

Course

23 / PERSPECTIVES ON SUSTAINABLE CONSUMPTION

20 April – 24 April 2015

Inter-University Centre Dubrovnik (IUC)

Ortrud Leßmann, Helmut-Schmidt-University Hamburg, Germany

Torsten Masson, Helmholtz Centre for Environmental Research - UFZ Leipzig, Germany

Wenzel Matiaske, Helmut-Schmidt-University Hamburg, Germany

Simon Fietze, University of Southern Denmark, Germany

Preliminary Program

Monday April 20

- 9:00 – 9:30 Welcome (Ortrud Leßmann, Torsten Masson, Wenzel Matiaske, Simon Fietze)
Introduction (Ortrud Leßmann)
- 9:30 – 10:30 Carina Koch and Ulrike Adam (Leuphana, Lüneburg, Germany): Sustainable behavior at work: The relationship between CSR Communication, CSR Participation and CSR Benefit. An Explorative Study
Presentation and Discussion
- Coffeebreak
- 10:45 – 11:45 Paula Maria Bögel (Leuphana, Lüneburg, Germany): Sustainable communication for sustainable consumption: insights in consumers' processing and evaluation of CSR communication
Presentation and Discussion
- Lunchbreak
- 13:30 – 14:30 Daniel Dietrich (Technical University Munich, Germany): Gender Differences in Perceived Goal Conflict and Overconfidence – Evidence from a Real-Effort Experiment
Presentation and Discussion
- 14:30 – 15:30 Olivia Padalewski (Vienna University of Technology, Austria): Analysis and Ecological Optimisation of the Service Life of IT Infrastructure in Organisations
Presentation and Discussion
- 15:30 – 16:00 General Discussion and Wrapup

Tuesday April 21

- 9:00 – 10:00 Guillaume Le Borgne (Montpellier Supagro): Consumer's food waste sensibility: Definition and impact on food practices and food waste behavior
Presentation and Discussion
- 10:00 – 11:00 Margot Dyen (Montpellier Supagro): Can a local action fight against social exclusion and promote sustainable food practices ? The example of social cooking groups
Presentation and Discussion
- Coffeebreak
- 11:15 – 12:15 Roland Menges (TU Clausthal, Germany): Using Sticks or Carrots to stimulate Investments in Energy Efficiency: An Experimental Investigation of Individual Preferences
Presentation and Discussion
- Lunchbreak
- 14:00 – 15:00 Jan Seidel (Leuphana, Lüneburg, Germany): Group and individual drivers of sustainable energy consumption among students

15:00 – 16:00 Presentation and Discussion
General Discussion and Wrapup

Wednesday April 22

9:00 – 10:00 Madhavi Venkatesan (Bridgewater State University): Sustainability and the economics of embedded values

Presentation and Discussion

10:00 – 11:00 Katharina Gapp (Berlin School of Economics and Law): promoting sustainable consumption patterns using government programmes
Presentation and Discussion

Coffeebreak

11:15 – 12:15 Benjamin Held (HS Pforzheim, Germany): The Costs of Sustainable Consumption: A basket of goods-based analysis differentiated by income
Presentation and Discussion

Lunchbreak

14:00 – 15:00 Final Discussion and Farewell

Thursday April 23 - Friday April 24

Time for further Discussion and Exchange

Abstracts

Carina Koch & Ulrike Adam:

Sustainable behavior at work: The relationship between CSR Communication, CSR Participation and CSR Benefit. An Explorative Study.

Corporate Social Responsibility (CSR) Programs address employees as important internal stakeholders. Moreover, internal CSR Communication aims to gain employees' attention, understanding, and participation in the CSR Program, as well as to intensify their perceived benefits. This case study analyzes 16 interviews with employees focusing on the relationship between CSR Communication, CSR Participation and perceived CSR Benefit.

Keywords *Corporate Social Responsibility (CSR); CSR Communication; Participation; Organizational Identity Theory*

Introduction

CSR as a corporate concept of voluntary social and ecological activities supplementary to business demands (Europäische Kommission 2001) is advanced as a strategic approach for companies to promote sustainable behavior (Crane et al., 2008; Muster, 2010); additionally "participative and cooperative strategies are generally seen as central approaches on the promotion of sustainable development." (Muster, 2010, p. 170). Sustainable development requires sustainable behavior, not just in private life but especially in working life. Moreover, employees act as multipliers of CSR activities in society. Hence, it is increasingly important to know how CSR can become more relevant within firms and how it is linked to sustainable actions.

Several studies discuss sustainable behavior at work (e.g. Paillé & Mejía-Morelos, 2014; Norton et al., 2014; Muster, 2010), but are often limited to the ecological aspect of sustainable behavior. According to Elkington's triple-bottom line (1997), sustainable behavior encompasses personal environmental actions at the workplace (e.g. decision to print less, to switch out the light) but also forms of participation in the company's CSR initiatives. Therefore, the theoretical framework of this study understands sustainable behavior at work not only limited to ecological aspects, but rather as a compendium of social and ecological activities. Through extending the understanding of 'sustainable behavior' in this way (a) all CSR aspects (as listed by Elkington) are taken into account, and (b) the specific characteristic of the organizational CSR context is considered.

Employees and their special role in companies' CSR activities have recently become a very important focus in the CSR research field (Aguilera et al., 2007; Collier & Esteban, 2007; Jones, 2010; Slack et al., 2014). From an internal stakeholder perspective, CSR can be understood "(...) as a dynamic internal process relying on employee involvement in its development and implementation." (Chen & Hung-Baesecke, 2014, p. 210). Up to now most of the internal CSR research projects examine the possible outcomes of CSR for either employees or the company (Vlachos et al., 2014, p. 991). However, this paper prefers a new, process-view of the relationship between CSR Communication, CSR Participation and CSR Benefits with the purpose to provide an in-depth understanding of these interdependent influences on employees' decision processes about whether to behave sustainably or not.

Theoretical Framing: CSR Participation, CSR Benefit and CSR Communication

The literature highlights participation as a key approach to CSR success (e.g. Chen & Hung-Baesecke, 2014; Morsing & Schultz, 2006). Several researchers talk about CSR Participation without specifying precisely what this means (e.g. Chen & Hung-Baesecke, 2014). This study, by contrast, specifies CSR Participation referring to participation literature in general (e.g. Wilpert, 1998), thereby exploring characteristics of CSR Participation.

Several studies have already explored the bond between social and organizational identity and participation (e.g. Joensuu, 2008; Riketta, 2005), but as far as the authors can tell, not in the CSR-specific context of CSR Participation, CSR Benefit and CSR Communication. Organizational Identity Theory (OI) offers a framework to examine process-orientated an employee's decision to participate in CSR or not (*process explanation*) and their perception of benefits (*outcome explanation*).

Perceived benefits, in particular, could be one explanation of employees' willingness to participate, and hence have further implications for target-group-specific internal CSR Communication. "Essentially, we argue that in order for [CSR] initiatives to provide returns to the company, [CSR] initiatives must first provide a return to individual stakeholders." (Bhattacharya et al., 2009, p. 259). Only a few studies examine employees' perceived benefits in detail and from a process-view (Bhattacharya et al., 2009; Vlachos et al., 2014); whereas this study encourages this research focus.

In order to involve the internal stakeholders, the need for a dialogue-orientated internal CSR Communication is especially highlighted in the literature as one important process influence (Du et al., 2010; Ihlen et al., 2011; Morsing & Schultz, 2006; Tench et al., 2014). Morsing and Schultz (2006) offer a theoretical underpinning to this special focus using Grunig & Hunt's (1984) models of public relations and related Stakeholder Theory. Consequently this research examines CSR Communication with reference to the stakeholder involvement strategy which postulates a two-way symmetric communication (Morsing & Schultz, 2006, p. 326) as "(...) CSR can be considered a participative social process where communication has a central role (Sorsa 2008)." (Golob et al., 2013, p. 177).

This discussion and these theoretical considerations lead to the following research questions:

R1. In which forms do employees participate in CSR activities?

R2. Which various benefits of the CSR program do employees perceive?

R3. What interdependent linkages exist between CSR Participation, CSR Benefit and CSR Communication?

Data collection + planned data analysis

The 16 semi-structured interviews were conducted during two days in September 2014. The company is a large internationally-operating telecommunication provider with about 2,000 people working at its German headquarters (in September 2014). The interviews lasted between 16 and 55 minutes (average 32 minutes) and were audio-recorded and later on transcribed. In the qualitative analysis we follow Kuckartz' concept of structuring content analysis (Kuckartz, 2014), based in turn on Mayring (2000).

Our results will offer new insights into the decisional and behavioral processes of employees regarding their participation in their company's CSR activities and therefore, whether to behave sustainably or not. These findings will, first, make it possible to create a stakeholder-specific CSR Communication, which will lead to better promotion of sustainable behavior. Second, it will enable practitioners to strengthen employee-company relations with benefits for both.

References:

- Aguilera, R.V., Rupp, D.E., Williams, C.A., Ganapathi, J. (2007). Putting the s back into corporate social responsibility: A multilevel theory of social change in organisations. *Academy of Management Review*, Vol. 32(3), 836-863.
- Ashforth, B.E.; Mael, F. (1989). Social Identity Theory and the Organization. *Academy of Management Review*, Vol. 14:1, 20-39.

- Bhattacharya, C. B., Korschun, D., Sen, S. (2009). Strengthening Stakeholder–Company Relationships Through Mutually Beneficial Corporate Social Responsibility Initiatives. *Journal of Business Ethics*, 85, 257-272.
- Cheney, G, Tompkins, P.K. (1987). Coming to terms with organizational identification and commitment. *Central States Speech Journal*, 38, 1-15.
- Collier, J., Esteban, R. (2007). Corporate Social Responsibility and employee commitment. *Business Ethics: A European Review*, 16(1), 19-33.
- Du, S., Bhattacharya, C.B., Sen, S. (2010). Maximizing Business Returns to Corporate Social Responsibility (CSR): The Role of CSR Communication. *International Journal of Management Reviews*, 12, 8-19.
- Edward, M.R. (2005): Organizational identification: A conceptual and operational review. *International Journal of Management Reviews*, 7 (4), 207-230.
- Elkington, J (1997). *Cannibals with Forks: The Triple Bottom Line of Twenty-First Century Business*. Oxford: Capstone.
- Europäische Kommission (2001). Europäische Rahmenbedingungen für die soziale Verantwortung der Unternehmen. Grünbuch, Luxemburg: Amt für amtliche Veröffentlichungen der Europäischen Gemeinschaften, COM (2001) 336 final, Brüssel.
- Golob, U., Podnar, K., Elving, W.J., Nielsen, A.E., Thomsen, C., Schultz, F. (2013). CSR communication: quo vadis? *Corporate Communications. An International Journal*, 18 (2), 176-192.
- Grunig, J. E., Hunt, T. (1984). *Managing Public Relations*. New York etc.: Holt, Rinehart and Winston.
- Heinrichs, H., Kuhn, K., Newig, J. (2011). *Nachhaltige Gesellschaft: Welche Rolle für Partizipation und Kooperation?*. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Hennink, M., Hutter, I., Bailey, A. (2011): *Writing Qualitative Research*. In Hennink, M., Hutter, I., Bailey, A. (eds): *Qualitative research Methods*: Sage Publications, 268–293.
- Heller, F., Pusic, E., Strauss, G., Wilpert, B. (1998). *Organisational Participation: Myth and Reality*. Oxford: Oxford University Press.
- Jones, D. (2010). Does serving the community also serve the company? Using organizational identification and social exchange theories to understand employee responses to a volunteerism program. *Journal of Occupational and Organizational Psychology*, 83, 857-878.
- Joensson, T. (2008). A multidimensional approach to employee participation and the association with social identification in organizations. *Employee Relations*, Vol. 30 (6), 594-607.
- Gautam, T., Von Dick, R., Wagner, U. (2004). Organizational identification and organizational commitment: distinct aspects of two related concepts. *Asian Journal of Social Psychology*, 7, 301-315.
- Kuckartz, U. (2014). *Qualitative Inhaltsanalyse: Methoden, Praxis, Computerunterstützung*. Weinheim und Basel, 2., durchgesehene Auflage.
- Mayring, P. (2000). Qualitative content analysis. In: *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* (1, No.2, Art. 20). Retrieved 14.01.2015, from <http://nbn-resolving.de/urn:nbn:de:0114-fqs0002204>.
- Morsing, M., Schultz, M. (2006). Corporate social responsibility communication: stakeholder information, response and involvement strategies. *Business Ethics: A European Review*, 15 (4), 323-338.
- Muster, V. (2011). Companies Promoting Sustainable Consumption of Employees. *Journal of Consumer Policy*, 34, 161-174.
- Piallé, P., Mejía-Morelos, J. (2014). Antecedents of pro-environmental behaviors at work: The moderating influence of psychological contract breach. *Journal of Environmental Psychology*, 38, 124-131.

- Riketta, M. (2005). Organizational identification: a meta-analysis. *Journal of Vocational Behavior*, 66, 58-384.
- Slack, R.E., Corlett, S., Morris, R. (2014). Exploring Employee Engagement with (Corporate) Social Responsibility: A Social Exchange Perspective in Organisational Participation. *Journal of Business Ethics*, 1-12. (Forthcoming)
- Tench, R., Sun, W., Jones, B. (2014). CSR communication as an emerging field of study. *Communicating Corporate Social Responsibility: Perspective and Practice. Critical Studies on Corporate Responsibility, Governance and Sustainability*, 6, 3-21.
- Norton, T., Zachera, H., Ashkanasyb, N. (2014). Organisational sustainability policies and employee green behaviour: The mediating role of work climate perceptions. *Journal of Environmental Psychology*, 38, 49-54.

Paula Maria Bögel

Sustainable communication for sustainable consumption: insights in consumers' processing and evaluation of CSR communication

As the call for papers stated, "sustainable consumption is often regarded as the major way how individual consumers can contribute to sustainable development." The market share for sustainable products, although it is growing, is, however, still quite low. Previous studies show that one major barrier in terms of sustainable development is consumers' lack of knowledge concerning sustainable consumption (SC) and production. In addition, consumers do not know whether companies act in a socially and ecologically responsible manner, as they tend not to be familiar with companies' CSR activities. Their lack of knowledge is often due to a lack of information. To encourage SC behavior, a broad variety of actors - consumer groups, the government, and, of course, companies - need to do a better job of informing consumers. Therefore, this study focuses on a communication perspective, more precisely sustainability communication by companies, so-called CSR communication, as a specific type of sustainability communication.

So far, CSR communication has often been aimed at sustainability experts, e.g. NGOs, but companies have begun to start communicating CSR to consumers, too. For example, companies like the popular fashion brand H&M have published Highlight Versions of their CSR reports for consumers. However, despite companies' increasing efforts in this respect, just 36% of citizens in the EU felt they were informed about companies' CSR activities. Besides the low level of awareness, consumers' skepticism towards CSR communication is a key problem. In particular, doubt in response to green claims has been shown to reduce SC. The situation described above raises the question of how CSR can be better communicated. To answer this question, one needs to consider the cognitive processes that influence the processing and evaluation of CSR communication and the underlying psychological variables. So far, research on the psychology of CSR information processing and evaluation has, however, been quite rare. This study focuses on consumers' processing and evaluation of CSR communication from a socio-psychological perspective. Based on the elaboration likelihood model (ELM) as well cognitive dissonance theory, it explores the influence of consumers' level of sustainability involvement, their knowledge about SC and production, and their prior-held beliefs towards H&M and towards CSR on their processing, particularly their level of elaboration, and their evaluation of CSR communication, namely perceived credibility of the CSR information. The study focuses on the interrelation between the influencing variables to identify processing mechanisms and to derive implications for target-group-specific CSR communication in particular and sustainability communication in general.

To answer the research questions, we approached the Highlight Version of H&M's CSR report. In a mixed-method study, 44 participants were first questioned in an online survey about their general attitudes towards CSR as well as towards H&M. 21 participants were then

invited to an in-depth interview. They were selected based on their attitudes towards CSR and H&M as well as their age and gender. During the interviews, participants received an excerpt from the Highlight Version of H&M's CSR report. They were asked to think-aloud while reading the material. Afterwards, a semi-structured interview was conducted that included questions regarding participants' evaluation of the excerpt and their prior experiences with regard to sustainability in general and CSR in particular. The data was analyzed in three steps:

1) Evaluative content analysis

First, a content analysis was conducted. The following theoretically derived factors mentioned above were used as evaluative categories: level of sustainability involvement, level of knowledge about SC and production, level of elaboration, and perceived credibility of CSR communication. In addition, the category understanding problems was developed from the material. Data on prior-held beliefs, more precisely perceived company reputation of H&M, was taken from the quantitative survey. Category definitions as well as key results of the categories are listed below:

| Categories | Definition | Key results |
|--------------------------------|--|---|
| Sustainability involvement | <ul style="list-style-type: none"> - perceived personal relevance of sustainability in everyday life - options: low, medium, high | even in case of high sustainability involvement, sustainable behavior is only sometimes implemented in everyday life (reasons: lack of time, financial restrictions, egoism) |
| Sustainability knowledge | <ul style="list-style-type: none"> - knowledge about sustainability, e.g. sustainable production - options: low, medium, high | - likewise, the level of knowledge is, even in the case of the category high sustainability knowledge, quite low, e.g. sustainability indexes like the Dow Jones Sustainability Index are unfamiliar to respondents |
| Prior-held beliefs towards H&M | <ul style="list-style-type: none"> - perceived company reputation - options: positive, negative | - prior-held beliefs towards H&M and CSR in general as well schemes (e.g. about relationship between the price of a product and sustainability) of respondents clearly influence their processing and evaluation of the CSR information |
| Level of elaboration | <ul style="list-style-type: none"> - attention to information, relating information to previous knowledge, generating implications - options: low, medium, high | - level of elaboration differs strongly between respondents |
| Understanding problems | <ul style="list-style-type: none"> - problems of respondents to understand the CSR report - options: based on lack of knowledge concerning sustainability, based on missing information from company | <ul style="list-style-type: none"> - respondents who do not have a good understanding of sustainability often have problems to understand CSR information; even those who have a good to very good understanding of this issue struggle to fully comprehend the report - difficulties to understand either issues concerning sustainability or CSR information lead to skepticism |
| Perceived | <ul style="list-style-type: none"> - perceived credibility of | - every respondent questioned the credibility of |

| | | | |
|-------------|---|-----|--|
| credibility | company's activities | CSR | the company, particularly with regard to working conditions |
| | - options: credible, positive intention, critical, impossible | | - credibility is, in general, quite low (60% critical or impossible) |

2) Multiple correspondence analysis

The quantitative analytical method of multiple correspondence analysis (MCA) was then used to analyze the data. MCA explores the structure of associations among a set of categorical variables, and it is used in this study to examine how the categories mentioned above are interrelated. Interpretation of MCA consists of examining the graphical solution and considering how the categories lie relative to one another and how the set of respondents is spread out relative to the categories. In this study, the graphical solution shows that the first (horizontal) dimension captures the main item variation (low to high) due to sustainability involvement and knowledge. Both categories retain their original order along the first dimension (left: high sustainability involvement and knowledge, right: low sustainability involvement and knowledge). When it comes to the category understanding problems, the graphical solution shows that problems based on missing information from the company is found on the left. At the right end of the axis, the category problems based on lack of sustainability knowledge is shown. Thus, the first dimension can be interpreted as high vs. low sustainability. This finding gives insights into the interrelationship between the variables: respondents with high sustainability involvement also tend to have a higher level of sustainability knowledge than respondents with a low level of sustainability involvement and thus have fewer problems to understand sustainability information in general. Based on these findings, interview cases are clustered, resulting in three groups of respondents: low, medium, and high sustainability. In the case of H&M, the category perceived company reputation seems to be interrelated with low vs. high sustainability: respondents characterized by high sustainability involvement and knowledge tend to perceive H&M's reputation more negatively than respondents with low sustainability involvement.

3) Case-by-case analysis

The subsequent analysis of interview cases associated with low, medium, or high sustainability reveals further insights concerning the interrelation between variables. Perceived credibility of the CSR information and level of elaboration are interrelated with sustainability involvement and sustainability knowledge. In general, respondents with high sustainability involvement tend to evaluate the CSR information as less credible than respondents with low sustainability involvement. However, the relationship between the categories is more complex here: for example, even respondents who initially perceive company reputation to be positive evaluate CSR information as not credible because being exposed to information on sustainability activates other prior-held beliefs (e.g. a negative attitude towards CSR in general) and schemes (e.g. the assumption that the price of a given product corresponds to a distinct mode of production and, for example, cheap products are commonly perceived to be unsustainable). The same applies for level of elaboration: respondents with high sustainability involvement and knowledge tend to elaborate the CSR information more intensively; all options of elaboration level (low to high) could, however, be found in all three groups. The analysis of individual cases suggests that prior-held beliefs and schemes affect the influence of involvement and the ability on the level of elaboration that is proposed in the ELM.

In terms of implications, this study clearly shows that the current sustainability communication of companies does not seem appropriate to help consumers make informed choices, mainly because it is quite complex and predicated on a level of sustainability

knowledge that seems to be quite rare in the general public. Regarding public policy, these findings highlight the need for further improvements in education for sustainable development. Regarding implications for CSR communication, the study offers insights into the interrelated influence of consumers' characteristics (involvement, knowledge, prior-held beliefs, and schemes) on their processing and evaluation of CSR information. It provides recommendations and suggestions as to how communication can be adapted to reach different consumers groups.

Daniel Dietrich

Gender Differences in Perceived Goal Conflict and Overconfidence – Evidence from a Real-Effort Experiment

The research presented examines gender-specific differences on the perception of goal conflict and its consequences on performance within a realistic production environment. In order to empirically test the effects of multiple goal-setting on experienced goal conflict, a real-effort experiment was conducted at the Model Factory for Energy Efficiency (LEP) at the Technische Universität München. In total eight experimental groups have been set up, differing by the number and types of goals. Three goal dimensions, commonly imposed in production settings, were applied: energy sustainability, output quantity and product quality. Findings indicate that a higher number of goals increase the perceived level of goal conflict. Moreover, men experienced significantly less goal conflict than women. This gender gap grows with the number of requested targets. A possible explanation for this gender inconstancy may be drawn from overconfidence literature, which provides evidence for men to overestimate personal abilities due to a higher level of self-esteem. Irrespective of the number and types of goals, there has been only scarce evidence for gender differences in actual goal achievement. This supports the presumptions of overconfidence to be the main reason for the gender differences in perceived goal conflict.

Keywords: *Goal conflict, Gender differences, Sustainability, Overconfidence, Real-Effort*

Experiment

Olivia Padalewski

Analysis and Ecological Optimisation of the Service Life of IT Infrastructure in Organisations

One particularly effective intervention point towards more sustainable consumption patterns is the service life of durable goods. Product lifetime optimisation involves both efficiency and sufficiency and promises significant reductions in the amount of resource consumption and waste (Cooper, 2005). So far, however, this strategy was discussed at the level of private households only, while the corporate sector was largely ignored. This is a severe deficit, considering that the corporate sector is responsible for a notable amount of overall material consumption, leading to a considerable generation of hazardous waste at the end-of-life. Unfortunately, the explanatory power of research on the replacement practices of individual households is very limited when applied to organisations because many constraints to a more sustainable use of durables are specific to organisations. Most of these constraints originate in the division of labour and conflicts between agents of organisations, but also legal requirements and market competition play a role. How the service life of durables can be optimised in organisations thus remains an open question.

Our research project was set out to fill this gap by studying the case of a public organisation located in Vienna, Austria. This case is particularly interesting because the procurement of investment goods falls under the responsibility of a public “smart procurement” agency that

takes also environmental and social impacts into account. We use ethnographic research methods to uncover the various factors within and outside of the organisation that have an influence on the actual service life of durable goods. Our empirical research thus comprises data from in-depth interviews with employers and employees, photographs and fieldnotes from participant observations. Furthermore, our approach of collecting data stands in the tradition of action research (see Brydon-Miller et al., 2003; Greenwood and Levin, 2007). In practice, this means that we aim to change the status quo (i.e. optimising the service life) through mutual learning with local stakeholders. This is achieved by means of deliberate interventions and subsequent re-evaluations in the organisation under study. Our focus is thereby on IT infrastructure such as notebooks and PCs – artefacts which involve rare and valuable resources and are typically replaced at high rates. Moreover, most users in the organisation possess these goods also as private consumers, which makes it possible to compare use-patterns between goods used at home and those used at work.

The theoretical background of this study is cultural-historical activity theory (see Engeström, 2000, 2001; Holt and Morris, 1993). There is a rich basis of previous studies that have successfully combined cultural-historical activity theory and action research from which we can draw from. This theoretical approach is particularly well suited for action research because it offers intuitive tools (like the now well-known triangle of the activity system), which facilitate the communication with members of the organisation. Two additional advantages of cultural-historical activity theory deserve attention: On the one hand, it focuses on the social-material practices (or activities) of everyday life and thereby overcomes the dichotomy between individuals and structures, and on the other hand, it places particular emphasis on the material aspects of work in organisations. Hence, cultural-historical activity theory provides an interesting platform from which to embark a study on product lifetime optimisation in organisations.

This study improves our understanding of sustainable consumption in three ways: First, we offer insights for organisations into how they can save resources and costs by optimising the service life of investment goods. Second, our research provides a better understanding of how public procurement agencies may incorporate the lifetime of investment goods in their decision-making. Third, we show what can be done at a regulatory level to make it more attractive for firms to keep durable goods longer.

Keywords: sustainable consumption, product lifetime optimisation, service life of durable goods, action research, cultural-historical activity theory, smart procurement, organisations

References:

- Brydon-Miller, M., Greenwood, D., Maguire, P. (2003). Why Action Research?, *Action Research*. 1(1), pp. 9-27
- Cooper, T. (2005). Slower Consumption: Reflections on Product Life Spans and the “Throwaway Society”, *Journal of Industrial Ecology*. 9(1-2), pp. 51-67
- Engeström, Y. (2000). Activity theory as a framework for analyzing and redesigning work, *Ergonomics*. 43(7), pp. 960-974
- Engeström, Y. (2001). Expansive Learning at Work: toward an activity theoretical reconceptualization, *Journal of Education and Work*. 14(1), pp. 133-156
- Greenwood, D. J. and Levin, M. (2007). *Introduction to Action Research: Social Research for Social Change* (2nd Edition). London, Sage Publications.
- Holt, G. R. and Morris, A. W. (1993). Activity Theory and the Analysis of Organizations, *Human Organization*. 52(1), pp. 97-109

Guillaume Le Borgne

Consumer's food waste sensibility: Definition and impact on food practices and food waste behavior

Food waste is a growing issue, including in our western society. A consequent share of the population doesn't have access to a regular amount of qualitative food whereas a lot of food is wasted or thrown away along the food chain. In Europe, 42% of the food that is wasted along the chain (agricultural waste – or losses - excluded) is wasted at home. However, can we assign exclusively the responsibility of household's waste to consumers? Consumers are often presented as ignorant or unconcerned as regards food waste at home and food practices in general. Several studies, mainly in sociology of practices, have shown this is untrue and, most of food that is wasted doesn't arise from a lack of concern of the consumer. This research aims at defining “consumer's sensibility to food waste”, and developing a measuring scale of this construct. Then, we test an “Antecedents-Sensibility-Practices” conceptual model. Quantitative analysis shows that consumer's sensibility has two dimensions: a sensibility at an individual level and a sensibility at a global or general level and, that only “individual sensibility” influences (reduces) the frequency of throwing leftovers after meals. On the basis of these quantitative results, we also give recommendations for social marketers, regarding the antecedents of the most commonly advised food practices linked to food waste reduction.

Consumer's sensibility to food waste: definition and scale development

Food waste is very closely linked to durability issues. Thus, we decide to define food waste sensibility the same way environmental concern (EC) and socially responsible consumption (SRC) were defined (yet without consensus in the literature). After a literature review on EC and SRC, we define consumer's sensibility to food waste as following: “fact of giving importance to the issue of food waste and to its consequences and, of being affected (emotionally, morally) by food waste “.

Two qualitative studies have been led: the first one consists in 20 semi-directive interviews of French consumers and, the second one is a content analysis of 251 comments of Internet users in reaction to press articles about food waste. These two qualitative studies brought new statements to create items for the sensibility scale and, also to build a conceptual model.

A first quantitative study was led on 510 French consumers. From exploratory factor analysis emerged two dimensions for sensibility: a sensibility at an individual level, assessing the fact of being concerned by or affected by food waste concerning oneself or close person and, a sensibility at a general level, closer to a concern about the issue of food waste in general and its local or global consequences. A second quantitative study was led on 1018 French consumers. Confirmatory factor analysis corroborated the existence of these two dimensions, and established the validity and reliability of this two-dimensional scale.

The antecedents of consumer's sensibility to food waste, and the impact of this sensibility on food practices

This second quantitative study on 1018 consumers also aimed at testing the conceptual model we had established.

More precisely, this model contains - “upstream” - three potential antecedents of food waste sensibility: Education about food during childhood, Concern for one's personal purchasing power, and Involvement with food. The central part of the model is made of the two sensibilities as described before, playing a partially mediating role. Finally, the “downstream part” of the model is made of a series of food practices at home (stocking leftovers in closed boxes in the fridge, making shopping lists...) whose frequency is asked. Moreover, the frequency of the behavior “Getting rid of leftovers after meals” is asked.

This structural equations model (SEM) has been assessed with AMOS software (LISREL method). Results show that practices have different antecedents: some of them (such as

stocking leftovers in closed boxes, putting food in different areas of the fridge according to the type of food, ...) are directly influenced by food waste sensibility (more often and more strongly by individual sensibility than global sensibility), but others (such as planning practices) are mainly led by purchasing power concerns.

Discussion and conclusion

This poses the question of the efficiency of awareness campaigns: first, we should insist on “individual sensibility”, since “global sensibility” seems to have very little effect on food waste behavior. Moreover, giving a list of “10 good practices to avoid food waste” (as do some campaigns in France and in the UK) might not be the most efficient way to have these practices adopted, since people – as shown by our study – do not adopt all these practices for “food waste concern” reasons. For some practices, motivation comes from elsewhere, for instance concern for one’s purchasing power.

As a conclusion, this work brings a two-dimensional measure of consumer’s sensibility to food waste, which allows a finer analysis than unidimensional scales of concern usually do: these two levels don’t have the same effect on preferences and behavior. In addition, we brought recommendations for the authorities and for retailers regarding how to communicate with consumers on food waste.

Margot Dyen

Can a local action fight against social exclusion and promote sustainable food practices ? The example of social cooking groups

Food systems are tools used to analyse how humans manage the food production, transportation and consumption (Rastoin and Ghersi, 2010). Nowadays, the way to promote sustainability in our food systems is more and more questioned, because a pool of knowledge has been produced, and it has now to be put into practice (Schrader and Thøgersen, 2011). We notice that initiatives from food systems actors, closer to citizens, are valorized, and food systems tend to re-localize, trying to better understand the local solutions for the global challenges of sustainability (Macias, 2008). In this way, some of these initiatives try to increase the sustainability of our food systems, thanks to the proximity with the citizens, who have to act more and more mindfully in terms of sustainability (Moll et al., 2005). This study aims to evaluate an initiative and its impacts on two aspects food system’s social sustainability: social insertion and food practices. To do so, we study the case of social cooking groups for people in social instability, as food has been identified as a strategic lever to increase the poor people’s social situation (Spurling et al., 2013). We question the effectiveness of the cooking groups to claim sustainable food practices, and how they contribute to social insertion of the participants.

This work is based on two main hypothesis. First, the hypothesis that cooking groups contribute to fight against social exclusion, thanks to two factors: the dynamic of the group, gathering people on a common activity ; and the value-creation of people, teaching them new skills. And secondly, the hypothesis that cooking groups drive to the adoption of sustainable food practices giving again the taste of cooking, the taste of a good nutrition, and the taste of table-companionship.

We observe cooking groups in three different structures : a Social Centre addressed to people facing financial difficulties ; a hosting structure for young people suffering from homophobia from their relatives ; and a hosting center for people with disability, starting their life over. One-hour interviews with three participants in different groups and with the volunteer cooker who is in charge of the cooking groups complete this information. We analyze these datas with thematic analysis (Braun and Clarke, 2006), and thanks to theories of practice (Spurling et al., 2013).

From our results, we conclude that, in each cooking group, schemas of interactions between participants are distinct: the relationships between the participants themselves, and the relationships between the participants and the cooker are different in each group. That implies variable models of animation, depending on the public targeted (how to give instructions, how to suggest the menu, etc.). More than that, it attests the importance of an adaptable way to lead the cooking groups, contributing to the proper way of functioning of each group. Indeed, the participants benefit the specific dynamic of the group in each case, and this dynamic contributes to social insertion by making them feel that they are useful (Dempsey et al., 2011; Macias, 2008). Nevertheless, in the case of the young people, as they are living always together, group dynamic can lead to an exclusion of the whole group by the rest of the society (Hinrichs and Kremer, 2002).

In addition to the effectiveness in terms of social insertion, cooking groups also solicit the participants to get new skills, and they value their actions through a group activity. In our three cases, (re)learn to cook and offer to the people in difficulties the opportunity to cook and eat good things contribute to revalue them. Doing so, the activity legitimate one's actions, and we observe a value-creation at two different levels : one goes through the action of cooking, developing new practices (Gorge and Özçaglar-Toulouse, 2013) ; and the other value-creation comes from the fact that the cooking group offer the poor people the opportunity to eat good things (Gorge and Özçaglar-Toulouse, 2013). This last result comes from the incorporation principle, wich means that we feel like what we eat. That is why food is a key-tool to increase self-esteem of our public in social integration difficulties.

Nevertheless, these cooking groups are not totally effective to promote the adoption of new practices, because of the social barriers touching the public targeted: the cooking groups succeed in promoting new practices when the participants are motivated by the social aspect of the activity. It is easier to involve in something when it is associated with leisure (Gorge and Özçaglar-Toulouse, 2013). More than that, the theories of practice claim that for an action to be done, it is necessary to gather three elements of a practice: the material elements, the competence elements, and the meaning elements (Spurling et al., 2013); and our study revealed that the public targeted is under the pressure of too much material and organizational barriers in the daily life, what limits the effectiveness of the cooking groups to really promote sustainable food practices and have it adopted.

Our study opens the debate on how to evaluate a local initiative, and gives an example of an explorative way to do it. Doing so, we reveal that local initiatives dealing with food can reach a wider range of social sustainability than just dealing with food: here, the cooking groups are a better social insertion factor than a sustainable food practices promotion. To improve it, future development in local initiatives should consider the material aspects of the practices, and the constraints people have to deal with. They should focus on pleasure, leisure and promote shared moments to make the practice promoted spontaneously easier to adopt.

Key words : *cooking groups, social insertion, value-creation, social sustainability, theories of practice, habits*

References

- Braun, V. and Clarke, V. (2006), Using thematic analysis in psychology, *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77–101.
- Dempsey, N., Bramley, G., Power, S. and Brown, C. (2011), The social dimension of sustainable development: Defining urban social sustainability, *Sustainable Development*, Vol. 19 No. 5, pp. 289–300.
- Gorge, H. and Özçaglar-Toulouse, N. (2013), Expériences de consommation des individus pauvres en France: apports du Bas de la Pyramide et de la Transformative Consumer Research [Consumption experiences of French poor people: knowledge from the Bottom of Pyramid and the Transformative Consumer Research], *Décisions Marketing*, Vol. 72, pp. 139–156.
- Hinrichs, C. and Kremer, K.S. (2002), Social inclusion in a Midwest local food system project, *Journal of Poverty*, Vol. 6 No. 1, pp. 65–90.

- Macias, T. (2008), Working Toward a Just, Equitable, and Local Food System: The Social Impact of Community-Based Agriculture, *Social science quarterly*, Vol. 89 No. 5, pp. 1086–1101.
- Moll, H.C., Noorman, K.J., Kok, R., Engström, R., Throne-Holst, H. and Clark, C. (2005), Pursuing More Sustainable Consumption by Analyzing Household Metabolism in European Countries and Cities, *Journal of Industrial Ecology*, Vol. 9 No. 1-2, pp. 259–275.
- Rastoin, J.-L. and Gherzi, G. (2010), *Le système alimentaire mondial: concepts et méthodes, analyses et dynamiques*, [The global food system: concepts and method, analysis and dynamics] Editions Quae.
- Schrader, U. and Thøgersen, J. (2011), Putting Sustainable Consumption into Practice, *Journal of Consumer Policy*, Vol. 34 No. 1, pp. 3–8.
- Spurling, N., McMeekin, A., Shove, E., Southerton, D. and Welch, D. (2013), *Interventions in practice: re-framing policy approaches to consumer behaviour*, Sustainable practices research group.

Roland Menges

Using Sticks or Carrots to stimulate Investments in Energy Efficiency: An Experimental Investigation of Individual Preferences

Gregor Beyer, Roland Menges, Clausthal University of Technology, Germany

Abstract for the Seminar on „Sustainable Consumption“ at the IUC Dubrovnik, April 2015

How to translate energy efficiency objectives into individual behaviour

In most industrialized countries increasing energy efficiency has become a strategic mean in order to reduce carbon emissions and to allow for more sustainable patterns of consumption. Economic literature addressing the broad field of energy efficiency has arrived at three core conclusions (Prindle et al. 2010): First, a large technical potential to increase energy efficiency and to curb energy consumption at low cost is identified across all sectors of the economy. Second, despite this technical potential the willingness of market participants to invest in energy efficiency measures is rather limited. Different barriers or market failures such as asymmetrical evaluations of cost and benefits are held responsible for the gap between potential and actual investment behaviour. Third, these barriers account for a broad consensus that policy measures are needed to promote energy efficiency investments. However, the question remains how to translate collective efficiency goals into individual behaviour in an effective and efficient manner. Do individuals need more information concerning the positive long-term effects of efficiency investments? Or should investment behaviour be stimulated by using sticks (such as obligatory efficiency standards for buildings and appliances) or carrots (such as subsidy programmes). Individual decision making in the field of energy efficiency and the role of efficiency policies has been extensively investigated in the empirical literature. Offering well-designed hypothetical investment projects and using classical survey-based stated preference methods core decision making determinants are identified (Alberini et al. 2013). Other papers assess the economic feasibility of government programs and stress the importance of free-riding (see for instance Grösche and Vance 2009). However, when making assessments of efficiency policies, we believe that there are two additional considerations that need to be made regarding the benefit resulting from energy efficiency investments: First, energy efficiency investments have local, private effects as they reduce an investing household's energy expenditures and generate private savings. At the same time, increases in energy efficiency and the resulting decline in energy consumption save greenhouse gas emissions (as rebound effects are neglected). Hence, individual energy efficiency investments combine the properties of private goods (private investment costs and expenditure savings) and public goods (environmental protection). Energy efficiency policies thus affect the provision of an impure public good (Cornes and Sandler 1996). The second consideration concerns the fact that the public benefit provided by energy efficiency investments depends on highly heterogeneous household characteristics such as income or technological endowments giving rise to different preferences. The role of heterogeneous household parameters is relevant for the distributional effects of energy efficiency policies, too: To combat regressive effects of increasing energy prices, specific subsidy programs could be for low-income households to assist their efforts to invest in energy efficiency measures (Neuhoff et al. 2013). Previous experimental results show that

individuals' willingness-to-pay for climate protection is significantly affected by social preferences and attitudes towards the perceived fairness of cost allocation methods (Menges and Traub 2009).

Methods

The two dimensions of energy efficiency mentioned above cannot be easily addressed when using stated preference methods that fail to induce incentives for respondents to consider the opportunity costs of environmentally friendly decisions. Moreover, the public good element of energy efficiency unfolds interaction problems and strategic behaviour, which cannot be controlled in traditional survey-based methods. Our experimental design takes these considerations into account, using a simplified public good game to let individuals derive investment decisions under controlled conditions. The effects of individual spending for energy efficiency are modelled by a payoff function that consists of three elements, each representing

- opportunity costs of energy efficiency in terms of reduced private consumption,
- private benefits of efficiency investments because of reduced future energy expenditures
- and external effects (public benefits) reflecting the positive spillovers of efficiency investments of all individuals.

Each individual faces the following endowment: The available budget is given by the individual's (gross-) income minus his or her expenditure for energy consumption. Opportunity costs of energy efficiency investments are assumed to be linear in terms of forgone consumption; private and public benefits of efficiency investments are non-linear with positive but diminishing marginal benefits. The Nash equilibrium is determined by maximizing the expected payoff with respect to the individual efficiency investment. The welfare optimum represents the level of each individual's efficiency spending, which maximizes the sum of payoff functions. As typical for public good experiments, welfare-optimal investments increase overall benefits only in the case of mutual cooperation. Considering the public benefits of energy efficiency each individual faces an incentive to ride free on the contribution of all other individuals. In our experiment three participants form a group, where each participant takes responsibility for a household characterized by certain levels of income and energy expenditures. Individuals are asked to allocate their disposable income and choose between energy efficiency investment and consumption. Additionally, individuals are supplied with illustrative examples of decision outcomes depending on the choices of the other participants. Validity is ensured providing monetary incentives: Apart from the usual show-up fee participants have a lottery-driven chance to win the payoff in "real" money, which results from their and the groups efficiency choices. In order to test the influence of income heterogeneity, fuel poverty and different schemes to subsidize or enforce individual efficiency investments, different experimental treatments are deployed by varying certain elements of endowments and payoff functions. By comparing investment behaviour between different treatments we are able to address the following research questions and hypotheses:

- How do subsidy programmes and the application of different cost-sharing rules effect individual investment decisions?
- Do forced efficiency investments reduce voluntary contributions, giving rise to crowding-out effects as observed by Menges et al. (2005).

Results

In late 2014 two pilot studies with an aggregated sample of 180 subjects were conducted in order to test for the robustness of our fully computerized experimental design. The main experiment will take place in March 2015 in a large shopping mall in Braunschweig

(Germany). The preliminary results of our pilot study suggest the following conclusions: As we control for the effects of flat subsidies and forced investments on cooperation in a non-linear public good game with heterogeneous endowments settings we find that in the absence of policies, households behave slightly cooperative and invest more than the profit-maximizing amount independent from their endowments. When grants are offered to low-income households, receiving households cede to cooperate entirely, while remaining households do not change their behaviour. We also observe that cost sharing rules of policy costs determine collective investments and find that progressive financing schemes reduce overall investments. Finally, investment obligations below Nash-levels do not alter investment decisions significantly. Due to low case numbers, our results need to be interpreted cautiously. However, the results presented in this paper suggest that the effects of flat subsidies for energy efficiency investments are limited to the redistribution of endowments and that investment obligations might be used to establish energy efficiency standards without provoking behavioural effects.

References

- Alberini, A.; Banfi, S.; Ramseier, C. (2013): Energy Efficiency Investments in the Home: Swiss Homeowners and Expectation about Future Energy Prices, *Energy Journal* 34, 49-82.
- Cornes, R.; Sandler, T. (1996): *The Theory of Externalities, Public Goods and Club Goods*, Cambridge University Press, second edition, Cambridge.
- Grösche, P.; Vance, C. (2009): Willingness-to-Pay for energy conservation and free-ridership on subsidization - Evidence from Germany, *Energy Journal* 30, 141-160.
- Menges, R.; Traub, S. (2009): An Experimental Study on the Gap between Willingness to Pay and Willingness to Donate for Green Electricity, *Finanzarchiv* 65, 335-357.
- Menges, R.; Schroeder, C.; Traub, S. (2005): Altruism, Warm Glow and the Willingness-to-Donate for Green Electricity: An Artefactual Field Experiment, *Environmental & Resource Economics* 31, 431-458.
- Neuhoff, K.; Bach, S.; Diekmann, J.; Beznoska, M.; El-Laboudy, T. (2013): Distributional Effects of Energy Transition: Impacts of Renewable Electricity Support in Germany, *Economics of Energy and Environmental Policy* 2 (1), 41-54.
- Prindle, B.; Zarnikau, J.; Allis, E. (2010): Barriers and Policy Solutions to Energy Efficiency as a Carbon Emissions Reduction Strategy, in: Sioshansi, F. (ed): *Generating Electricity in a Carbon-Constrained World*, 207-239, London.

Jan Seidel

Group and individual drivers of sustainable energy consumption among students

This paper analyzes different factors that influence sustainable energy consumption behaviors among students. First, some insights from different discourses are brought together at a theoretical level. This discussion identifies group-level and individual-level factors that impact on sustainable energy behavior. The second step of the paper conducts a regression analysis on these factors. The results highlight the special relevance of four predictors ($R^2=.564$): (1) a student's intrinsic motivation for pro-environmental action; (2) the degree to which he or she perceives his or herself to be able to contribute to a better environment and a more sustainable energy system (perceived consumer effectiveness); (3) his or her information behavior; and (4) the academic discipline in which the student is enrolled. Implications for practice and future research are discussed.

Background and contribution

As pointed out in the call for this special issue, there is a necessity to broaden perspectives on sustainable consumption. Therefore, this paper brings together ideas from different discourses about this topic. In particular it seeks to unite perspectives on group and individual motivational factors. For students, an important group effect stems from the course they study. Since students are likely to choose an academic discipline that matches their mindsets and worldviews (self-selection effects) (Haley & Sidanius 2005; Windolf 1995), studying in a particular program also entails being influenced by a specific cultural context (socialization effects) (Becher & Trowler 2001). It is thus likely to influence behavior, for instance, due to potentially different expectations of fellow students in various academic disciplines. A person may, therefore, choose specific

forms of behavior as (political) statements in favor of or against societal trends or developments, such as the increasing consideration of sustainability issues in daily life. Previous research has revealed significant differences in political attitudes across academic disciplines (Kemmelmeyer *et al.* 2005), so taking into account a person's academic background can help to obtain a better understanding of the relation between political attitudes and sustainability attitudes. Furthermore, students from different academic disciplines proved to differ concerning their attitudes toward issues of societal justice and equality. Those students surrounded by hierarchy-enhancing environments, for example in a business or economics program, attributed less importance to societal equality than their fellow students from the social and cultural sciences (Haley & Sidanius 2005). Therefore, as the concept of sustainability is closely linked to the idea of intra- and intergenerational justice, it is highly interesting to consider academic discipline.

Students are, however, not only group member, but also individuals. Hence, this paper analyzes the four following individual-level factors that may have an effect on sustainable consumption behavior: First, intrinsic motivation has been identified as an important driver of (pro-environmental) behavior (Pelletier *et al.* 1998). Since sustainable consumption behavior can be understood as a form of pro-environmental action, whether a person takes into account sustainability issues, may be related to his or her intrinsic motivation to contribute to a better environment. Second, the degree to which people are willing to consume responsibly may also depend on the concern they feel about environmental degradation (environmental concern). This concern can be related to worries about themselves, others, or the biosphere (Stern *et al.* 1995). Third, whether people consider sustainability in their consumption decisions may be related to how much they believe that they can change something for the better through their behavior, i.e. their perceived consumer effectiveness (Kang *et al.* 2013; Vermeir & Verbeke 2008). Fourth, since information behavior reflects an interest in a particular field, it may also help us to understand a person's behavior in this field.

To sum up, while various sources of influence within groups may motivate people to behave according to a group's norms and expectations (Feldman 1984), e.g. to make a statement that underlines their affiliation to the group, these sources of influence are certainly not the only driver of specific forms of behavior. Thus, it seems worthwhile to combine the analysis of group influence with the examination of individual-level determinants of sustainable behavior.

Data and methods

Bachelor students enrolled in three different programs (business, cultural, and environmental studies) at Leuphana University of Lüneburg participated in a self-administered paper-pencil survey in June 2013 (n=247). 7-point Likert scales were used to measure the different constructs. The predictors were operationalized by short scales comprising items from established scales as well as newly developed items. Moreover, a short scale designed to measure a person's reported behavior in terms of four aspects related to sustainable energy consumption was developed: (1) Knowledge about the individual's own source of electricity supply; (2) the importance attributed to the ecological impact of products and (3) to their energy efficiency; as well as (4) the attention paid to the energy consumption of people within the person's social environment. Additionally, the participants were asked to report whether they consume renewable energy in their households.

Findings

A linear regression model identified a person's intrinsic motivation, perceived consumer effectiveness, and information behavior as important predictors of sustainable consumption behavior. Moreover, studying environmental or cultural studies turned out to be positively associated with sustainable energy behavior. Overall, the model accounted for more than half of the variance ($R^2=.564$). A closer look at the differences in attitudes and reported behavior across academic disciplines revealed that – not surprisingly – students enrolled in environmental studies reported the strongest intrinsic motivation (mean=5.83), perceived consumer effectiveness (m=5.30), information behavior (m=4.20), and sustainable energy behavior (m=5.17). In line with previous research that found students from the social and cultural sciences to be more concerned

with societal equality than students enrolled in business or economics, the latter were significantly less intrinsically motivated ($m=4.25$, compared to $m=4.87$ for cultural studies) and reported a significantly less sustainable energy behavior ($m=3.59$, $m=4.17$ for cultural studies). These results were supported by the relative numbers of consumers of renewable energy in the different study programs. While only 20.9% of the business students reported consuming renewable energy, numbers were higher for their fellow students from cultural (38.5%) and environmental studies (56.9%). The results suggest that, in addition to individual-level determinants, group-level influence and cultural contexts matter when analyzing sustainable energy consumption behavior.

References

- Becher, T. & Trowler, P.R., 2001, *Academic tribes and territories: Intellectual enquiry and the cultures of disciplines*, 2nd edn., SRHE and Open University Press, Buckingham and Philadelphia.
- Feldman, D.C., 1984, 'The development and enforcement of group norms', *The Academy of Management Review* 9(1), 47–53.
- Haley, H. & Sidanius, J., 2005, 'Person-organization congruence and the maintenance of group-based social hierarchy: A social dominance perspective', *Group Processes & Intergroup Relations* 8(2), 187–203.
- Kang, J., Liu, C. & Kim, S.-H., 2013, 'Environmentally sustainable textile and apparel consumption: the role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance', *International Journal of Consumer Studies* 37(4), 442–452.
- Kemmelmeier, M., Danielson, C. & Basten, J., 2005, 'What's in a grade? Academic success and political orientation', *Personality and Social Psychology Bulletin* 31(10), 1386–1399.
- Pelletier, L.G., Tuson, K.M., Green-Demers, I., Noels, K. & Beaton, A.M., 1998, 'Why are you doing things for the environment? The motivation toward the environment scale (MTES)', *Journal of Applied Social Psychology* 28(5), 437–468.
- Stern, P.C., Dietz, T., Kalof, L. & Guagnano, G.A., 1995, 'Values, beliefs, and proenvironmental action: Attitude formation toward emergent attitude objects', *Journal of Applied Social Psychology* 25(18), 1611–1636.
- Vermeir, I. & Verbeke, W., 2008, 'Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values', *Ecological Economics* 64(3), 542–553.
- Windolf, P., 1995, 'Selection and self-selection at German mass universities', *Oxford Review of Education* 21(2), 207–231.

Madhavi Venkatesan

Sustainability and the economics of embedded values

Increasing global awareness of natural resource depletion, heightened weather-related volatility attributable to climate change, and the subsequent emergence of multi-disciplinary sustainability programs in higher education have pronounced the void in the explanatory discipline of economics to address the values that have yielded the economic and environmental outcomes observable in prevailing sustainability discussions. Economic theory, models, and analysis are central to a discussion of how individuals interact not only with one another but also with the environment. Further, the implicit inclusion of economics in the daily behavior of individuals and nations strongly influences the observations of global sustainability, including economic equity and social and environmental justice issues.

Unfortunately, economics has been limited to an assessment of an arm's length market model with no evaluation the implicit and endogenizing values defining rational agent behavior. In this respect, economic modeling has been simplified to account for "process efficiency," which through the most recent period has been evaluated as cost minimization relative to revenue (or utility) maximization. Costs articulated in this standardized manner have excluded items that

were not readily quantifiable or were created as a result of natural resource utilization, degradation, or replenishment. For example, in viewing the environment, common assets such as water, air, and land were not included in production assessments; furthermore, damages resulting to any of these common elements have, for the most part, not been articulated unless indirectly addressed as being a part of social and governmental regulation. Given these omissions and arguably attributable to the same, anthropomorphic environmental impacts related to production and consumption, inclusive of profit and utility maximization have been significant. However, though the value of the environment has not been an articulated or explicit factor, this is not consistent with the environment not being of value.

As a generalized modeling tool it is assumed that what individual economic agents value is what is embedded within the market mechanism that produces economic outcomes. However, limited or myopic decision patterns, along with delegation of implicit values to producers and ancillary marketing and advertising functions may not be consistent with long-term social values. From this perspective, awareness and education programs focused on promoting a holistic understanding of consumption and production outcomes will have the most significant impact in promoting economy-wide sustainability. Raising consumer awareness will augment production and promote operationalized sustainability within the business enterprise, as the consumer is also the most essential stakeholder. However, the fragmentation of the individual consumer has to be coalesced to reach a scale of demand with the capacity to initiate the values-based modification stated. The proposed discussion will build on the endogeneity of values and behaviors in the present market model and will focus on the role and untapped power of the aggregated consumer base in establishing sustainability. The discussion promotes the use of interdisciplinary assessment in targeting and aggregating consumer demand to establish economy-wide sustainability objectives.

Katharina Gapp

Promoting Sustainable Consumption Patterns Using Government Programs

Since the Earth summit in 1992 there has been a consensus that conventional ways of consumption and production will not lead to a sustainable future but increase ecological problems such as climate change. More than 170 participating countries agreed in 1992 to promote sustainable consumption patterns. For this reason during the last 20 years there has been a lot of research into motivations, practices and opportunities for sustainable consumption. However more research is still necessary.

This paper will deal with the question how government programs are able to influence consumer behavior and therefor help to stimulate sustainable consumption patterns.

According to the common microeconomic approach and its assumption of market efficiency each rational individual can decide for himself what's best for that individual and all individuals in sum will maximize benefits for the society as a whole. However, most economists agree that markets are not efficient when there are externalities (Samuelson/ Nordhaus 2010, p. 275).

Despite that mainstream economics still focus on the rational consumer. As a consequence most mainstream economist do not accept government programs that might limit consumer sovereignty. Typically they only accept that consumers are not always well informed and that additional information for consumers are required (Endres 2007, p. 27).

Additional information is only one type of government programs. In general, those programs can be categorized into direct controls, market solutions and indirect approaches (Rogall 2012, p. 321). Direct regulatory controls are laws that force producers to meet certain limitations or prohibit the usage of toxic substances. Market solutions aim to internalize externalities and hence improve price signals for consumers. Indirect approaches sum up all soft approaches such as more information for consumers or educational programs for sustainable behavior.

This paper will focus on the usage and effect of different government programs to influence consumption of electricity as well as consumer goods that are related to consumption of electricity such as electric bulbs. It will be discussed to what extent government programs might be helpful to promote sustainable consumption patterns. In order to do so, the paper will rely not only on the standard microeconomic approach but also reflect on it and include other approaches, e.g. behavioral economics and research in consumer behavior as it is usually used in marketing sciences.

References/ bibliography:

Endres, A. (2007): Umweltökonomie, Stuttgart: Kohlhammer Verlag.

Rogall, H. (2012): Nachhaltige Ökonomie, Marburg: Metropolis Verlag.

Samuelson, P.A. / Nordhaus W.D. (2010): Economics, New York: McGraw-Hill Publ.Comp.

Benjamin Held

The Costs of Sustainable Consumption A basket of goods-based analysis differentiated by income

Research issue

Sustainable Consumption is an important issue for a rising number of people. Furthermore, it is urgently needed if you regard the globally increasing levels of environmental pollution. But the supposed additional costs of (more) sustainable consumption patterns are seen as a barrier by many consumers. It is assumed that the costs of switching to more sustainable products (for example organic or more energy efficient products) lie above the financial capabilities of many households, especially of those with a low-income.

Leading questions

In this context three leading questions will be examined in this paper:

- What are the costs of switching from conventional to (more) sustainable products (while retaining the current consumption pattern) for an average German household?
- How do these costs differ for households when differentiated by their income levels?
- What effects do behavioral changes have and which chances do they offer?

Content of the Paper

The paper analyses whether and to what extent sustainable consumption is more expensive than conventional consumption for all relevant areas of private consumption. The comparison of prices is based on the methodological principles of the Laspeyres price index, the German consumer price index and the purchasing power parities (PPP) The price data originate from own price surveys as well as from already existing price surveys. These existing data sources were e.g. the retail panel of bioVista, a German market research firm, and the price surveys conducted for the PPPs at the German Federal Statistical Office (DESTATIS).

The results for the consumption areas “food“ and “transportation” are already available.¹ One can find significant differences within and between the consumption areas. The presented results are (initially) based on the consumption patterns of an average German household, which is reflected in the weighting scheme of the consumer price index. When switching from conventional to organic products, the additional costs of the consumption area “food” amount to 70% of the costs for conventional products; in case that products of the same brand equity are compared to each other. According to a study of Hamm and Plaßmann, costs at

¹ A detailed article concerning the methodology and results of the food sector will be published in mid-February in the issue 1/2015 of the scientific journal „Wirtschaft und Statistik“ (Economics and Statistics) of the German Federal Statistical Office.

that level exceed the maximal accepted additional willingness-to-pay for organic food products of 68% of consumers.² However, if consumers are willing to switch from conventional high brand equity products to organic low brand equity products, the comparison of prices shows only a five percent higher price for the organic products. These are additional costs a majority of consumers (>90%) is willing to pay.

The analysis of the consumption area “transportation“ is, as long as not taking behavioral changes into account, concentrated on the passenger car sector. It shows that the overall costs of environmentally friendlier cars, measured by the EcoRating of the Verkehrsclub Deutschland (VCD), are lower than for conventional cars (yearly mileage: 15,000 km, new cars, holding period: 4 years). The acquisition costs, and the corresponding losses of value, for environmentally friendlier cars are a little higher, but they were overcompensated by lower operating costs (fuel consumption, motor vehicle tax). Overall, the analysis results in cost savings of approximately 10%. Further consumption areas like “large electrical appliances”, “clothing” and “habitation” will also be examined in the paper.

Furthermore, the influence of the income level on the costs of sustainable consumption was examined. Therefore, the German Income and Consumption Survey 2008 (EVS 2008) was evaluated by dividing the members of the household into deciles based on their net equivalent income.³ For each decile a specific consumption pattern was computed. It turns out, that income specific consumption patterns have only limited influence on the costs for sustainable products within the consumption area “food”: For the first decile (lowest income group) they are the lowest and amount to 67%, for the tenth decile (highest income group) they are the highest and add up to 71%. Greater differences can be observed when taking into account the percentage food expenditures have on overall private consumption expenditures. This percentage is falling steadily over the income deciles (first decile: 20.4%, tenth decile: 10.4%). Hence, the additional costs for sustainable products in the food-sector (under the assumption all other expenditures stay the same) amount to 14% of the total private consumption expenditures in the first decile and only half of that (7%) in the tenth decile. Similar analyses will be carried out for further consumption areas.

Finally, behavioral changes will be discussed. Such changes are without a doubt necessary for achieving a sustainable consumption pattern. A reduced meat diet or a different modal split for transportation (e.g. less motorized private transport, more public transport, less kilometers flown) are examples of necessary changes. Especially behavioral changes that save money are of interest, because they are not subject to budget restrictions. They can also enable consumers to buy more expensive sustainable products in other consumption areas to shift their consumption pattern towards sustainable levels. Such behavioral changes will be identified and examined in respect to their dependency on income levels.

² Plaßmann, S. und U. Hamm (2009): Purchasing barrier price? Analysis of the willingness to pay and the purchasing behaviour on organic products, S. 62. <http://orgprints.org/15745/>.

³ Held, B. (2014): Does inflation affect poorer households more severely? In: *Wirtschaft und Statistik*, 11/2014, S. 680-691. https://www.destatis.de/DE/Publikationen/WirtschaftStatistik/Gastbeitraege/AnalyseHaushalteInflation_112014.pdf.