Content of today’s session

- Continuation of group work
- Outlook for exam
- Greenwashing & the behaviour-intention gap
- Sins of greenwashing at product level
- Market research for sustainability
Group work (4 people)

- Imagine that you start working in the Human Resource Department of a company. Your task is to develop a company-internal behavior change campaign with the aim to increase the number of your employees that regularly commute by public transportation or bike to work (instead of using their own car).

- Identify **4-6 measures** that can be directly introduced by the employer and discuss whether you think they will be effective or ineffective (explain why) or whether they are associated with any possible risks.

- Keep in mind that your budget available is very small!

- **Try to use as many insights from psychology and behavioral economics as discussed in class as possible!**
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Outlook: Exam on November 18, 2015

• **Written exam** (60 minutes)

• **Date:** November 18, 2015 (4.20–5.20 pm)

• **Room:** 09-011 (instead of 23-203)

• Afterwards: Feedback Session
Outlook: Exam on November 18, 2015

The exam will include different types of questions:

- **Short answer questions** (e.g. “Briefly describe the time-saving treadmill”)

- **Multiple choice questions** (e.g. “Which sin is this product claim NOT committing?”)

- **Case questions** (test as a way for students to show that you can understand and integrate key concepts of the course)
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High stated willingness to pay for environmentally friendly products

QF12 Please tell me whether you totally agree, tend to agree, tend to disagree or totally disagree with the following statement: You are ready to buy environmentally friendly products even if they cost a little bit more - % EU27

- Totally agree, 25%
- Tend to agree, 50%
- Tend to disagree, 14%
- Totally disagree, 5%
- DK, 6%

Companies’ interest in incorporating sustainability in their business model

Significant increase in number of green claims & greenwashing

Role of green claims

- Green claims in advertising have the potential to play a part in:
  - Encouraging consumers to make sustainable consumption choices
  - Rewarding progressive companies for their efforts, which in turn, encourages business to make further environmental innovations

- Green claims have also the possibility to mislead consumers and erode trust

Only just over half of EU citizens generally trust producers’ claims about environmental information.

One of the many reasons for the ‘attitude – behaviour’ gap: lack of consumers’ trust in environmental information

- Without confidence in the truth of advertising, consumers could become reluctant to exercise their green purchasing power
- Any charge of ‘greenwashing’, whether intentional or unintentional, can be potentially damaging to a company’s credentials and consumer confidence

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Seven sins of greenwashing

1) Sin of the hidden trade-off
2) Sin of no proof
3) Sin of vagueness
4) Sin of worshipping false labels
5) Sin of irrelevance
6) Sin of lesser of two evils
7) Sin of fibbing

1) Sin of the hidden trade-off

- A claim suggesting that a product is ‘green’ based on a narrow set of attributes without attention to other important environmental issues

- Energy-efficient products are not necessarily environmentally-friendly just because they consume low amounts of energy/water, etc. (e.g. water-saving washing machine that uses a lot of energy, etc.)

2) Sin of no proof

- An environmental claim that **cannot be substantiated** by easily accessible supporting information or by a reliable third-party certification.

- Common examples are facial tissues or toilet tissue products that claim various percentages of recycled content without providing evidence.

3) Sin of vagueness

• A claim that is so poorly defined or broad that its real meaning is likely to be misunderstood by the consumer

• ‘This product contains recycled content’
  • This claim misses to specify how much recycled content the product contains (100%, 50% or only 0.001%?)

• All natural does not necessarily mean that the product is green
  • Mercury, arsenic, uranium, etc. are all naturally occurring, but poisonous

4) Sin of worshipping false labels

- A product that, through either words or images, gives the impression of third-party endorsement where no such endorsement exists

- Manufacturers who add their own label to a product with images and statements such as, ‘this product fights global warming’

5) Sin of irrelevance

- An environmental claim that may be truthful but is unimportant or unhelpful for consumers seeking environmentally preferable products.

- ‘CFC-free’ (chlorofluorocarbon-free) is a common example, since it is a frequent claim despite the fact that CFCs are banned by law (contributed to ozone depletion and was banned by the Montreal Protocol).

6) Sin of lesser of two evils

- A claim that may be true within the product category, but that risks distracting the consumer from the greater environmental impacts of the category as a whole

- Example: fuel-efficient sport-utility vehicle (SUV)

7) Sin of fibbing

- Environmental claims that are simply false (e.g. marketing a product or service as green if it is not)

- German retailer used in 2010 in an advertisement the slogan “very energy saving” for a refrigerator/freezer which was of energy efficiency class “A”

- 57% of appliance belonged already to class A+, 17% belonged to class A++

**Additional sin: suggestive pictures**

- Use of images that imply a baseless green impact

Mock-up example: Fly GreenJet is guilty of the several sins:

What greenwashing sins can you spot here?

Source: Futerra Sustainability Communication
What can be done about greenwashing

• **Development of guides** for businesses to explain how their marketing laws and standards apply to environmental claims

• **Better enforcement** when false claims are used (e.g. strict penalties for false claims)

• **Introduction of legislation** regarding the use of terminology
Term organic (bio) is protected for food

• The terms ‘organic’, ‘bio’ and ‘eco’ are legally protected under the EU Organic Regulation/ Swiss Ordinance on Organic framing

• Anyone wishing to market products as organic (or use derivative or diminutive terms such as bio or eco) must adhere to strict production standards and submit to annual inspections

• Operators that are not being inspected must not market their products as organic products

• Since 2010, pre-packaged food produced in the EU that claim to be organic must carry the EU organic logo

What can be done about greenwashing

• **Meaningful certification** to fight vagueness (and greenwashing in general)

• **Proper consumer education** on and awareness of the meaning and proper interpretation of claims and labels

Example of well-designed advertisement

Source: http://www.futerra.co.uk/downloads/Greenwash_Guide.pdf
Group work on greenwashing

• Work with a partner and analyze the following products or advertisements

• Determine whether you can find one of the eight sins of greenwashing discussed in the course (and if yes – which one?)!

• Shortly substantiate your conclusions!
Content of today’s session

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Willingness to pay for sustainable products

Numerous reasons for attitude-behaviour gap

- Products were not available or only at a price that exceeded willingness to pay
- Principal-agent problems
- Credit constraints/limited access to credit
- Information was not available where/how to obtain product/service
- Information overload/limited willingness to make informed decisions
- Low/no trust in product claims
- Stated preference was not the true preference (socially desirable answer)
Market research for sustainability

• When it comes to social or environmental issues, people often have a tendency to provide socially desirable answers.

• The more direct they are asked, the more biased they will answer.

• This may lead to an overestimation of people’s willingness to buy sustainable products or to behave in a more sustainable way.
What can be done to reduce social desirability bias

• **Use of qualitative methods** to gain a deeper understanding of underlying needs and preferences (e.g. in-depth interviews, focus groups combined with writing exercise, etc.)

• More sophisticated **quantitative methods** that **indirectly elicit respondents’ preferences** and that avoid socially desirable answers (e.g. conjoint analysis)

• Shift from ex-ante market research to test markets (revealed preferences)

Source: Adapted from Wüstenhagen, R. (2014)
Example for qualitative method:
Writing exercise as part of focus groups

- Smart Power (non-profit organization dedicated to promoting clean energy and energy efficiency) is regularly conducting consumer research to create marketing campaigns and messages
  - Used extensive polling and **focus groups (moderated group discussions around a given topic)** to better understand why American consumers say they will purchase clean energy – when in reality they don’t
  - Focus group discussion preceded by **writing exercise** and **painting pictures** to capture unconscious influences

**Source:** Keane (2006) as cited by Wüstenhagen, R. (2014)
Obituary exercise

- SmartPower has been using the approach of *obituary exercise* (*notice of the death of a person*) for many years to test attitudes about clean energy.

- Best way to tell how someone really feels about something is to take it away (*loss aversion*).

- Hence, SmartPower asked respondents to write “*The Obituary: Fossil Fuels died today*”.

Fossil fuel a necessary evil? Renewable energies not there yet to provide a safe alternative?

*It is with great sadness and regret that we announce the demise of fossil fuel. After hundreds of years of supplying the population of earth, the resource had been depleted. It will be remembered for the warmth, comfort and pleasure it provided to living things. There will be a great void that needs to be filled perhaps through wind and solar power. It will be sorely missed by all beings that depended on it to warm them, supply their transportation, power their equipment and support all the resources necessary for a safe and comfortable life. (Emphasis added.)*

*Fossil Fuel died after a long, slow illness called greed. Fossil has left the family of the Middle Eastern nations and former President George W. Bush and his cabinet members. Currently, the world is adjusting from heating by oil and illuminating by electricity to solar and wind mill sources. There are several kinks to be worked out and roadblocks to conquer. Will we ever be warm again? Miss you fossil fuel.*

Insights from Smart Power focus groups

• People were far less critical of fossil fuels than expected
  – ‘it keeps them warm’
  – ‘it keeps the lights on’

• While people recognized the problems of pollution and climate change, they saw fossil fuels as a ‘necessary evil’ – unlike clean energy, fossil fuels can be relied on to power our world

Source: http://www.huffingtonpost.com/joel-makower/clean-energy-its-not-the-_b_5115.html
Application of insights to develop marketing tools

Source: http://www.youtube.com/watch?v=_eGOFqvhZjQ
Application of insights to develop marketing tools
Application of insights to develop marketing tools that capture unconscious attitudes

“America already produces enough clean energy to supply all of Chicago’s power requirements. Not to mention New York, L.A., Boston, Philadelphia, Phoenix, San Diego, Dallas, and San Antonio, too. Let’s make more.”

“It’s Real. It’s Here. It’s Working!”

Source: http://www.huffingtonpost.com/joel-makower/clean-energy-its-not-the-_b_5115.html
Methodological approach: Limitations of direct rating

• Direct rating method: no trade-off between attributes necessary

• Although marketplace usually requires trade-offs, consumers typically avoid the evaluation of conflicting attributes during market research
### Indirect surveying technique: Choice-based conjoint analysis (CBC)

If you were in the market to buy a new TV today and these were your only options which would you choose?

<table>
<thead>
<tr>
<th>Product</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panasonic</td>
<td>40&quot;</td>
<td>CHF 1499</td>
</tr>
<tr>
<td>Sony</td>
<td>50&quot;</td>
<td>CHF 1999</td>
</tr>
<tr>
<td>Philips</td>
<td>60&quot;</td>
<td>CHF 1199</td>
</tr>
<tr>
<td>None: I wouldn’t choose any of these</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Each product described in terms of a **number of attributes**
- Respondents are shown a set of products created from a **combination of levels** from these attributes
- Respondents evaluate **realistic product profiles** (described by multiple features) and to choose which they would buy
Typical questions that can be answered with a choice-based conjoint analysis

- How are various characteristics of a product influencing buyers’ choices?
- What product should I offer to maximize interest in the offering?
- What portfolio of products can I offer to appeal to different market segments and maximize overall share?
- How much are people willing to pay for an upgrade in one feature?
Example: Choice-based conjoint experiment for green electricity

- First step: Definition of attributes (7) and attribute levels (4 per attribute)

**Example: Choice-based conjoint experiment for green electricity**

If you had to choose between the following electricity products, which one would you most likely choose? (Please click on the preferred product).

<table>
<thead>
<tr>
<th>Electricity mix</th>
<th>60% coal, 25% nuclear, 5% water, 5% wind, 5% biomass</th>
<th>60% coal, 25% gas, 5% water, 5% wind, 5% biomass</th>
<th>100% wind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power provider</td>
<td>Municipal utility</td>
<td>Medium sized, regional power provider</td>
<td>Major, national provider</td>
</tr>
<tr>
<td>Location of the electricity generation</td>
<td>In the region</td>
<td>In Germany</td>
<td>In Eastern Europe</td>
</tr>
<tr>
<td>Monthly electricity costs</td>
<td>€50</td>
<td>€60</td>
<td>€70</td>
</tr>
<tr>
<td>Certification</td>
<td>-</td>
<td>TÜV</td>
<td>ok power</td>
</tr>
<tr>
<td>Price guarantee</td>
<td>None</td>
<td>6 months</td>
<td>12 months</td>
</tr>
<tr>
<td>Cancellation period</td>
<td>Monthly</td>
<td>Semi-yearly</td>
<td>Yearly</td>
</tr>
</tbody>
</table>


*Fig. 1.* Sample choice task (translated from German).
Calculation of mean part-worth utilities and willingness to pay

Table 2
Hierarchical Bayes model estimation of mean utility values (N=4968 choices made by 414 survey participants).

<table>
<thead>
<tr>
<th>Hierarchical Bayes model</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electricity mix</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mix 1 (60%C, 25%N, 15%S)</td>
<td>-3.98</td>
<td>(3.52)</td>
</tr>
<tr>
<td>Mix 2 (60%C, 25%N, 5%H, 5%W, 5%S)</td>
<td>-2.20</td>
<td>(2.40)</td>
</tr>
<tr>
<td>Mix 3 (60%C, 25%G, 5%H, 5%W, 5%S)</td>
<td>0.30</td>
<td>(1.36)</td>
</tr>
<tr>
<td>Mix 4 (50%W, 35%H, 15%S)</td>
<td>2.85</td>
<td>(2.99)</td>
</tr>
<tr>
<td>Mix 5 (100%W)</td>
<td>3.03</td>
<td>(3.40)</td>
</tr>
<tr>
<td>Max difference in part-worth2 (max.-min.)</td>
<td>7.01</td>
<td></td>
</tr>
<tr>
<td><strong>Power provider</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big national provider</td>
<td>-0.18</td>
<td>(0.47)</td>
</tr>
<tr>
<td>Specialized provider</td>
<td>-0.04</td>
<td>(0.59)</td>
</tr>
<tr>
<td>Middle-sized, regional provider</td>
<td>0.06</td>
<td>(0.59)</td>
</tr>
<tr>
<td>Municipal</td>
<td>0.16</td>
<td>(0.65)</td>
</tr>
<tr>
<td>Max difference in part-worth2 (max.-min.)</td>
<td>0.34</td>
<td></td>
</tr>
<tr>
<td><strong>Location of electricity generation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Eastern Europe</td>
<td>-1.38</td>
<td>(1.19)</td>
</tr>
<tr>
<td>In Switzerland</td>
<td>-0.50</td>
<td>(0.97)</td>
</tr>
<tr>
<td>In Germany</td>
<td>0.93</td>
<td>(0.95)</td>
</tr>
<tr>
<td>In the region</td>
<td>0.95</td>
<td>(0.95)</td>
</tr>
<tr>
<td>Max difference in part-worth2 (max.-min.)</td>
<td>2.33</td>
<td></td>
</tr>
<tr>
<td><strong>Certification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No certification</td>
<td>-0.39</td>
<td>(0.67)</td>
</tr>
<tr>
<td>ok power</td>
<td>0.03</td>
<td>(0.51)</td>
</tr>
<tr>
<td>TÜV</td>
<td>0.12</td>
<td>(0.53)</td>
</tr>
<tr>
<td>Grüner Strom Label</td>
<td>0.24</td>
<td>(0.50)</td>
</tr>
<tr>
<td>Max difference in part-worth2 (max.-min.)</td>
<td>0.62</td>
<td></td>
</tr>
<tr>
<td><strong>Price guarantee</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>-0.74</td>
<td>(0.71)</td>
</tr>
<tr>
<td>6 months</td>
<td>0.01</td>
<td>(0.57)</td>
</tr>
<tr>
<td>12 months</td>
<td>0.28</td>
<td>(0.61)</td>
</tr>
<tr>
<td>24 months</td>
<td>0.45</td>
<td>(0.70)</td>
</tr>
<tr>
<td>Max difference in part-worth2 (max.-min.)</td>
<td>1.19</td>
<td></td>
</tr>
<tr>
<td><strong>Cancellation period</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annually</td>
<td>-0.16</td>
<td>(0.60)</td>
</tr>
<tr>
<td>Semi-annually</td>
<td>-0.05</td>
<td>(0.58)</td>
</tr>
<tr>
<td>Quarterly</td>
<td>0.02</td>
<td>(0.55)</td>
</tr>
<tr>
<td>Monthly</td>
<td>0.19</td>
<td>(0.63)</td>
</tr>
<tr>
<td>Max difference in part-worth2 (max.-min.)</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td><strong>Monthly electricity costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.38</td>
<td>(0.21)</td>
</tr>
</tbody>
</table>

Fig. 2. Implicit willingness to pay for attribute levels of electricity products (relative to default). Note: Attribute levels of default product (Mix 2, made in Germany, regional provider, no price guarantee, no certification, yearly cancellation period) are marked with an asterisk.

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Calculation of importance scores of different product characteristics
Post-hoc market segmentation based on preferences

- Post-hoc market segmentation based on preferences revealed three groups of potential green electricity adopters with varying degrees of preference for renewable energy.

### Table 5
Attribute importance scores.

<table>
<thead>
<tr>
<th>Model</th>
<th>Adopters</th>
<th>Potential Adopters</th>
<th></th>
<th></th>
<th>Likely Non-Adopters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 29</td>
<td>Truly Greens</td>
<td>Price Sensitive Greens</td>
<td>Local Patriots</td>
<td>n = 82</td>
</tr>
<tr>
<td>Segment size</td>
<td></td>
<td>n = 117</td>
<td>n = 78</td>
<td>n = 108</td>
<td></td>
</tr>
<tr>
<td>Electricity mix</td>
<td>48.6%</td>
<td>50.8%</td>
<td>34.2%</td>
<td>20.9%</td>
<td>14.9%</td>
</tr>
<tr>
<td>Power provider</td>
<td>4.8%</td>
<td>4.9%</td>
<td>5.3%</td>
<td>7.8%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Location of electricity generation</td>
<td>9.0%</td>
<td>10.0%</td>
<td>10.5%</td>
<td>21.1%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Monthly electricity costs</td>
<td>23.2%</td>
<td>19.4%</td>
<td>31.8%</td>
<td>22.8%</td>
<td>53.8%</td>
</tr>
<tr>
<td>Certification</td>
<td>4.6%</td>
<td>4.6%</td>
<td>5.5%</td>
<td>8.0%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Price guarantee</td>
<td>5.4%</td>
<td>5.6%</td>
<td>7.0%</td>
<td>11.2%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Cancellation period</td>
<td>4.4%</td>
<td>4.8%</td>
<td>5.5%</td>
<td>8.1%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Post-hoc market segmentation based on preferences

- Findings indicate that socio-demographic factors play a marginal role in explaining the differences between green electricity subscribers and potential adopters (actual adopters tend to be better educated)

- Actual subscribers tend to
  - Perceive *consumer effectiveness* to be higher
  - Estimate *lower prices for green electricity tariffs*
  - Are more likely to *have recently their home* than non-adopters

Group work: Develop CBC for green product/service

• Develop a **CBC** for any green product or service that you can think of (think of an **interesting research question**)!

• Any product or service can be modeled as an entity with a set of attributes (CBC allows max. 8 attributes)
  – Example: Airline ticket (Price, Airline, Stops, etc.)

• Each of the attributes may have two or more levels
  – Example: Stops (none, 1, 2, etc.)

• Attributes and levels should be **independent** and **not correlating** & should have **concrete** and **unambiguous** meanings (e.g. very expensive would be ambiguous)
Group work: Definition of attributes and levels

- What is your research question that you would like to answer with this CBC?
- How does the design of your CBC look like?

<table>
<thead>
<tr>
<th>Attributes (approx. 4-8)</th>
<th>Attribute levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute A</td>
<td>A – Level 1</td>
</tr>
<tr>
<td>Attribute B</td>
<td>A – Level 1</td>
</tr>
<tr>
<td>Attribute C</td>
<td>A – Level 1</td>
</tr>
<tr>
<td>Attribute D</td>
<td>A – Level 1</td>
</tr>
<tr>
<td>Attribute E</td>
<td>A – Level 1</td>
</tr>
<tr>
<td>Attribute F</td>
<td>A – Level 1</td>
</tr>
<tr>
<td>....</td>
<td></td>
</tr>
</tbody>
</table>
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