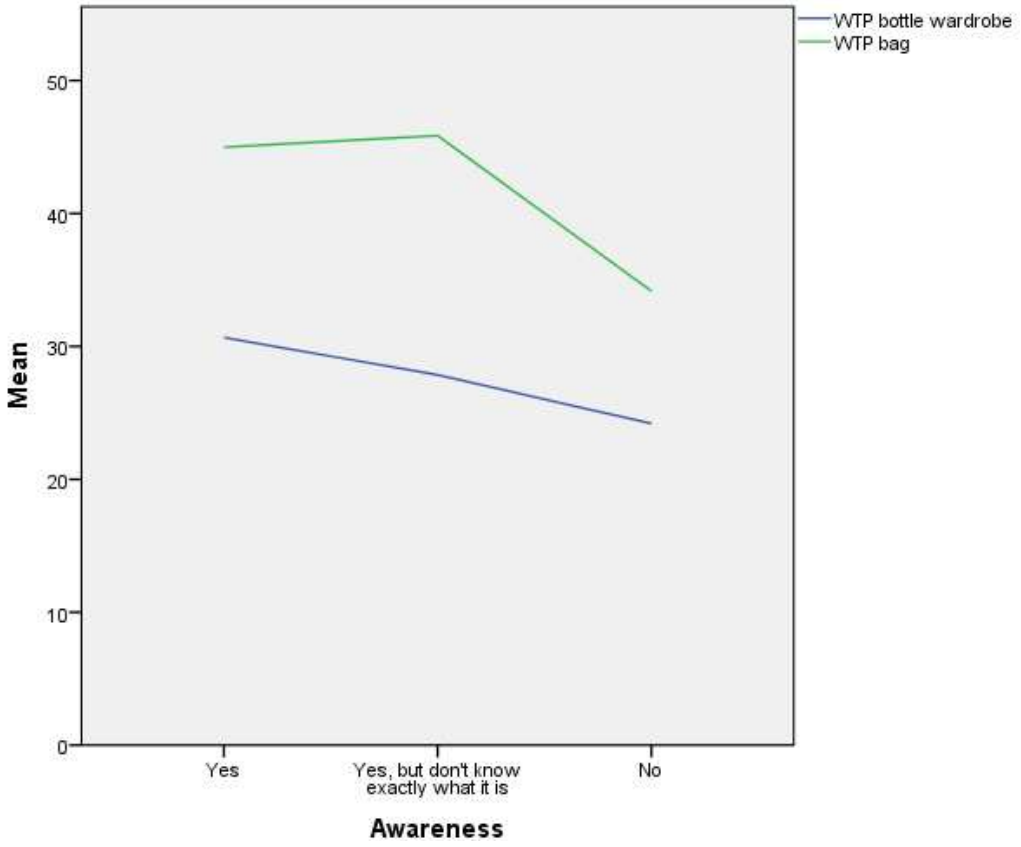


Figure 6 - Influence of awareness on the WTP

In the graph above it can be seen that there is a tendency for a higher willingness to pay for the bag, the higher the awareness is.

- **Influence of Awareness on the Perceived Uniqueness**

In order to test the influence of the awareness of upcycling on the perceived uniqueness of the products a One-way ANOVA was conducted. The test did not show significant results for any of the two products.

- **Influence of Awareness on the Perceived Originality**

In order to test the influence of the awareness of upcycling on the perceived originality of the products a One-way ANOVA was conducted. Similarly as with the uniqueness, the test did not show significant results for any of the two products.

5.2. Attitude towards the concept of upcycling

The table below shows that general attitude towards upcycling as very positive. 64.2% respondents said that they like the concept of "Upcycling" a lot. Only 8.8% had a neutral or negative attitude towards upcycling.

	Frequency	Percent %
don't like it at all	1	,3
don't like it	6	2,0
Neutral	20	6,5
like it	83	27,0
like it a lot	197	64,2
Total	307	100,0

Table 2 - Attitude towards the concept "upcycling"

- **Influence of Attitude on the Willingness to Pay**

In order to test the influence of the attitude towards upcycling on the willingness to pay a one-way ANOVA was conducted. In the case of the bag the attitude of the respondents towards upcycling had a significant influence on the willingness to pay (p=0.034). The bottle wardrobe did not show any significant results.

In the table below it can be clearly seen that the willingness to pay for the bag is significantly higher, the better the attitude is.

		N	Mean €
WTP bottle wardrobe	**don't like it at all**	1	20,00
	don't like it	6	22,33
	Neutral	20	26,55
	like it	83	22,47
	like it a lot	197	28,09
	Total	307	26,33
WTP bag	**don't like it at all**	1	10,00
	don't like it	6	20,83
	Neutral	20	29,40
	like it	83	34,93
	like it a lot	197	41,57
	Total	307	38,47

Table 3 - Influence of attitude on the WTP

- **Influence of Attitude on Perceived Uniqueness.**

In order to test the influence of the attitude towards upcycling on the perceived uniqueness of the products a One-way ANOVA was conducted. In case of the bottle wardrobe the attitude had a significant influence on the perceived uniqueness (p=0.004). The bag showed an almost significant result with p=0.055, however statistical significance would only be proven under a level of p<0,050.

		N	Mean Rating 1-5
Perceived Uniqueness bottle wardrobe	**don't like it at all**	1	3,6667
	don't like it	6	3,3333
	neutral	20	3,4833
	like it	83	3,7831
	like it a lot	197	4,0998
	Total	307	3,9577
Perceived Uniqueness bag	**don't like it at all**	1	2,0000
	don't like it	6	3,4444
	neutral	20	3,2500
	like it	83	3,4699
	like it a lot	197	3,7530
	Total	307	3,6319

Table 4 - Influence of attitude on perceived uniqueness

The table above shows a slight tendency that the attitude had a positive effect on the perceived uniqueness of the bottle wardrobe.

- **Influence of Attitude on the Perceived Originality.**

In order to test the influence of the attitude towards upcycling on the perceived originality of the products a One-way ANOVA was conducted. The test showed that the attitude had a significant influence on the perceived originality for both products (bottle wardrobe α=0.000, bag α=0.018).

The following table shows the tendency that the higher the attitude the higher the perceived originality of both products.

		N	Mean Rating 1-5
Perceived Originality bottle wardrobe	**don't like it at all**	1	4,3333
	don't like it	6	3,7778
	Neutral	20	3,8333
	like it	83	4,1486
	like it a lot	197	4,4078
	Total	307	4,2877
Perceived Originality bag	**don't like it at all**	1	2,0000
	don't like it	6	3,6111
	Neutral	20	3,4000
	like it	83	3,6787
	like it a lot	197	3,9120
	Total	307	3,8035

Table 5 - Influence of attitude on perceived originality

5.3. Manipulations (Design, Social, Sustainable) and Willingness to Pay

The model used to predict willingness to pay was a 2x2x2 within subject analysis of variance (MANOVA) with the manipulation dummy variables as fixed factors and the willingness to pay for both products as dependent variables. Willingness to pay values were not categorized, thus the original data was used for analysis. Interaction effects amongst the three dummy variables, "design+dummy", "social+dummy" and "sustainable+dummy" were investigated as well.

The hypothesis tested in this analysis, the H1, asserted that there is a significant difference in willingness to pay for the different manipulation conditions, meaning for the different labeling of the products with "design", "social" and/or "sustainable". Although the questionnaires used for data collection also included combined labels such as "design+social", the main objective of this research was to generate insights on the individual influence of the three terms. H1 was supported only partly by the data. The differences in willingness to pay for the bottle wardrobe were significant (α=0,001) for those products having the term "design" in its label.

For all the other manipulations and for the seatbelt bag, no significant differences in willingness to pay were observed under a significance level of 0.05. Also Univariate Analysis (ANOVA), which was conducted for double checking the results, showed the same outcome.

By taking a look at the descriptive statistics, see table below, it becomes evident that those bottle wardrobes labeled with the term "design" overall triggered the

highest willingness to pay figures. Hereby, the bottle wardrobe being only labeled with "design" generated an average willingness to pay of €32.62. Adding the term sustainable to the label, thus "design+sustainable", dropped the average willingness to pay down to €29.59. Adding social to the design label, thus "design +social", drove the average willingness to pay even further down to €24.76. Combining all three labels, however, interestingly, triggered the highest average willingness to pay, namely €35.39.

	Condition	N	Mean €
WTP bottle wardrobe	**Design+Social**	38	24,76
	No manipulation	36	24,83
	Design+Sustainable	37	29,59
	Design	39	32,62
	Design+Sustainable+Social	38	35,39

Table 6 - WTP under manipulation conditions

For the seatbelt bag which showed no significant results for the observed relationship, also no interaction effects could be detected amongst the three manipulation variables. However, for the bottle wardrobe, under a less strict significance level of 0.1, an interaction between "design+sustainable" and "sustainable+social" could be detected.

5.4. Personality as possible covariate

In order to support and therefore strengthen the findings of the previous section it was necessary to identify whether there was another factor, influencing the observed relationships, which needed to be controlled for. Especially for those products labeled with the attribute "design" it was apparent that the respondent's affinity towards designer products might be the actual driver for willingness to pay. The respective data collected from the respondents and now referred to personality variables were used to test for this aspect. The model used in the analysis was an ANCOVA with the three manipulation factors as dependent variables and willingness to pay for each product as dependent variables. Each of the personality variables (see table 7), in total there were six, were then one-by-one added as a covariate into the model. First attention was drawn to the condition where the only significant result could be detected (design; bottle wardrobe), as to whether it changed into being not-significant if one of the personality variables was controlled for. The results showed that this was not the case for any personality variable, the significant result persisted. Secondly, it was investigated whether there was a case where a

not-significant relationship changed into a significant one, but that was not the case either.

1. I often buy designer products.
2. I avoid buying products that are purchased by a large part of the population.
3. It is important to support the welfare of society.
4. I think upcycling suits my personality.
5. I often buy certain brands and products that reflect my uniqueness.
6. I believe that I am different from others.

Table 7 - List of personality variables

5.5. Manipulations (Design, Social, Sustainable) and Perceived Originality

Again the model applied was a 2x2x2 within subject analysis of variance (MANOVA) with the manipulation dummy variables as independent variables, and as dependent variable perceived originality was tested in this analysis. As already elaborated under the section data analysis, the overall concept of originality was measured by three variables, which were then merged into one variable by taking the combined mean figures.

The hereby tested hypothesis, H2, asserted that there was a significant difference in perceived originality of the product when it was labeled differently respective to the manipulation conditions. H2 was rejected, as no significant influence could be detected, neither for the bottle wardrobe nor for the seatbelt bag for a significance level of 0,05. However, labeling of the bottle wardrobe with "sustainable" showed a p-value of 0.05, thus very close to the cut-off value and under a significance level of 0.1 this labeling could be considered as being influential in determining perceived originality. Hereby those respondents which were shown a bottle wardrobe being labeled amongst others as "sustainable" showed lower perceived originality ratings than if the term would not be included in the labeling. However, even in absolute terms the difference can be regarded as being low. Interaction effects were inspected as well in this analysis but showed no significant relationships.

5.6. Manipulations (Design, Social, Sustainable) and Perceived Uniqueness

The same approach as above was used for testing whether the manipulation had an effect on the dependent variable perceived uniqueness. Also here merging of the variables was needed to be conducted a priori.

The hypothesis H3 states that there was a significant difference in perceived uniqueness of the product when it was labeled differently respective to the manipulation conditions. Also H3 was rejected as there was no significant influence of the manipulations on perceived uniqueness neither for the bottle wardrobe nor for the seatbelt bag for a significance level of 0.05. However, again, the labeling with the attribute "sustainable" showed values close to p=0.05 and would thus be regarded as influential when considering a significance level of 0.1. This was the case for both product categories (bottle wardrobe p=0.083; seatbelt bag p= 0.064). Similar to the results for perceived originality, labeling the product with the attribute "sustainable", caused perceived uniqueness ratings to drop down compared to those when "sustainable" was not part of the labeling. However, by looking at the descriptive statistics it becomes evident that the differences in absolute terms could be regarded as being low. Also no significant relationships was found for the interaction effects.

5.7. Demographics

Because demographics can have a major influence on the willingness to pay (Ha-Brookshire and Norum, 2011), it was included in some fundamental analyses.

- **Influence of Gender on the Willingness to Pay**

First of all, the possible influence of gender on the willingness to pay was tested. Gender showed a significant result on the willingness to pay for the wardrobe (p=0,009), whereas the analysis did not only show a significant result for the bag (p=0,051) when considering the level of significance of 0.1. For the bottle wardrobe men would be willing to pay on average €21.9, compared to women's €28.91. For the bag, male and female would be willing to pay €34.61 and €40.72. Following graph shows the parallel relationship of the willingness to pay between male and female.

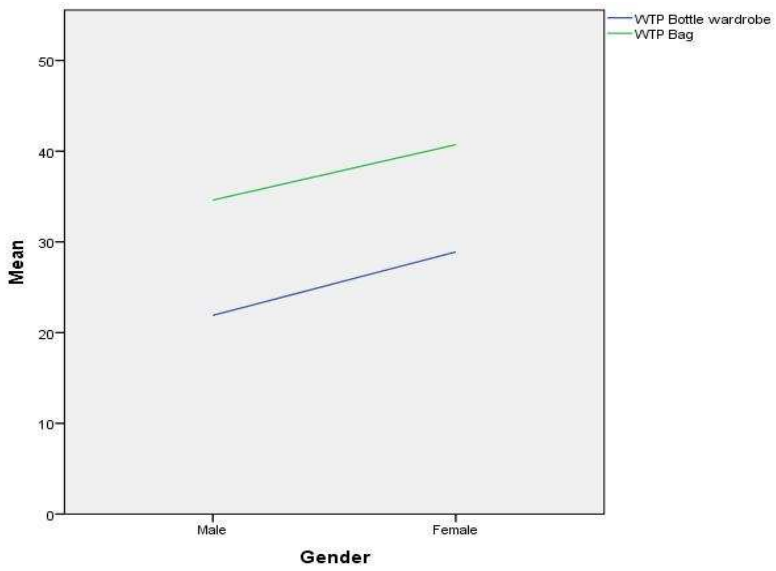


Figure 7 - Gender influence on the WTP

MANOVA (tests of Between-Subjects Effects) was conducted to explore mean differences between the three labels (design, social, sustainable), gender and the willingness to pay. In combination with the sustainable (p=0,018) or social condition (p=0,030) gender had a significant influence on the willingness to pay for the bag. For the sustainable-only bag female (n=24) would spend €32.63 compared to men's (n=16) €27.44. Furthermore, in the social-only condition women (n=27) would also spend a higher amount of money than men (n=12), €43.33 compared to €37.50. Both effects are presented in the following two figures.

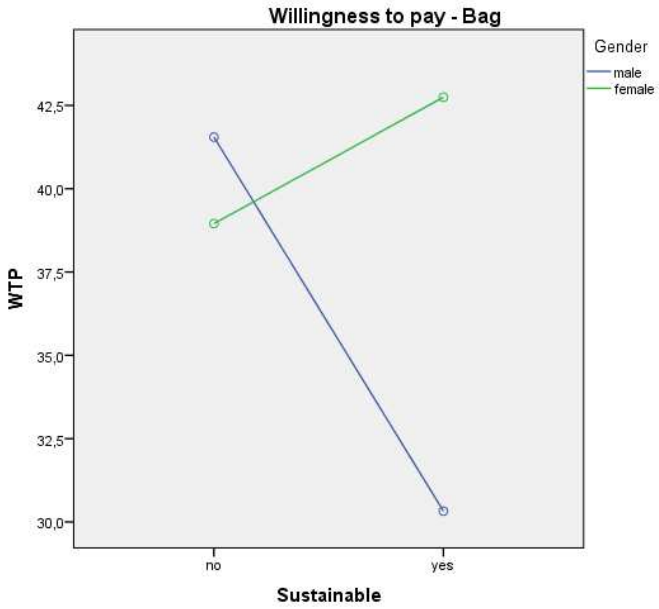


Figure 8 - Gender willingness to pay for sustainable bag

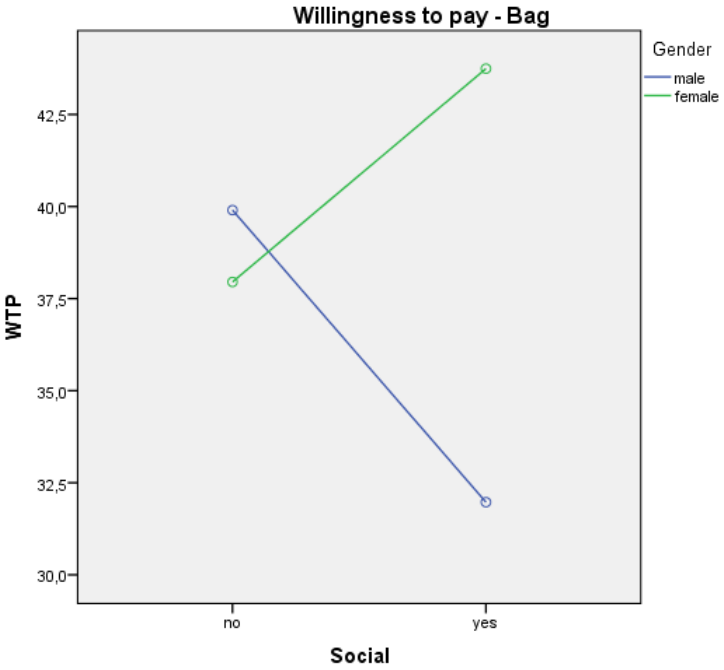


Figure 9 - Gender willingness to pay for socially produced bag

- **Influence of Age on the Willingness to Pay**

In terms of age, five equally distributed groups were created. Besides the equal distribution, the duration of the study played a role in building the five groups. Students finish their Bachelor studies when they are on average 23 years old, whereas the average student completes its Master's program at an age of 26 (Statistik Austria 2011).

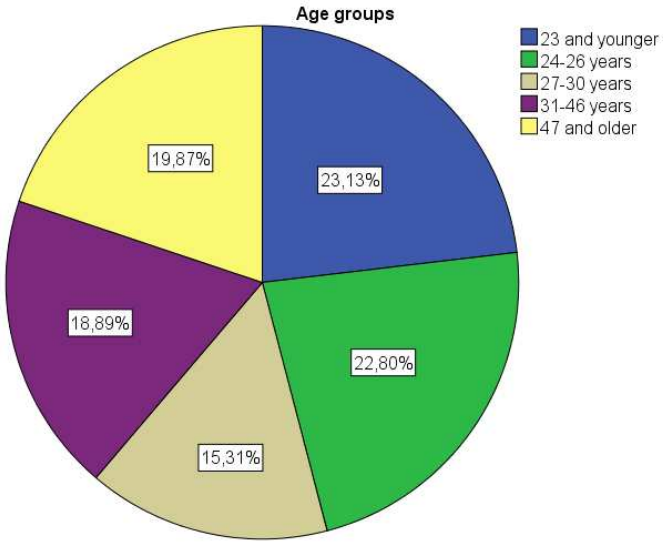


Figure 10 - Age groups

A three-way ANOVA (Univariate) was conducted to find out whether the constructed age groups had an influence on the willingness to pay under all 8 conditions and for both products.

Highly significant mean differences were examined in the design-only bottle condition (p=0,005). Except for the age group "31-46 years" the willingness to pay increased with the respondents' age.

Age group	**Mean €**	**N**
23 and younger	28,00	10
24-26 years	30,86	7
27-30 years	32,60	10
31-46 years	24,00	5
47 and older	47,14	7

Table 8 - Age group influence on the WTP for designed wardrobe

For the designed and socially produced bottle wardrobe condition, significant results were found within the age groups. The willingness to pay significantly (p=0,008) increased with the respondents' age and can be seen in the following table.

Age group	**Mean €**	**N**
23 and younger	16,88	8
24-26 years	20,14	7
27-30 years	24,50	4
31-46 years	28,91	11
47 and older	31,13	8

Table 9 - Age group influence on the WTP for designed and socially produced wardrobe

Moreover, ANOVA showed, without closely examining the 8 conditions, significant differences (p=0,022) for the bottle wardrobe condition between the age groups of "23 and younger" (€22.14) and "31-46 years" (€31.41).

	Age group	**Mean €**	**N**
Bottle wardrobe (Overall)	**23 and younger**	**22,14**	**71**
	24-26 years	23,51	70
	27-30 years	26,17	47
	31-46 years	**31,41**	**58**
	47 and older	29,72	61
	Total	26,33	307

Table 10 – WTP for Bottle wardrobe differences between age groups

Given the bag no significant differences between the design, sustainable, social variables and the age groups were examined. However, multiple comparisons showed significant differences (p=0,023) within different age groups.

The group "27-30 years" is willing to pay significantly (p=0,007/0,024) more than the groups "23 and younger" and "24-26 years". Furthermore the group "31-46 years" has a significantly (p=0,034) higher mean than the "23 years and younger".

	Age group	**Mean €**	**N**
Bag (Overall)	23 and younger	32,39	71
	24-26 years	34,56	70
	27-30 years	45,79	47
	31-46 years	42,29	58
	47 and older	40,77	61
	Total	38,47	307

Table 11 - WTP for bag differences between age groups

- **Influence of Occupation on the Willingness to Pay**

The respondents' current occupation did not have any significant influence on the willingness to pay, in any of the 8 manipulation conditions. Considering the level of significance of 0.1 instead of 0.05, significant conclusions could be drawn between the WTP of university students and employees. The respective p-values were 0.054 for the wardrobe and 0.076 for the bag. It can be seen that employees were willing to spend more money for both products compared to university students. Since the sample size of all the other occupation groups was lower than n=30, other comparisons are not representative.

	N	Mean € Bottle	Mean € Bag
Highschool student	6	23,83	36,50
University student	**73**	**22,55**	**35,14**
Employee	**170**	**28,68**	**41,98**
Co-worker	5	18,40	24,00
Public servant	15	18,53	31,00
Self-employed	13	17,31	32,31
Housewife	4	35,00	46,25
Pensioner	16	32,31	32,94
Other	5	33,40	34,60
Total	307	26,25	38,47

Table 12 - WTP differences between occupation groups

6. Marketing Implications

From a managerial point of view, mentioned findings are interesting for marketers in several aspects. First of all, the awareness and liking of upcycling needs to be increased. Marketers should educate people about what exactly upcycling is and where the main differences between recycling and upcycling are. The higher the understanding of and the likelihood for the concept is the higher is the willingness to pay for upcycled products. Because most of the upcycling companies and organisations do not have a vast amount of funds, social media plays an important role in reaching and educating potential customers. Not only well-known platforms like Facebook and Twitter should be borne in mind, also niche networks like Foursquare and Instagram can play a major role in spreading the idea of upcycling. People are starting to use various social media platforms to seek information, the reach should be extended to as many networks as possible. Moreover, advertising should be still pushed forward in the traditional print media, since older people are not that active online. (GFK Austria, 2013).

In terms of demographics only gender seems to drive the willingness to pay. Given that female customers might be the main target in the first step. They are often opinion leaders in one's household and are more likely to spread innovative ideas (Eurostat, 2009). However, men should not be forgotten as some products could be designed for this group. Although significant results for age were examined, no clear conclusion can be drawn, since the trend does not seem to be congruent. Occupation also should not have the main influence on the willingness to pay. Not surprisingly and on a non-significant level, employees are willing to spend more than students.

From all three analysed design, sustainable and social variables, only design showed a significant influence on the willingness to pay. This finding means that it should be of marketers' primary interest to label products. Many upcycling companies like "Freitag" and "Garbarage" are already successfully labeling their products.

To answer initially mentioned research question: "What drives the price in upycling?", it can be concluded that gender, the awareness of the concept and whether a product is labeled or not influences the customers willingness to pay on a significant level.

7. Limitations and further research

It is not surprising that the study has its limitations. For obtaining non-biased sample the questionnaire was randomly distributed. Given this, the distribution between different demographics was not sufficient to analyse whether significant results exist or not, e.g. income levels or occupation.

Furthermore, the chosen products seem to have an influence themselves on the willingness to pay. It can be possible that the upcycled bag is better known as the bottle wardrobe. People might have the knowledge of the actual price. Further research should include certain pre-tests to choose the ideal products. Respondents should have a perfectly neutral point of view on the products which is very hard to obtain. Besides, there could also be a difference in gender and the assessment of the products.

In order to discover the causal relationship between the variables, the manipulation of the independent variable and subsequent measurement of the dependent variable were conducted. However, the respondents were only asked about one of the conditions. In the future research, all of the conditions should be used for each respondent in order to insure correct results (Perdue and Summers, 1986).

Moreover respondents' personality could have an influence on the willingness to pay. Personality should always be included in analyses as a covariate.

Last but not least and given the fact that the factor "design" showed a significant influence on the willingness to pay, the labeling should be tested in more depth. The chosen names might also influence the dependent variables.

8. Conclusion

In conclusion, we would suggest to Auferstanden and Sozial Produziert to concentrate mainly on three most important aspects. Firstly, companies should focus on further research into the topic also with an attention to "design" attribute. Secondly, firms should concentrate on educating people in terms of the upcycling advantages, possibly with the focus on combining environmentally friendly disposal of products with creating something with even greater value. Spreading the idea of upcycling via easy-to-understand applications like Instagram could help in educating customers. Additionally to only educating people a win-win situation might be generated, when also customers spread their ideas for new products. Thirdly, as one of the most important findings of this research suggest, companies should focus on correct labeling of products which can also serve as one of the educating methods. Finally, even though this survey did not find significant influences of the social variable, socially produced products can also highly benefit under a strong brand. This once again supports the first recommendation of researching the design variable in more depth. If the design brand is well established both other attributes, socially produced and sustainable, might increase the willingness to pay for the products even more.

A. Reference list

Barlett, J.E., Kotrlik, J.W., Higgins, C.C, 2001. Organizational Research: Determining Appropriate Sample Size in Survey Research. OSRA, 19, No.1, pp. 48. Available through: <http://www.osra.org/itlpj/bartlettkotrlikhiggins.pdf> [Accessed 9th February].

Bearden, W.O., Netemeyer, R.G., Haws, K.L., 2011. Handbook of Marketing Scales: Multi-Item Measures for Marketing and Consumer Behavior Research 3rd ed. Sage Publications Ltd.

Brookshire, J., Norum, P., 2011. Willingness to pay for socially responsible products: case of cotton apparel. The Journal of Consumer Marketing, 28(5), pp. 344-353.

Eurostat, 2009. Statistical Books: Consumers in Europe. Available through: <http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-DY-09-001/EN/KS-DY-09-001-EN.PDF> [Accessed 10th February 2014].

GFK Austria, 2013. Pressemeldung – Soziale Netzwerke: Ältere am Vormarsch, Jüngere zunehmend in mehreren Netzwerken aktiv. Available through: <http://www.gfk.com/at/Documents/presse/2013/Pressemeldungen%202013/GfK_PM_Social%20Networks.pdf> [Accessed 10th February].

Koslow, S., Sasser, S., Riordan, E., 2003. What Is Creative to Whom and Why? Perceptions in Advertising Agencies. Journal of Advertising Research, 43(1), pp. 96-110.

Krejcie, R.V., Morgan, D.W., 1970. Determining Sample Size for Research Activities. Educational and Psychological Measurement, 30, 607-610. Available through: <http://opa.uprrp.edu/InvInsDocs/KrejcieandMorgan.pdf> [Accessed 9th February].

Malhotra, N.K., 2010. Marketing Research. An Applied Orientation 6th ed. Prentice Hall.

Perdue, B.C., Summers, J.O., 1986. Checking the Success of Manipulations in Marketing Experiments. Journal of Marketing Research, 23(4), pp. 317-326.

Recycle for Change, 2013. Not All Materials Are Recreated Equal. Available through: <http://www.recycle4change.ca/wp-content/uploads/2013/06/Upcycling.pdf> [Accessed 9th February 2014].

Schreier, M., Franke, N., 2008. Product uniqueness as a driver of customer utility in mass customization. Marketing Letters, 19(2), pp. 93-107.

Statistik Austria, 2011. Hochschulprognose 2011. Available through: <http://statistik.gv.at/web_de/static/hochschulprognose_2011_063538.pdf> [Accessed 9th February 2014].

Peck, J., Shu, S., 2009. The Effect of mere Touch on perceived ownership. Journal of Consumer Research, 36(3), pp. 434-447.

Upcycle magazine, 2009. What is upcycyling?. Available through: <http://www.upcyclemagazine.com/what-is-upcycling> [Accessed 9 February 2014].

Van Dyne, L., Pierce, J., 2004. Psychological ownership and feelings of possession: three field studies predicting employee attitudes and organizational citizenship behavior. Journal of Organizational Behavior, 25(4), pp. 439-459.

Wang,J., 2011. One man's trash. Entrepreneur, 4, pp. 50-53.

B. Appendices

A. Products

It shows the bottle wardrobe and the bag under all the three manipulation conditions. In case of e.g. non-design, the labels reditum (bottle wardrobe) and U.S.E.D. (bag) would have been hidden.

B. Questionnaire

1 Welcome [Seiten-ID: 2485546] [L]

WILLKOMMEN BEI DER UMFRAGE ZUM THEMA "UPCYCLING"

Liebe(r) Teilnehmer(in)!

Die nachfolgende Studie beschäftigt sich mit dem Thema "Upcycling".
Primär geht es in dieser Umfrage um die Preisbereitschaft bei "Upcycling"-Produkten.

Alle Daten werden absolut anonym verwendet und dienen ausschließlich wissenschaftlichen Zwecken. Die Beantwortung des Fragebogens sollte weniger als 10 Minuten Ihrer Zeit in Anspruch nehmen. Die Mehrheit der Fragen kann durch einfaches "Anklicken" einer Bewertungsskale beantwortet werden.

Wir möchten uns bei Ihnen schon einmal im Voraus für Ihre Unterstützung bedanken. Am Ende der Umfrage haben Sie auch die Möglichkeit an einem Gewinnspiel teilzunehmen. Viel Spaß beim Beantworten!

Sollten Sie Fragen haben, wenden Sie sich bitte per E-mail an Johanna Gangl oder David Szabo:
h0953220@wu.ac.at (Johanna Gangl)
david.szabo@wu.ac.at

2 Kenntnis [Seiten-ID: 2485547] [L]

Haben Sie schon einmal etwas von "Upcycling" gehört?

- ☐ Ja
- ☐ Ja, aber ich weiß nicht genau was damit gemeint ist
- ☐ Nein

2.1 **Filter** offene Definition [Filter-ID: 2485548]

v_3 Kenntnis Haben Sie schon einmal etwas von "Upcycling" gehört? - Kenntnis (von Seite 2: Kenntnis) gleich 1

2.1.1 offene Definition 1 [Seiten-ID: 2485549] [L]

Was verstehen Sie unter dem Begriff "Upcycling"?

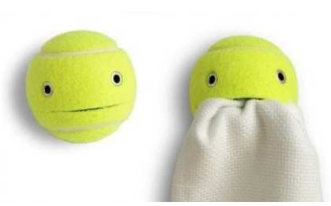
(Geben Sie bitte eine kurze Erläuterung)

3 Upcycling Definition [Seiten-ID: 2485550] [L]

Die offizielle Definition von "Upcycling" ist...

Beim Upcycling werden Abfallprodukte oder nutzlose Stoffe in neuwertige Produkte umgewandelt. Dabei kommt es zu einer stofflichen Aufwertung.

Die Wiederverwertung von bereits vorhandenem Material reduziert die Neuproduktion von Rohmaterialien und verringert damit Energieverbrauch, Luft- und Wasserverschmutzung sowie Treibhausgasemissionen.



4 Kenntnis 2 [Seiten-ID: 2485551] [L]

Haben Sie schon einmal ein "Upcycling"-Produkt gekauft?

☐ Ja

☐ Nein

4.1 Filter wenn ja [Filter-ID: 2486330]

v_4 Kenntnis 2 - Haben Sie schon einmal ein "Upcycling"-Produkt gekauft? - Kenntnis 2 (von Seite 4: Kenntnis 2) gleich 1

4.1.1 Produkt [Seiten-ID: 2486336] [L]

Welche(s) "Upcycling"-Produkt(e) haben Sie bereits gekauft?

5 Einstellung [Seiten-ID: 2485552] [L]

Wie gefällt Ihnen das Konzept "Upcycling" persönlich?

Gefällt mir gar nicht ☐ ☐ ☐ ☐ ☐ Gefällt mir sehr gut

6 kleine Einleitung [Seiten-ID: 2485553] [L]

Die folgenden Fragen beziehen sich nun konkret auf zwei ausgewählte „Upcycling"-Produkte. Bitte sehen Sie sich das Produktfoto genau an, lesen Sie sich die kurze Produktbeschreibung durch und beantworten Sie die Fragen danach sorgfältig.

7 Filter Filter Produkt Design [Filter-ID: 2486095]

c_0001 Gruppennummer Loop - Benutzerdefinierte Variable - Gruppennummer Loop (von Seite : System) gleich 1

Zur Vereinfachung des Fragebogendesigns wird im Folgenden nur die Frage, mit allen drei Konditionen vorgestellt. Im Falle von weniger Konditionen wurden jeweilige Beschreibungssätze ausgeblendet, d.h. die Kontrollgruppe bekam ausschließlich die Erläuterung, dass es sich um eine Kleiderhaken oder eine Tasche handelt.

9 Filter Filter Produkt Design Nachhaltig Sozial [Filter-ID: 2486152]

9.1.1 Originalität [Seiten-ID: 2485727] [L]

Bei dem folgenden Produkt handelt es sich um #Produkte_Design_Nachhaltig_Sozial# der **Marke #Produkte_Design_Nachhaltig_Sozial_3#**. Produkte dieser Wiener Marke werden von Jungdesigner/innen der Akadamie der bildenden Künste Wien **designt**, welche damit schon zahlreiche Kreativpreise gewonnen haben. Im Herstellungsprozess werden **sozial** benachteiligte Personen miteinbezogen, welche auch **fair** entlohnt und dadurch in den Arbeitsmarkt integriert werden. Durch die gezielte Verarbeitung wiederverwertbarer Produkte wird außerdem **nachhaltige** Ressourcenschonung betrieben.

#Produkte_Design_Nachhaltig_Sozial_2# (picture)

Bitte geben Sie an, inwieweit folgende Aussagen für Sie zutreffen:

	trifft gar nicht zu	trifft eher nicht zu	weder noch	trifft eher zu	trifft vollständig zu
Das Produkt ist originell	☐	☐	☐	☐	☐
Das Produkt ist ungewöhnlich	☐	☐	☐	☐	☐
Das Produkt ist neu	☐	☐	☐	☐	☐
Dieses Produkt ist einzigartig	☐	☐	☐	☐	☐
Dieses Produkt ist ein Unikat	☐	☐	☐	☐	☐
Dieses Produkt ist wirklich speziell	☐	☐	☐	☐	☐

Wie viel würden Sie für dieses Produkt bezahlen?

(Bitte geben Sie einen Wert in Euro an)

9.1.2 Ownership [Seiten-ID: 2485728] [L]

#Produkte_Design_Nachhaltig_Sozial_2# (picture)

Die folgenden Fragen beziehen sich nun auf Ihre persönliche Wahrnehmung des Produkts. Inwieweit treffen diese auf Sie persönlich zu?

(Bitte kreuzen Sie Zutreffendes an)

	trifft gar nicht zu	trifft eher nicht zu	weder noch	trifft eher zu	trifft vollständig zu
Ich habe das Gefühl, dieses Produkt gehört MIR.	☐	☐	☐	☐	☐
Ich empfinde dieses Produkt eher als MEIN Produkt und nicht nur als EIN Produkt.	☐	☐	☐	☐	☐
Mir kommt es so vor, als würde ich dieses Produkt besitzen.	☐	☐	☐	☐	☐
Das Produkt ist NICHT MEIN Eigentum.	☐	☐	☐	☐	☐

9.1.3 Intended Use & Purchase [Seiten-ID: 2485729] [L]

#Produkte_Design_Nachhaltig_Sozial_2#

Würden Sie dieses Produkt benutzen?

☐ Ja

☐ Nein

Würden Sie dieses Produkt kaufen?

☐ Ja

☐ Nein

9.2 Manipulation Design Nachhaltig Sozial [Seiten-ID: 2485926] [L]

Bitte beantworten Sie nun folgende Frage zu den eben gesehen Produkten:
Bei folgenden Produkten handelt es sich um ein Designer-Produkt...

(Bitte wählen Sie Zutreffendes aus)

	trifft gar nicht zu	trifft nicht zu	weder noch	trifft zu	trifft vollständig zu
Flaschen-Kleiderhaken	☐	☐	☐	☐	☐

Umhängetasche aus Autogurten	☐	☐	☐	☐	☐

Dieses Produkt ist nachhaltig...

(Bitte wählen Sie Zutreffendes aus)

	trifft gar nicht zu	trifft nicht zu	weder noch	trifft zu	trifft vollständig zu
Flaschen-Kleiderhaken	☐	☐	☐	☐	☐
Umhängetasche aus Autogurten	☐	☐	☐	☐	☐

Dieses Produkt ist sozial produziert...

(Bitte wählen Sie Zutreffendes aus)

	trifft gar nicht zu	trifft nicht zu	weder noch	trifft zu	trifft vollständig zu
Flaschen-Kleiderhaken	☐	☐	☐	☐	☐
Umhängetasche aus Autogurten	☐	☐	☐	☐	☐

15 Persönlichkeit [Seiten-ID: 2485562] [L]

Bitte bewerten Sie folgende Aussagen bezüglich Ihrer persönlichen Einstellungen.

	trifft gar nicht zu	trifft nicht zu	weder noch	trifft zu	trifft vollständig zu
Ich vermeide es, Produkte zu kaufen, die von einem großen Teil der Bevölkerung gekauft werden.	☐	☐	☐	☐	☐
Ich kaufe oft bestimmte Marken und Produkte, die meine Einzigartigkeit wiederspiegeln.	☐	☐	☐	☐	☐
Ich denke Upcycling passt zu meiner Persönlichkeit.	☐	☐	☐	☐	☐
Ich kaufe oft Designer-Produkte.	☐	☐	☐	☐	☐
Ich glaube, dass ich mich von anderen unterscheide.	☐	☐	☐	☐	☐

Es ist wichtig, das Wohl der Gesellschaft zu unterstützen.	☐	☐	☐	☐	☐

16 Gender [Seiten-ID: 2485564] [L]

Bitte beantworten Sie noch einige Fragen zu Ihrer Person
Geschlecht

☐ Männlich

☐ Weiblich

Alter

☐

Derzeitiger Wohnsitz in...

☐ Burgenland

☐ Kärnten

☐ Niederösterreich

☐ Oberösterreich

☐ Salzburg

☐ Steiermark

☐ Tirol

☐ Vorarlberg

☐ Wien

☐ außerhalb Österreich

17 Einkommen [Seiten-ID: 2485565] [L]

Bitte wählen Sie Ihr ungefähres monatliches Bruttoeinkommen aus...

☐ unter 1.000€

☐ 1.000€ - 2.000€

☐ 2.001€ - 3.000€

☐ 3.001€ - 4.000€

☐ über 4.000€

In welchem Beschäftigungsverhältnis befinden Sie sich?

(Mehrfachauswahl ist möglich, z.B. Student/in und Angestellte/r)

☐ Schüler/in

☐ Student/in

☐ Angestellte/r

☐ Arbeiter/in

☐ Beamte/r

☐ Selbstständig

☐ Hausfrau/Hausmann/ in Karenz

☐ Pensionist/in

Sonstiges

18 Email [Seiten-ID: 2485566] [L]

Sie haben nun die Möglichkeit an der Verlosung von 10x1 "Upcycling" - Produkt der Firma "sozial produziert" teilzunehmen.
Um im Falle einer erfolgreichen Gewinnspielteilnahme kontaktiert werden zu können, geben Sie bitte im unten stehenden Feld Ihre Email-Adresse an.

(Die Email-Adresse wird vertraulich behandelt und nicht an Dritte weitergegeben)

19 Final page [Seiten-ID: 2485567] [L]

Herzlichen Dank für Ihre Teilnahme an der Umfrage!
Für weitere Informationen zum Thema "Upcycling" besuchen Sie bitte...

Upcycling Shop auferstanden
Sozial Produziert
Sie können die Umfrage nun schließen.